actuarial association of europe

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Emerging Roles for Actuaries

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Introduction

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  - 4° What is the context of the emerging roles ?
  - 5° What are the challenges for the profession facing these emerging roles

Why are roles of actuaries changing ?

- Regulation is referring explicitly to actuarial competences

SII / IORP II :
Actuarial Function – Risk Management Function

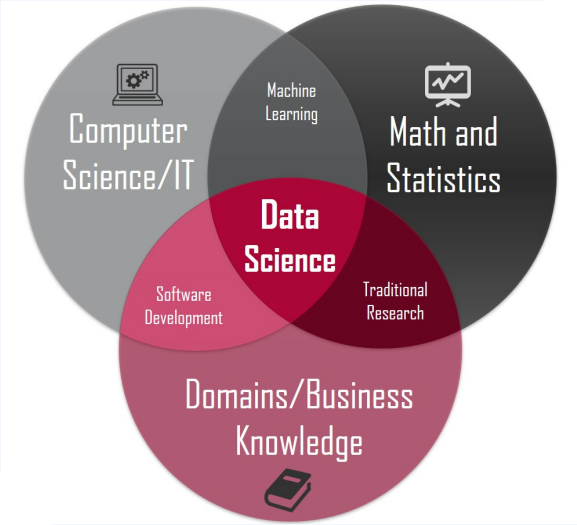
IFRS 17 for insurance contracts

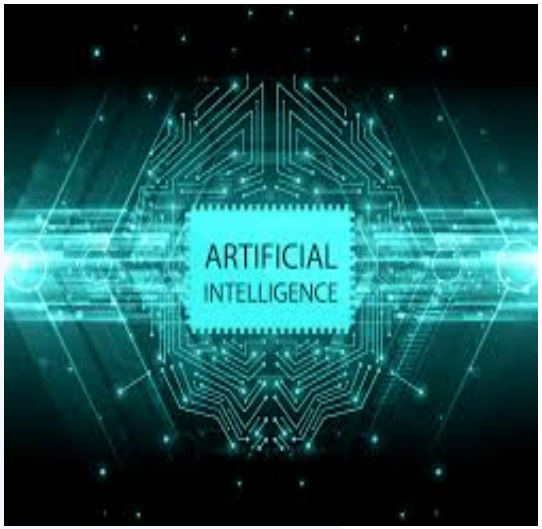
Employee Benefits Accounting

IAS 501 : actuarial expert

Why are roles of actuaries changing ?

- Technological environment is evolving quickly



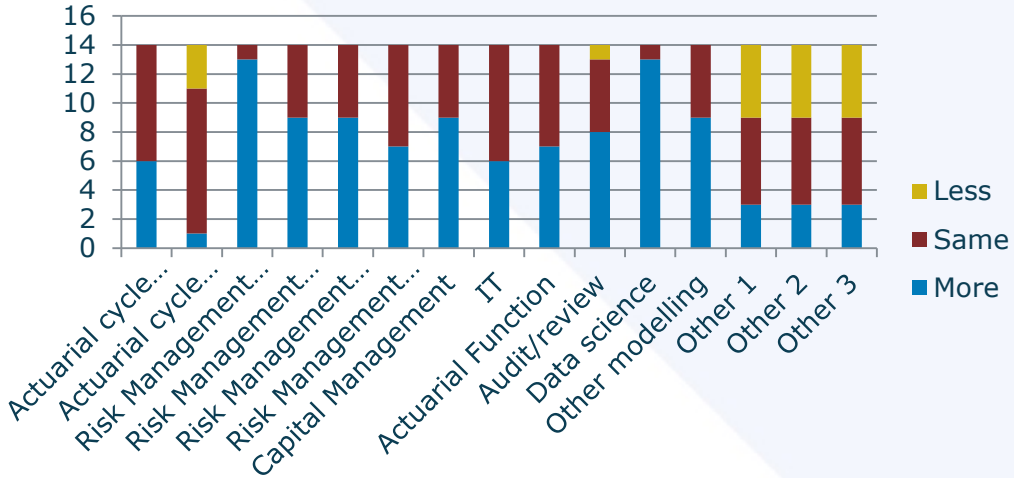


- IT technology and customer use open opportunities for Fintech and Insurtech
- Volume and accessibilty to data creates competitif advantage and need for scientific approach
- Auto generated models by embedded systems and algoritms

What do actuaries think about future roles?

