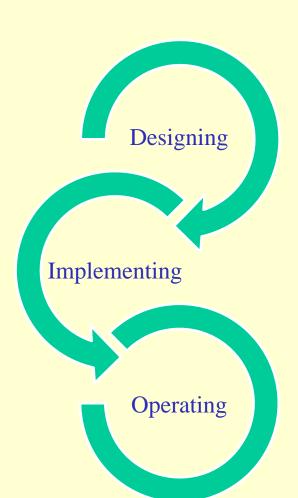


Actuarial Association of Europe

Implementation of Solvency II and changing roles for actuaries

Introduction





Introduction



Personal views

from an Actuarial Function holder



a local actuarial association president

Introduction



1

What did we get from regulation?

2

 What step did we achieve to transform regulation into practice?

3

How does it bring value in practice ?

A new governance



BOARD

Effective managers

Internal audit function

Compliance function

Risk management function

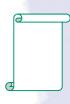
Actuarial function

IT Investment **Business unit** Underwriting Claim management **Pricing** Marketing Accounting **Control planning** Legal

Missions coming from the rules



A Risk based prudential regime addressed through 3 levels reference texts and local rules :



Level 1 texts: Solvency II Directive adopted by the European Council and Parliament:

• Article 48 defines the Actuarial Function & Article 44 and 45 defines the Risk Function

Level 2 texts: Delegated Acts issued by the European Commission

• Explicit references on Article 272 for the Actuarial Function & Article 269 for the Risk Function

Level 3 texts: Technical Guidelines and Standards issued by EIOPA

Local rules: Come in addition to EU regulation

Missions coming from the rules



The actuarial function

Technical Provisions:

- Coordinate the calculation
- Methodologies & assumptions
- Data quality
- Experience analysis

Opinions:

- Underwriting policy (including pricing opinion)
- Adequacy of reinsurance arrangement

Risk Management:

- Contribution to the effective implementation of the Risk Management system:
 - Risk modeling underlying the Capital Requirement calculation
 - Contribute to internal model design & use if any
 - Contribute to ORSA process

The risk management function

Role of facilitating the implementation of the risk management system:

- Role of aggregating and reporting the risk
- Coordinating the risk policies
- Responsible of the internal model if any
- Driving RSR & SFCR reporting

Conduct an ORSA:

- Developing a Risk Appetite strategy
- Measuring, monitoring and managing underlying risks
- Reporting to the Board
- Reviewing the risk management system

Changing roles for actuaries



The "former" actuarial job: a term that may mean many things to different people.

• Role limited to a single individual:

No statutory role in France (In comparison to the "Appointed Actuary", "Signing Actuary", "Responsible Actuary" regime in some other European countries) but play a central role in the (re)insurance industry and benefits from a kind of delegation of power by the public authority (Mortality and disability tables certification, pension plans actuarial balance sheet etc....)

 No restriction assuming an actuarial role without being qualified by the professional association

• Outsourcing not ruled

 Underwriting, pricing, reinsurance management, asset management, external reviews and certifications alongside a multi norm framework

The new actuarial function gives a regulated role to actuaries in addition to their field of competence.

- A new regulated role (Regulated role limited to a single person The Chief Actuary Officer). The board is responsible for signing off solvency Balance Sheets and approving the Actuarial report.
- **Fit & proper condition**, it makes much easier for qualified professionals to fulfill the Chief Actuary Officer function (*not limited by the French Authority*)
- Notion of segregation of duties without restriction on organizational structures
- In case of outsourcing a part of the key function, the responsibility is nevertheless hold by the internal personal in charge of the outsourcing supervision
- Considerable potential overlap between key functions.

AAE and Local association actions



The 2 new AF & RMF create new responsibilities for actuaries.

