

**16.00 – 17.30 Plenary session B2: Uncertainty, Systemic Risks and Global Change Decisions**  
**Session organizer: David Tuckett,** University College London, UK

**Speakers:**

**David Good** Cambridge University

**Harald W Stieber** EC, DG MARKT

**Susanne Kuechler,** University College London, UK.

***Organizer's Opening Remarks.***

The present ways we organize the world are not sustainable. They are the outcome of multiple decisions.

Whether and how we can change enough of those decisions to produce a sustainable world is a vital question to which the answer is very uncertain.

*In this session we bring together a psychologist and a social anthropologist with a member of the European Commission's Internal Market and Services Directorate to think about the way decisions are made under uncertainty. We aim to discuss some of the challenges facing decision-makers seeking to mitigate systemic risk and create a sustainable economy. We argue the case for much more careful attention not only to the uncertainty in the nature of the world, but also to the human cognitive and social processes that are inherent in the anticipatory process of all living systems – inherent, therefore, in understanding who is framing the future and how.*

I want to start from the view that the theories we have about the world – perhaps especially those that influence our actions but are not properly known to us – have huge implications and consequences for what we do. Whether through the lens of modern “active inference” theory (developing in neuroscience) or more standard social science, our preconceptions determine our “definition of the situation” (Thomas 1921). They make our world by influencing what we see and what we don't and the various causal relationships we impute.

An important influence on the preconceptions brought to policy derive from the academic theories to which officials and their advisers have been exposed through the influence of the dominant strands in academic economics and psychology.

Both the global economic and financial crisis and the threat to sustaining the quality of life on our planet demonstrate that not all is well with these theories.

Events are showing how the clever ways economists learned to put both real uncertainty and social influence aside by populating their dominant models with omniscient socially autistic agents has made their models largely inapplicable.

It is less well understood that the dominant theories in psychology are equally flawed.

While psychologists like Daniel Kahneman base their results on studying real people, it has been done in laboratory contexts and in highly stylised ways. People are invited to solve predefined problems involving gambling tasks, coloured ball selection or event frequency estimation (how likely are you to have a car accident or to get cancer from smoking). The conclusions that human beings tend to be poor decision-makers due to various biases and framing errors are only relevant for situations where the context is reasonably representative of real life and there is a well-defined problem with a “right” answer against which to compare what people decide.

In the context of the real uncertainty unavoidably present in real life these stylised conditions do not apply. The right answer cannot usually be known in advance. Moreover, in a social setting the right answer may be determined by social factors, including the benefits to be gained by copying.

In dominant psychology, not much less than economics, therefore, the problems of managing real uncertainty are exchanged with a “know all” or omniscient option. In economics people, on average, “know all” (relevant information) either by axiom or by applying probability. In psychology knowledge comes from the application of probability by the experimenter or, when applied to policy using a “nudge” approach, by an expert. While these theories may be reassuring in the context of a command and control approach to policy where what to do is neither controversial nor uncertain, there is little left of them if we leave the laboratory or university and their well-defined problems and instead have to grapple with facts open to competing interpretations or with creating solutions which whose outcomes may be far from those intended.

So for example, in the case of finance, I think of both standard and behavioural theories as a hindrance to thought – even perhaps a defence against the anxieties created by uncertainty and lack of control. They miss the point that although the value of financial assets must ultimately depend on some kind of calculable “fundamental” determinants of future income streams, human beings have to use their interpretive skills to infer what these streams will be. In fact, ex ante, financial assets have no knowable value in and of themselves. They are created reflexively by human anticipatory processes. In fact, the only way to value them is by allying calculation capability with human interpretive and sense-making skills. It is the latter that enable people to imagine what income streams may be in future and it is the latter which allow people to be sufficiently convinced about their view to commit to action. To act in finance you need to construct what I term a conviction narrative, in which the elements of the narrative are compiled from ideas generated in social interaction to which the decision-maker becomes attracted.

The crucial point I want to make is that in any context which involves being uncertain as to how the future will work out (and also in a policy context where the aim is to find a way to bring about a desired future) there are invariably conflicting interpretive possibilities. To act requires the development of conviction in the interpretation – in the decision-maker and those around who have to play their part, such as clients.

It follows from all this that there is a great deal to be gained from trying to understand the way conviction emerges from conflicting interpretations, explanatory models and interests and the emotions to which the anticipated outcomes give rise. But, although arguably at the heart of decision-making, so far, all this is a relatively ill-considered process.

Actually, it is possible to think of the dominant theories in economics and psychology less as well supported theories and more as efforts to build conviction and create confident policy based on a conviction narrative. A DSGE model for example, may give the impression that the future of the economy is known and under control. Policy can be justified. Similarly, calculations of value at risk, optimum portfolio allocation, AAA status, or “tracking error” are reassuring notions supported by nice narratives in which uncertainty has been quietly side-lined. In their different ways such theories create a sense of power and control, manage the anxieties that come from uncertainty and by supporting action allow escape from paralysis. They often provide “a number” and many of these numbers have become conventional wisdom, no matter their rather unsecure grounding.

