

ST9 and CERA

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Background:

- Chair: ST9 syllabus committee
- Member: international CERA committee

Jargon:

- ERM: Enterprise Risk Management
- CRO: Chief Risk Officer
- CERA: Chartered Enterprise Risk Actuary

Personal Risk Management

What forms of Risk Management do you carry out in your everyday lives?

- Financial
- Physical
- Psychological

What is ST9/CERA about?

- Basic grounding for a career in ERM
- Essential elements: quantitative and qualitative
- Does not qualify you to become a CRO

similarly e.g. ST6 (Derivatives), ST2 (Life)

ERM Philosophy

- It is the identification of risks and what you do about them that matters

NOT how you label them
- If you don't understand a risk then don't engage in it!

Avoid being caught out by **unknown unknowns**.
- ERM is a framework and collection of concepts with
no boundaries

- 2/3 of ERM in ST9/CERA is based on common sense

but **it is the implementation that matters:**
keeping balls in the air at the same time



- 1/3 is more specialised quantitative modelling

BUT

⇒ difference between **appearance of doing ERM** and
actually doing **strong ERM**

Examples

- Life insurance: modelling interaction between assets
 - Measuring risks
 - Active management to modify risk profile
- Operational risk management
 - Internal and external fraud; human error; computer systems failure;
- Managing risks in big projects (e.g. Edinburgh trams!)

1: ERM Concept and Framework

governance, culture, frameworks
stakeholders, benefits of ERM

4: Risk Modelling

correlation, dependency, copulas;
scenario, stress testing; extremes;
tail dependency; model and parameter risk

2: ERM Process

Risk appetite, tolerance, profile, capacity;
ERM Function; Control cycle

5: Risk Measures

risk measures; analyse quant. data;
stochastic models; credit models

3: Risk Categories and Ident.

Risk and uncertainty; taxonomy

6: Risk Management Tools and Techniques

hedging and risk reduction methods; risk optimisation; derivs. and securitisation
hedging and RM of market, credit, interest rate risks etc.

7: Economic Capital Models

use of shareholders' capital to add value; capital allocation;
economic capital models/internal models; optimisation

Heriot-Watt's version of ST9 (MSc level)

- c.70 lectures; + 200 hours of private study
- ST9+: more time on quantitative syllabus (CERA?)
- 23+ “units”

Does ST9 equate to CERA?

- Not quite
- CERA requires:
 - You have passed ALL of the Associate level exams
 - You have passed ST9
 - You have attended a professionalism course with an ERM case study
 - Universities:
 - ST9 must be passed at exemption level in its own right
(i.e. not through the accreditation route)

ST9 A health warning

- Not the definitive recipe for ERM
- Risk cannot simply be reduced without some cost
- ERM needs to be “embraced” not “implemented”
- ERM must complement the commercial side of the business, not be seen as a burden and a constraint
- “Best practice” is subjective and will change over time
- Other people may have different views to your own - and they may be correct!
- Appreciate the bigger picture

My recommended reading:

Books:

- Crouhy, Galai and Mark: *The Essentials of Risk Management*
- Lam: *Enterprise Risk Management*
- Sweeting: *Financial Enterprise Risk Management*
- McNeil, Frey and Embrechts: *Quantitative Risk Management*
- Hull: *Options, Futures and Other Derivatives*

Other documents (internet PDF's):

- IAA: *Practice Note on ERM*
- S&P: *Evaluating the ERM Practices of Insurance Companies*
- S&P: other documents on Risk Appetite and Economic Capital Models