• At the AAE level:

- Ensuring that the existing code of conduct answers the new needs
- Developing new standards of practice:
 - ESAP 1 General actuarial practice
 - ESAP 2 Actuarial Function Report under Solvency 2
- Creating a role of the actuary task force

AAE and Local association actions



In France, since no statutory role exists until now, the Professional Association assists the transition to the recent context and help actuaries getting more food to challenge the Executive decision-making



Build technical & educational standards: Translate & Adopt ESAP 1 & ESAP 2, new standards of practice on model

education guideline % ORSA, the Life BE & the NL BE

Build and enforce a new code of conduct, introducing "the responsible actuary"



Stimulate interactions between Actuarial Function & Risk Function stakeholders through working groups



Help in understanding regulatory requirements and solving conflicts of interest

Survey who is AF or AMF, create AF & RMF meetings

Missions coming from the rules



The new French Code of conduct for actuaries, holder of a regulated function:

« 3.17. Lorsqu'un actuaire se voit confier dans l'entreprise la responsabilité d'une fonction visée par la réglementation, notamment le porteur de fonction actuarielle ou de la fonction gestion des risques, celui-ci se doit de se doter des moyens pour exercer ses fonctions et en particulier s'assurer qu'il est à jour dans ses connaissances techniques.



L'actuaire exerçant une fonction visée par la réglementation est responsable du contrôle des travaux préparatoires à l'élaboration de son avis. Il doit également s'assurer de la bonne compréhension des outils et méthodes utilisées pour établir les résultats.

Il s'appuie pour cela sur les Normes Professionnelles établies par l'Institut des actuaires pour ces membres en situation de fonction visée par la réglementation pour mener à bien leurs travaux et en communiquer de façon adaptée les hypothèses et limites. Les membres doivent suivre ces Normes. En cas d'impossibilité ou de doute, les membres doivent informer aussitôt la Commission de déontologie.

L'actuaire en fonction visée par la réglementation doit agir, dans le cadre de ses fonctions, en privilégiant les aspects techniques et conserver son indépendance par rapport à des contraintes d'une autre nature notamment de type rémunération/honoraires. »

Missions coming from the rules



The new French Code of conduct for actuaries, holder of a regulated function:

« **3.17.** When an actuary is holder in the company of a regulated function (HRF), including the actuarial or the risk management function holder, it must acquire the means to exercise his functions and in particular ensure that his technical knowledge is up todate.



The actuary, HRF, is responsible for controlling the preparatory work to form his opinion. He must also ensure the proper understanding of the tools and methods used to set the results.

He relies for this on the Professional Standards, established by the Institut des Actuaires for its members HRF, to carry out his work and communicate in an appropriate way the assumptions and limitations. Members must follow these standards. If unable or doubt, members must immediately inform the Commission of Ethics.

The actuary, HRF, should act, as part of his duties, focusing on technical aspects and maintain his independence from the constraints of a different nature in particular of remuneration / fee. »



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Overlaps between AF & RMF functions

Risk Management function requires input from the Actuarial Function, so segregation of duties does not necessarily mean full separation in two organizational units.

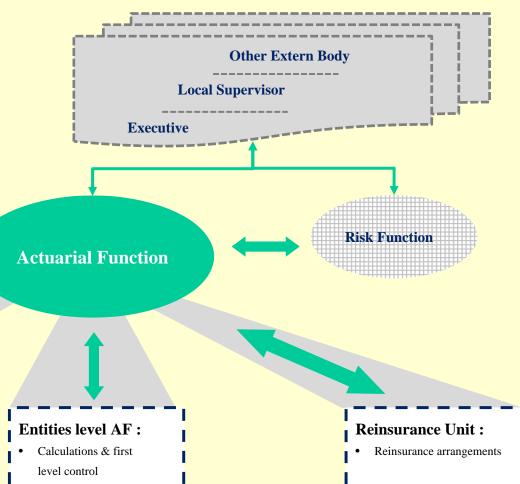






Two separate person referring to the effective managers.