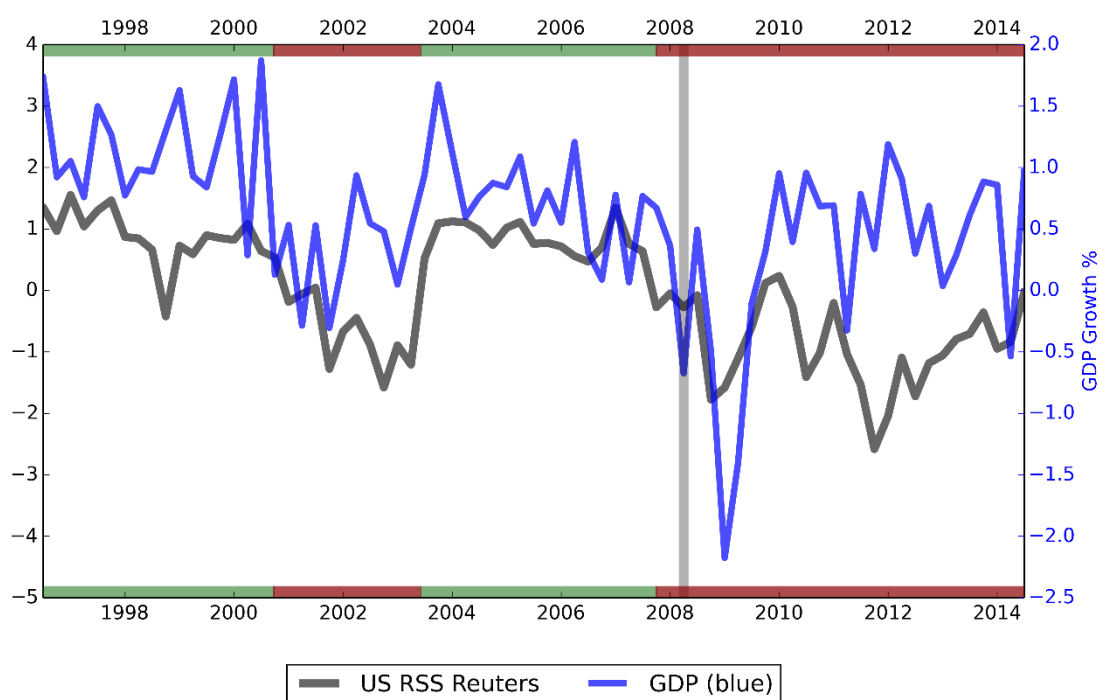
I argue that conviction narratives<sup>i</sup> are necessary to support action under real uncertainty. The narrative has to construct a story that makes action attractive. It must play up attractive ingredients which support action and play down anxious ones which would inhibit it. The issue is not just that we rely on a conviction narrative – we have to - but how we construct it and in what state of mind. One constant risk is that conviction may be achieved via the human process of idealisation that lies at the heart of all attachment

relationships. This is why what I call *phantastic object* narratives maintained in *divided states* subject to *groupfeel* developed through social interaction are a constant possibility<sup>ii</sup>. It is because conviction narratives are constructed and shared through social interaction that they are the primary source of systemic risk.

In this connection what my teams calls Directed Algorithmic Text Analysis (DATA) is a step forward. DATA is a method we have developed to derive information about risk-taking from digitally archived documents reporting financial and economic decisions and events. We use it to explore within the documents the presence of only the two emotion groups predicted to be important by Conviction Narrative Theory.

DATA creates a relative sentiment shift (RSS) time series and a measure of narrative consensus. They make it possible to track when decision-making may be unusually inhibited by anxiety (relative to excitement) or when excitement may be unusually uninhibited relative to anxiety. Preliminary work has shown how RSS indicators act as early predictors of financial states of euphoria as well as of the VIX fear index<sup>iii</sup>. It also predicts (Granger causes) changes in the value of US and UK GDP and may be able to predict turning points in the economy— as illustrated in Figure 1.

Figure 1 RSS derived from US authored Reuters News and US GDP.



All this is intended as an illustration as to how broader theories of the world and conceptions of agents and their decision-making informed by empirically substantiated theory rather than axiom may be operationalised successfully to some advantage.

<sup>i</sup> Chong, K. and Tuckett, D. (2014) Constructing Conviction through Action and Narrative: How Money Managers Manage Uncertainty and the Consequences for Financial Market Functioning. *Socio-Economic Review*. 1-26. doi:10.1093/ser/mwu020

<sup>ii</sup> Tuckett, D., Smith, R. E. and Nyman, R. (2014) Tracking Phantastic Objects: A Computer Algorithmic Investigation of Narrative Evolution in Unstructured Data Sources. *Social Networks*. 38 (1) 121 - 133. 10.1016/j.socnet.2014.03.001; Tuckett, D and Taffler, R (2012) Fund management: An Emotional Finance Perspective. Monograph of the Research Foundation of the CFA Institute, New York.

<sup>iii</sup> See also Nyman, R., Gregory, D., Kapadia, S., Ormerod, P.; Smith, R., and Tuckett, D. (2014) News and narratives in financial systems: exploiting big data for systemic risk assessment. ECB Workshop on Big Data for Forecasting and statistics, Frankfurt. April 7th/8th. To appear in the Bank of England Working papers series.