

On the subject of business, financial and other types of modelling.

It is exceedingly rare for a business, any business, to not employ some kind of model to assist in forecasting, estimation and many other forms of predictive management. Models are ubiquitous.

They are also at bottom tools for approximate thinking; they serve to transform your intuition about the future into a cash flow, a price or some other number, today. It's easier to think intuitively about future housing prices, default interest rates, energy outputs and cash flows than it is to try and ascribe a numerical value to them. Rather than blindly guess, businesses use models to turn the intuitive into a numerical output.

Our experience has taught us to be very humble in applying mathematics and statistics to business and the markets, and to be extremely wary of ambitious theories, which are in the end trying to model human behaviour. We like simplicity, but we also like to remember that it is our models that are simple, not the world.

We do need models and mathematics – you cannot think about finance and business without them – but we never forget that models are not the world. Whenever we make a model of something involving human beings, we are trying to force the ugly stepsister's foot into Cinderella's pretty glass slipper. It doesn't fit without cutting off some essential parts. And in cutting off parts for the sake of beauty and precision, models inevitably mask the true risk rather than exposing it. The most important question about any model is how wrong it is likely to be, and how useful it is despite its assumptions. As a result, at Analytica we start with models and overlay them with common sense and experience.

Many academics imagine that one beautiful day we will find the 'right' model. But there is no right model, because the world changes in response to the ones we use. Progress in modelling, whether in finance, business or any other field, is fleeting and temporary. Markets change and newer models become necessary. Simple clear models with explicit assumptions about small numbers of variables are therefore the best way to leverage your intuition without deluding yourself.

Analytica Services can advise on your existing models, or help you build new ones. Either way, our advice will always mention that all models sweep dirt under the rug, and a good model makes the absence of the dirt visible. When we are done you will know what you are assuming when you use the model, and exactly what has been swept out of view.

Building models requires the combination of the qualitative and the quantitative, imagination and observation, art and science, all in the service of finding approximate patterns in the behaviour of the system you are attempting to model. However, at Analytica we never forget the greatest danger is the age-old sin of idolatry. The business (and real) world is alive but a model, however beautiful, is an artifice. No matter how hard you try, you will not be able to breathe life into it. To confuse the model with the world is to embrace a future disaster driven by the belief that humans obey mathematical rules.

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Consequently, we believe and adhere to the following manifesto:

- We will remember that we didn't make the world, and it doesn't satisfy our equations.
- Though we will use models boldly to estimate value, we will not be overly impressed by mathematics.
- We will never sacrifice reality for elegance without explaining why we have done so.
- Nor will we give the people who use a model we have developed false comfort about its accuracy. Instead, we will make explicit its assumptions and oversights.
- We understand that our work may have enormous effects on society and the economy, possibly beyond our comprehension, and we act accordingly.

Advice on modelling is just one aspect of the services available. The above points are intended to provide a brief insight into our offering and the different perspective we take on approaching decision making in uncertain business or project environments.

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