- The AF plays its controlling role
- Conditioned to a critical size of the company
- Need to assure the independence of roles
- No necessarily need peer review
- Challenge & consolidate the local AF contributions
- Many derived options where the AF holds a part of operating tasks



Business Units:

- Claims Management
- Underwriting

• Experience Analysis



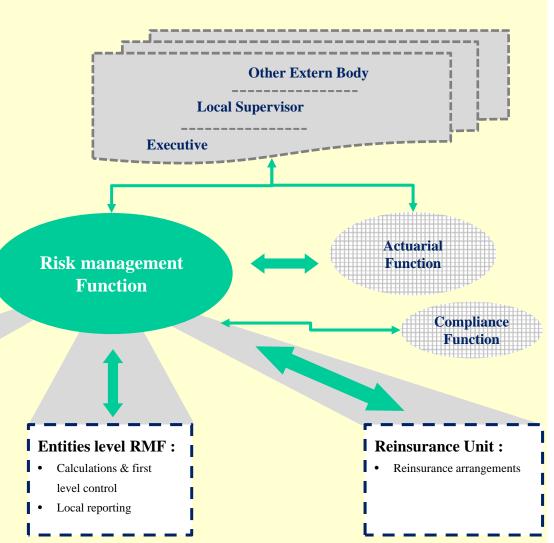


Form with the Actuarial & the Compliance Function the 2^{nd} line of defense by assuring the overarching RM activities (monitoring of risks at operational & central divisions).

- Define, with the AF contributions, strategies, processes and reporting procedures (Guidelines & suitable RM framework)
- Right of veto on Business & Reinsurance Units underwriting submissions
- Challenge & consolidate the local RMF contributions
- Investigate with the AF on the firm new development & restructuring strategies
- Assure the development of Risk Capital in the coming years
- May include internal control & reviewing models

Business Units:

- Claims Management
- Underwriting





Key success factors: Manage with the conflicts of interest

Conflicts of interest in splitting responsibilities may occur when ...



Associating operating and controlling

- Holding the computation & the review of TP
- Calculation of capital Requirements and validating models
- Involvement in Underwriting and Reinsurance units VS opinion of the Actuarial Function

Remuneration arrangement based on profits

More formalization and documentation in case of conflicts of interest in splitting responsibilities...



Writing agreement policies between stakeholders.

Keeping accurate process notes

Setting governance committee terms of reference

Taking minutes of formal decisions

Setting formal file structures, directories, etc.





Group Actuarial Function issues...



Must keep efficient articulation on driven actions at entity level





Have a straight understanding of top-down and bottom-up issues

Need to enhance **reactivity** when launching new projects at entity level





Facilitate follow-up from a centralized management perspective

Keep an eye on on-going projects rolled out within entities

Take into account differences between local regulatory requirements

A global overview



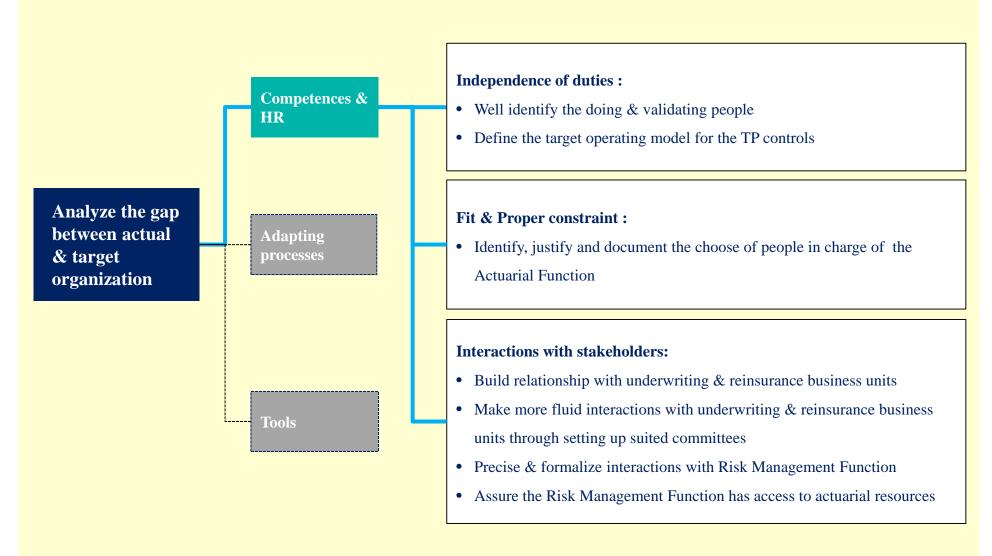
The Actuarial Function implementing under Solvency 2