- Survey, TFRoA AAE, August 2017 : What are the trends ?

- Short term : **IFRS17, Data science** (eminent in some markets), embedding of Solvency II and market environment
- Mid-term: :Data Science/Management (indicated most frequently) , **Artificial Intelligence (AI)** (in some markets), others continue to concentrate on solvency and **risk management** opportunities.



- Long term :

AI, robotics, information technology and the influence on the actuarial activity is considered a **trend and a threat.**

Risk Management is also seen as a trend for the profession in the long run. **Resources, environment and sustainability** including climate change and catastrophe risk were also mentioned as our long term focus.

Risk Management as a corner stone

- Observation post introduction of SII
  - **1 in 4 actuaries working in insurance** (estimate about 5,000 actuaries in Europe) are active in the field of risk management
  - **1 in 2 CRO** of substantial insurance companies is actua
  - Profession needs to organize the appropriate framewor

- CRO Forum AAE
  - The challenge for the actuarial profession to prepare for the role of CRO/Actuary is to find out how we can bring the actuary as close as possible to the “sheep with the five legs” knowing that **the necessary conditions (technical know-how) have been met but not the sufficient ones (business context, communication, understanding and open mind).**

Profile CRO Insurance Company

Experience in relevant Insurance markets:
Life, Pension, P&C, D&A, Health, etc

Regulatory Changes

Able to pull rank

Experience on all risk types:
Financial Market Risk
Operational Risk
Insurance Risk
Business Risk
Actuarial Risk
Compiance Risk
Model Risk
etc

Leadership

Team Player

Negotiation Skills

Genuine
Authentic

Honest

International

Analytical

Reliable

Financial Markets participants

Strategic view

Crisis Management

Audit/Accounting Processes

Result-oriented

Geo-political movements

Asset Management

Helicopter view

Organizational Sensitivity

People & Team development

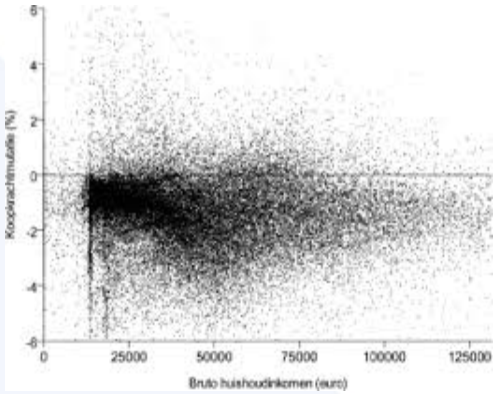
Stakeholder Management

Problem-solving attitude

Data science and actuarial science go hand in hand

- **Data science is not a threat but an added value !**
- Jan Van de Spiegel, Task Force Roles of Actuaries AAE, Data Science and Actuaries

- Using data analytics introduces more **a fundamental approach** to the data quality component



- The actuarial approach is :
  - **Stochastic in nature** and thus to a degree unpredictable
  - Considering the **“uncertainty”** component

Artificial Intelligence : what is it ?

- The **High-Level Expert Group on Artificial Intelligence of the European Commission** defines AI :
  - *"AI refers to systems designed by humans that, given a complex goal, act in the physical or digital world by perceiving their environment, interpreting the collected structured or unstructured data, reasoning on the knowledge derived from this data and deciding the best action(s) to take (according to pre-defined parameters) to achieve the given goal.*
  - *AI systems can also be designed to learn to adapt their behavior by analyzing how the environment is affected by their previous*

AI : a threat for actuaries ?

- **Will AI replace actuaries ?**
- **Marcus Looft, Germany : Wait, there's another option: machine learning can take actuaries to the next level!**

  because
  - Machine learning is a useful tool for actuaries, but computers will not be able to think up **worst case scenarios,** creatively ask new questions or **provide the professional judgement and innovation** needed without human intervention, is also not free of "errors" and **cannot validate itself** nor its solutions to be predictive in the future
  - AI systems allow actuaries to **free-up time**, to concentrat solving previously unsolvable problems
  - Make sure to take the time to stay up to date with machin learning techniques, because without it, you run the r becoming an **actuarial dinosaur**!

Why actuaries are needed in DS and AI ?

