

Financial Engineering

Is there too much Finance and not enough Engineering?

Mark Gimple, PhD.

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Presentation Outline...

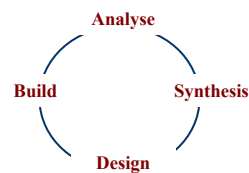
- What is Financial Engineering?
- Back to Basics (The Engineering Process)
- In a Financial Context
- Engineering Theory, Financial Practice
- The Risks
- Conclusion
- Questions?

What is Financial Engineering...?

- Financial Engineering is the application of engineering methods to finance
- The classic engineering principles of design, analysis and construction have been applied to finance to meet the growing needs of financial institutions and investors
- Financial Engineers are essentially problem-solvers: *'driven in large part by practical problems that arise in the course of daily business; the nature of the problems [demanding] practitioners draw from as broad a palate of tools as possible to find the best solutions'* (IAFE)
- But as 'Financial Engineering' grows in popularity as a marketing tool and continues to gain momentum as an industry buzz-term, do we risk losing sight of its engineering roots?

Back to Basics...

- Engineering is an iterative process of analysis, synthesis, design and construction
- Examples of engineering surround us; aeroplanes, rockets, computers, semi conductors...
- Financial 'Engineering' therefore needs to incorporate all aspects of the Engineering cycle – more emphasis on design, problem-solving and the supporting technology is required
- More than just Finance and Analytics
 - 'Financial Engineering' is a term used by Financial Institutions whenever they want a quantitative individual with some market exposure – not necessarily engineering

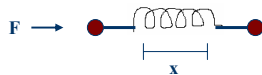


In a Financial Context...

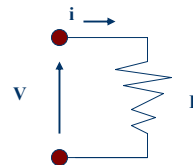
- Many Financial Institutions have not embraced the full meaning of 'Financial Engineering'
- Not enough strategic product management
 - Without this there is no strategic product development path and no context to apply the full iterative cycle of engineering principles
- With Financial Institutions the biggest 'users' of Financial Engineering graduates this will impact how Educational Institutions structure their courses
- Finance Analytics vs. Real Problem Solving

Engineering Theory, Financial Practice...

Through variables: i, F Across variables: V, x



A Mechanical Spring
or
A Balance Sheet?



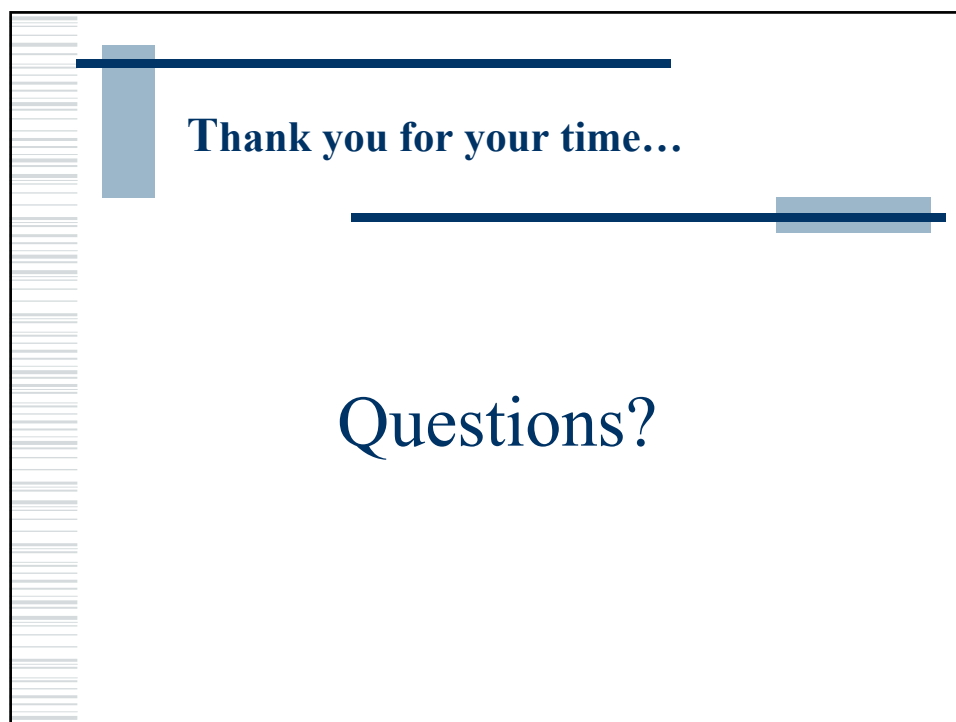
A Resistance Circuit
Or
An Income Statement?

The Risks...

- Those institutions that have embraced Financial Engineering in a truer sense risk 'over engineering'
- When is 'good' good enough?
- When do you stop?
- There is a delicate balance between too little engineering and too much
 - It is important that the full engineering cycle be applied to product development while always maintaining awareness of the practical context of the industry
 - Speed to market is important
 - An appropriate risk/reward balance must always be maintained (what is the opportunity cost of delaying product launch due to continued engineering vs. the real monetary value clients will attribute to a product's characteristics)

Conclusion...

- Need to ensure we embrace the *spirit* of Financial Engineering as well as the term
 - ...but maintain a practical perspective (avoid over-engineering)
- **We have a long way to go...but we are making progress**



Thank you for your time...

Questions?