Analyze the gap between **Identify the key** previous & target implementing success **Bringing up to standards** organization levers Competences / HR Prioritizations & Embedded Risk-sensitive Tracking for quick wins approach Tools (matching to granularity & timely Internal / External Developing / adjusting reporting needs) existing models & resources reporting processes Adapting processes Upgrade IT systems Much document and formalize Industrialize

From previous to target organization

Gap analysis

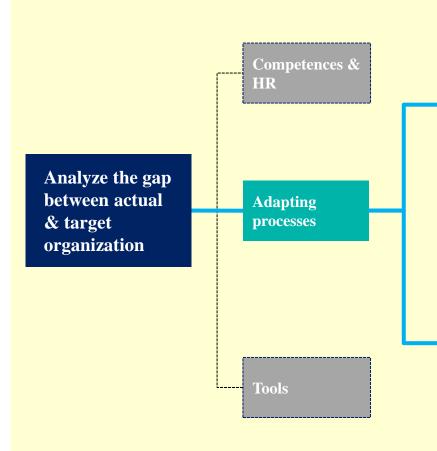




From previous to target organization

Gap analysis





Modeling tools:

- Optimize the time consuming for running models and reserve much take time for analysis
- Reduce manual interventions on building assumptions
- Reduce manual interventions on building reporting

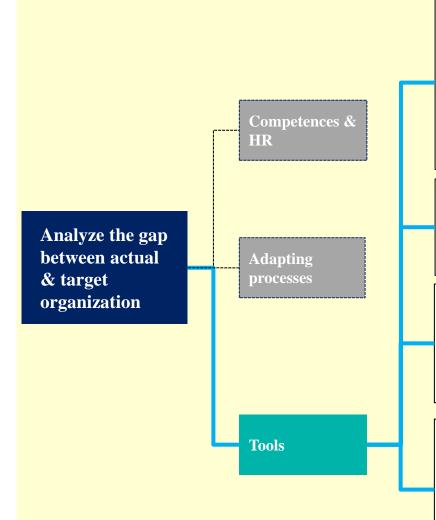
Producing Data:

- Upgrade existing systems
- Work on controls automatization and reconciliations from different data bases
- Facilitate the reporting by tending much more to full industrialization of reporting tools & Data qualification
- Build a governance data model & encourage sharing information with "data owners" through dedicated committees and training sessions

From previous to target organization

Gap analysis





Technical Provisions:

- Build the annual plan of production with considering the whole stakeholders and time lining all deliverables
- Upgrade methods for assessing the sufficiency of TP from existing EV /
 IFRS standards calculations
- Build the Analysis Of Change for TP

Opinions:

 Build a methodology & metrics for the underwriting & reinsurance arrangement actuarial opinions

Communication:

- Define the frequency of reporting and contents
- Build pertinent KVI & KRI
- Identify contributors and share draft documents

Assumptions:

- Build the process of production (frequency of updates, data sources, management actions & expert judgment reviewing)
- Define validation circuit of assumptions & Put controls onto the production time line



The AF & RMF implementing under Solvency 2

Analyze the gap between **Identify the key** previous & target implementing success **Bringing up to standards** organization levers Competences / HR Prioritizations & Embedded Risk-sensitive Tracking for quick wins approach Tools (matching to granularity & timely Internal / External Developing / adjusting reporting needs) existing models & resources reporting processes Adapting processes Upgrade IT systems Much document and formalize Industrialize

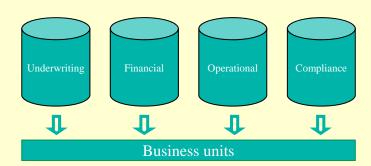
Embedded a Risk-sensitive Approach



Yesterday Without centralized ERM framework Executive Board Performance Objectives: P&L, value or risk indicators,

Risks were managed by silo:

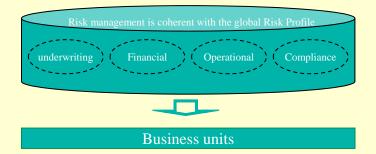
- Products were individually priced. Risk studies are made in standalone on products
- Strategic assets allocation was based on standalone studies
- Risk management tools were developed separately





Risk management is coherent and coordinated:

- Risk strategy is global, forwarding and managed by the executive board. It covers:
- Underwriting policy
- ALM policy
- Operational risk policy, ...





