# ProMS®

## MODEL RISK!

### Why property professionals should be concerned

Radley & Associates Ltd

# MODEL RISK!
# Why property professionals should be concerned

*'The Rail franchise bidding process is in disarray after a Department for Transport official blamed 'technical problems' for the collapse of the competition to run the West Coast line. The errors are likely to cost the taxpayer 'tens or hundreds' of millions.' FT 7th Oct.*

**What went wrong?**

It is not entirely clear yet, but reading between the lines, it seems that a calculation error in a DfT spread-sheet meant that FirstGroup's winning bid was assessed without allowing for inflation or anticipated changes in passenger numbers in the cash-flow projections. When challenged by Virgin Rail and a pending Judicial Review, the DfT admitted the error and revoked the decision to award the contract to FirstGroup: costing the taxpayer an estimated £40 million and an 18 month delay.

**How could it happen?**

Behind almost every major commercial decision lies an Excel cash-flow model. As the humble Excel spread-sheet has evolved, it has become highly complex and dependent on a bewildering number of assumptions. Excel models are very easily 'broken' and version control procedures are limited at best. It is all too easy to imagine a junior member of the team overwriting the cells containing the DfT's inflation estimates (perhaps to check a calculation) and then forgetting to reset them. As a result the error gets hard baked into the official assessment. Which senior manager would be confident of noticing the error in the final figures?

**Why should it concern property investors?**

Excel spread-sheets lie at the heart of many investment decisions in the property world. Analysts model future cash-flows using assumptions about rental growth, inflation, occupancy rates, lease event outcomes and so on. A typical model for a £10 million property investment appraisal might involve over 100 assumptions. As the decision point gets closer, decision makers suggest changes in the assumptions. Different versions of the model proliferate. Finally a decision is made: unsurprisingly junior analysts almost always ensure models predict a level of return that meets the firm's target hurdle rate: multiple changes in assumptions normally see to that. What many fail to realise is the assumptions that are used to create models can have a far greater impact on the answer than the underlying business proposition.

In many cases, significant investment decisions are made on the basis of:

- Massaged input data (discount rates, inflation, rental growth rates etc.)
- Inconsistent assumptions
- Erroneous calculations

**I recognise some of these symptoms, but what can be done?**
Firstly ditch Excel as a system for major decision making – it's fine for quick and dirty analysis but not for critical investments. Use a package (and they do exist), which allows users to:

1. Validate input data for accuracy (such as lease terms, rent rolls, valuations etc.)
2. Set and manage all assumptions systematically – storable, retrievable and auditable.
3. Set a centrally agreed suite of assumptions - wherever possible on the basis of real historical data.
4. Use the same set of assumptions to evaluate all transactions so that you can create a level playing field against which to judge deals
5. If analysts override centrally set assumptions for an individual deal, ensure that all the assumption changes are tabulated and the impact of the all the changes (say on IRR) is quantified for the appraisal committee.
6. Lock down the pure cash-flow calculation part of the model so it cannot be overwritten.

As the DfT discovered, model errors can cost millions of pounds, so CROs, CFOs and Portfolio Managers should invest in gaining control. Excel based decision support models may be an accident waiting to happen.

Radley & Associates is an independent firm dedicated to the development of advanced simulation based analytics for the Commercial Real Estate industry. Our clients include leading banks, fund managers and REITS. We have deep expertise in property, simulation modelling, econometric analysis and risk.

Radley & Associates
2 Nottingham Street
London
W1U 5EF
0207 224 3079