M6 Excel Topics

Topics in Insurance, Risk, and Finance [1]

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[1]References: Chapter 7.1-7.3 and 8.1-8.3 of Joshi (2013) | → latest slides

1. General Considerations
   - Why Excel?
   - Issues with Excel

Why Excel?

- Excel is great to spread data and calculations in a tabular form, and have a visual overview
- Most financial modelling is done in Excel (at least initially)
- In actuarial work, many more advanced codes (in R, Python, C++, C#, VBA, . . .) often starts with someone playing around in Excel, and once proof of concept is approved, this moves to proper coding
- It is assessed in CM2-B (!)

1. General Considerations
   - Why Excel?
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Issues with Excel

Excel is notoriously problematic in certain areas:

- Lack of transparency - one can't see the code unless you click in a cell
- Mistakes can be tiny but have huge consequences in the end (the job of Excel auditor actually exists!)
- Lack of good documentation capability (as opposed to code); this makes collaboration and audit difficult, and creates an operational risk (e.g. builder leaves)
- Lack of rigour in the construction of a model (input, assumptions, intermediary calculations, output)
- Can't handle (seriously) large data sets
- Sometimes code is a lot easier (e.g. flip a vector around, sum over a diagonal, . . .)

I know there are counter arguments for all of those, but this presupposes you know what the solutions are (you'll learn some of those here!)

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1 General Considerations

2 Assumed knowledge

3 General etiquette and tools

Assumed knowledge

See `prerequisite knowledge on the website`. Some extracts:

- Autofill: Chapter 3, p. 105-116, and p. 298-301
- Named ranges and constants: Chapter 7, page 312-332
- Absolute and mixed cell references ($): Chapter 7, pages 332-342
- New Excel 2019 functions (IFS, MAXIFS, MINIFS): Chapter 8, pages 381-398
- Formula Auditing: Chapter 9, p. 436-439
- Paste special (incl, e.g. `Transpose`): Chapter 11, pages 518-530

Page references are for Slager and Slager (2020), see `link here`

General etiquette and tools

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References I

Joshi, Mark Suresh. 2013. *Introduction to Mathematical Portfolio Theory*. Cambridge University Press.

Slager, D., and A. Slager. 2020. *Essential Excel 2019*. 2nd ed. Apress.