Embed risk awareness more closely into the governance

Technical issues



Co-ordination of the TP calculation

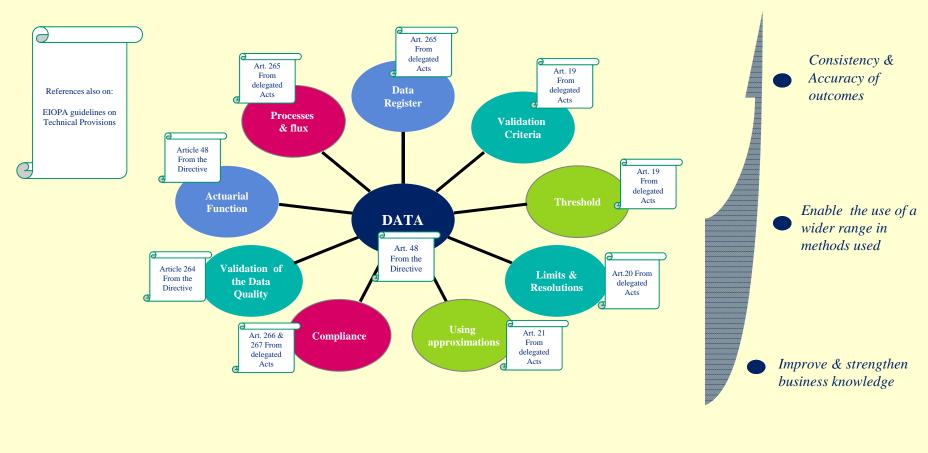
More in tune with the "traditional actuaries" skill-set but with more formalization on setting best-estimate assumptions, and may need to increase the sophistication and robustness of the modelling systems used.



Data concerns



Higher requirements and higher frequency on reporting Data quality imply more focus on Data management process



Actuaries are broadly interested in a heavy processed Data management

Assumptions



Prepare Data & assumptions

- Formalize the collect of data
- Control Data Quality (transformation / enrichment, storage, aggregation, quantitative & qualitative reporting)
- Document the appropriateness hypothesis regarding the model

Need to check and constantly manage Models Coming down for the appropriateness of the assumptions imply to **describe**:

- How does the business run in the real life?
- How does the modelling and projection conventions match with the reality
- What pertinent simplification of the reality and why?
- The detailed specification retained (sometimes with testing parallel modelling)
- Controls the consistency between the input & output of models
- The architecture for the target documentation framework & what governance for the assumptions ("HLM" committee)

Detailed Reporting Requirements

Detailed use Requirements

Regulatory &
Technical Standards
Requirements

Detailed business Requirements



Need to more document calculation processes and underlying assumptions

Developing and adjusting models



Technical Provisions implementation

- Drive the transition to Solvency 2 regarding to accounting and valuation purposes (IFRS, EV)
- Run an appropriate Solvency 2 framework in terms of technical standards
- Manage the Solvency 2 relationship with supervisors
- Provide Solvency 2 training with a view of changing risk culture



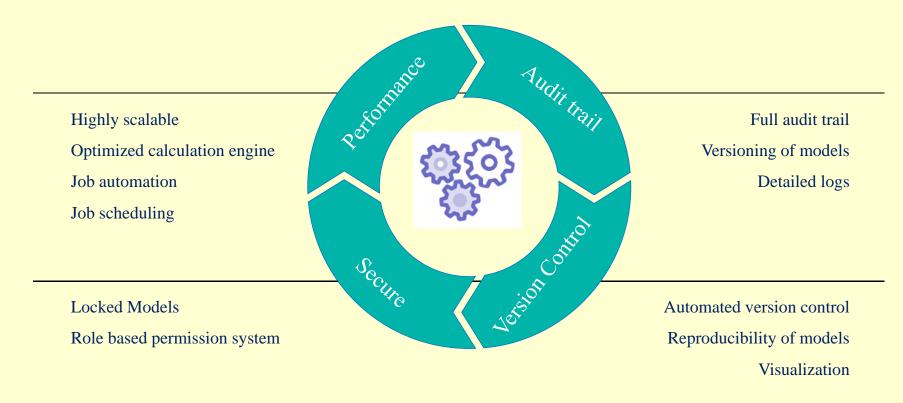
Governance of models

- Set up norms applicable to modeling and models use
- Model risks & produce documentation and codes models in a suited IT platform
- Produce norms & models guidelines to users
- Manage the relationships with the internal and external bodies to challenges methodologies applied