- Lutz Wilhelmy, The European Actuary, June 2018

  - Who should assess and test the algorithms for biases and violation of **anti-discrimination rules**, if not the actuary?
  - Who should take responsibility that algorithmic decisions are ethically acceptable and that data privacy as well as **data protection** was complied with, if not the actuary?
  - Who should explain that the individual cost of the cover is its **fair price**, i.e. the reasonable, morally right, treating-all-equal price, if not the actuary?

Why actuaries are needed in DS and AI ?

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  - Who should **rebalance the new information asymmetries**, if not the actuary?
  - Who should explain to society and politicians that digitisation vastly increases the access to insurance for many, but makes certain covers **unaffordable** for some, if not the actuary?
  - Who can invent the societal financing schemes to **ensure access to insurance where really needed,** e.g. health insurance for the chronically ill, if not the actuary?

European Commission and EIOPA are worried about ethics !

- The **High-Level Expert Group on Artificial Intelligence** has published a draft “Ethics Guidelines for Thrustworthy AI” on 18 December 2018 such as **clear information, traceability, participation and inclusion of stakeholders, auditability, accountability and governance, training and education**
- AAE response to consultation points out importance of AI for the actuarial profession and the framework that corresponds with the proposed guidelines : **Education standard (syllabus), Code of Conduct, CPD, Standards of Best Practice**
- **Esko Kivisaari and Lutz Wilhelmy** have been nominated for participation in the EIOPA Consultative Expert Group on Digital Ethics in Insurance

Actuaries and IFRS17 : opportunity to strengthen position !

- The implementation of IFRS17 implies **sufficient experience** with actuarial valuation techniques and therefore the proper organization of the lines of defense.
- **Kristoffer Bork**, IFRS17 – Another Challenge (to insurers, Auditors and Actuaries), TEA April 2019 already pointed out that
  - actuaries will play a leading role in the implementation of IFRS 17,
  - actuaries should have a more formal (enacted) responsib

- The AAE believes that such **reporting and sign-off** would
  - enhance the credibility of the audit opinion
  - contribute to the public good as well as providing support for the work of the supervisor.
  - it would also increase quality and consistency in the reporting and thereby mitigate some of the concerns raised by

How to position the profession in function of emerging roles ?

- Strengthen **professional framework** of the actuarial environment is key and is a continuous process
  - Education standard (core syllabus) is revised and adapted to new roles
  - Code of Conduct is revised and reflects expectations of stakeholders
  - Standards of Actuarial Practice are introduced togeth Educational Actuarial Notes
  - Continuous Personal Development is a corner stone

- Emerging roles urge us to focus also on
  - **Professional Judgement** of actuaries as a differentiator compared to other experts
  - **Legal and political recognition** as a basis for an unquestionable position of the actuary

Professional Judgement enhances position

- **Notes on the application of professional judgement by actuaries,** Task Force Roles of Actuaries AAE, Siegbert Baldauf, Xavier Gomez, Anna Perez Ayuso
  - **Definition**: *Professional judgement is the judgement of the actuary, based on actuarial (or other relevant) training and experience, bound by the Standards and Code of Conduct of the profession.*
  - Professional judgement of an actuary is based not only on expert knowledge but also on standards of professionalism and on the Code of Conduct of the profession
  - Compliance with these standards increases the value of the professional judgement provided by an actuary compar expert without this requirement
  - The professional standards demand besides this expert knowledge ethical behaviour and accountability

Promote legal and political recognition of the profession

- The recognition of the profession and the associations can be considered in two ways being the **legal recognition** and the **'de facto' or political recognition.** Both ways can be combined and reinforce each other.
- The **European Directive 2005/36/EC** on the recognition of professional qualifications and **Directive 2013/36/EC** amending it create legal recognition in the European Union.
- **The recognition covers three aspects :**

1° The construction of the **association** of actuaries

2° The recognition of the **profession**

3° The recognition of the **title**

The external recognition is influenced by the **internal framework**

Promote legal and political recognition of the profession

- Task Force Roles of Actuaries AAE : Goossens, K.; Mendinhos, J.; Sáez de Jáuregui, L.M.(2019): «Legal and Political Recognition: Fundamentals for the Profession» 3th European Congress of Actuaries, Lisbon
  - Actuary is a regulated profession with reserve of activity in at least seven European Countries (Spain, UK, Italy, Sweden, Denmark, Poland and Slovakia). This represents around **70% of the actuaries in Europe.**
  - The political recognition by stakeholders depends on **maturity** of the actuarial organization in the country. Recognition by industry is high, recognition by audit and risk management professional organizations is low

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