Controls & Audit on Models



Higher requirements and higher frequency on reporting imply a transition to more demanding calculation tools and more controls





Actuaries put into consideration IT concerns and adopt a high level control process

Reporting



Reviewing the reporting process

- Define the reporting procedure
- Build a consistent change Analysis & Consolidated reporting
- Manage constraints for Internal / External communication (predefine / custom querying tools for suited format file required - XBRL)

Building KVI & KRI

- Set up the computation
- Steer the internal control of the process of KVI and KRI 's calculation
- Prepare consolidated reporting of these indicators within the deadlines
- Reconcile consolidated accounting date with consolidated indicators



Technical issues

Actuarial opinion on Underwriting



Actuaries play a new role as contributors to the yearly underwriting cycle

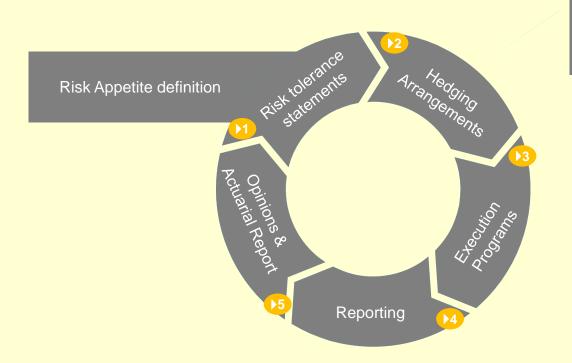


Technical issues

Actuarial opinion on Reinsurance



Actuaries is in the heart of the yearly hedging cycle.



- Including:
 ALM Policy
- Reinsurance policy



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3 levels of contribution



Giving
keys
to optimize
development,
value & risks

Explaining the results

Securing the information

Securing the information



Level 1: the actuarial level Robustness Comprensibility Sharing vs complexity information Planning vs volatility Fast closing Calibration Modelling freeze report Expert judgment Auditability Validation report

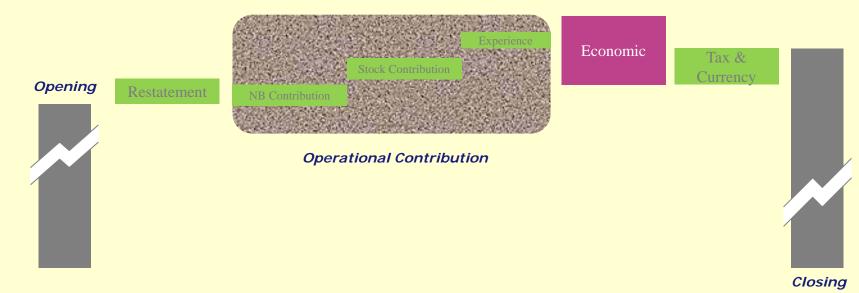
Explaining the results



Level 2: the board level

Giving the main drivers

Simplifying the variation analysis into 4 components: restatement, operational, economic, tax & currency



Being pedagogue and avoiding actuarial jargon

Explaining through sensitivities & impact studies

Producing readable reports: 30 pages for the actuarial report

Giving keys to optimize development, value & risks



Level 3: the business level

Through sensitivities & variation analysis, showing the main drivers of progression





Proposing new solutions in underwriting committees

Transforming the ALM & the reinsurance to free capital



Preventing risks through preventive measures vs capital loads



Adapting contracts and partnerships to the new framework

Giving keys to optimize development, value & risks



Level 3: the business level

Through sensitivities & variation analysis, showing the main drivers of progression





Proposing new solutions in underwriting committees

Transforming the ALM & the reinsurance to free capital



Preventing risks through preventive measures vs capital loads



Adapting contracts and partnerships to the new framework



Conclusion and Questions



References

Giving keys to optimize development, value & risks



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