Comments on: Structural Estimation of Dynamic Equilibrium Models with Unstructured Data

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What the paper does

- Fits a vanilla DSGE model to US data
- Novelty here is the use of topic shares from a decomposition of the FOMC meeting transcripts as additional observable variables
- Proposes a simultaneous topic/parameter estimation alternative
- Lot of experience in doing both of these things (separately) in the author list, so if anyone is going to do this seems the right people
- Very much work in progress, but already some interesting results

How should I think about this?

- As an alternative, differently-noised measurement of the state
  - Specifically so in the authors' estimated model
- Is a view that text is most useful in explaining residuals (Taddy, 2019, p. 252)
  - Then we would use it as an addendum to specific behavioral relationships, as a way of explaining deviations from 'structural' equations
  - Most obviously too simple a policy rule can't capture the nuances of policy making that careful textual analysis can
- Authors' results indicate an improvement in fit but notably an obvious impact on the dynamics (and size) of shocks

Nonstationarity

- The problem with minutes (even if written by the same faceless civil servants after every meeting) is that they reflect the personalities involved
- The same topic could evolve through time in the way it is spoken about, needing a topic model that captures the non-stationarity

Saying the same things differently

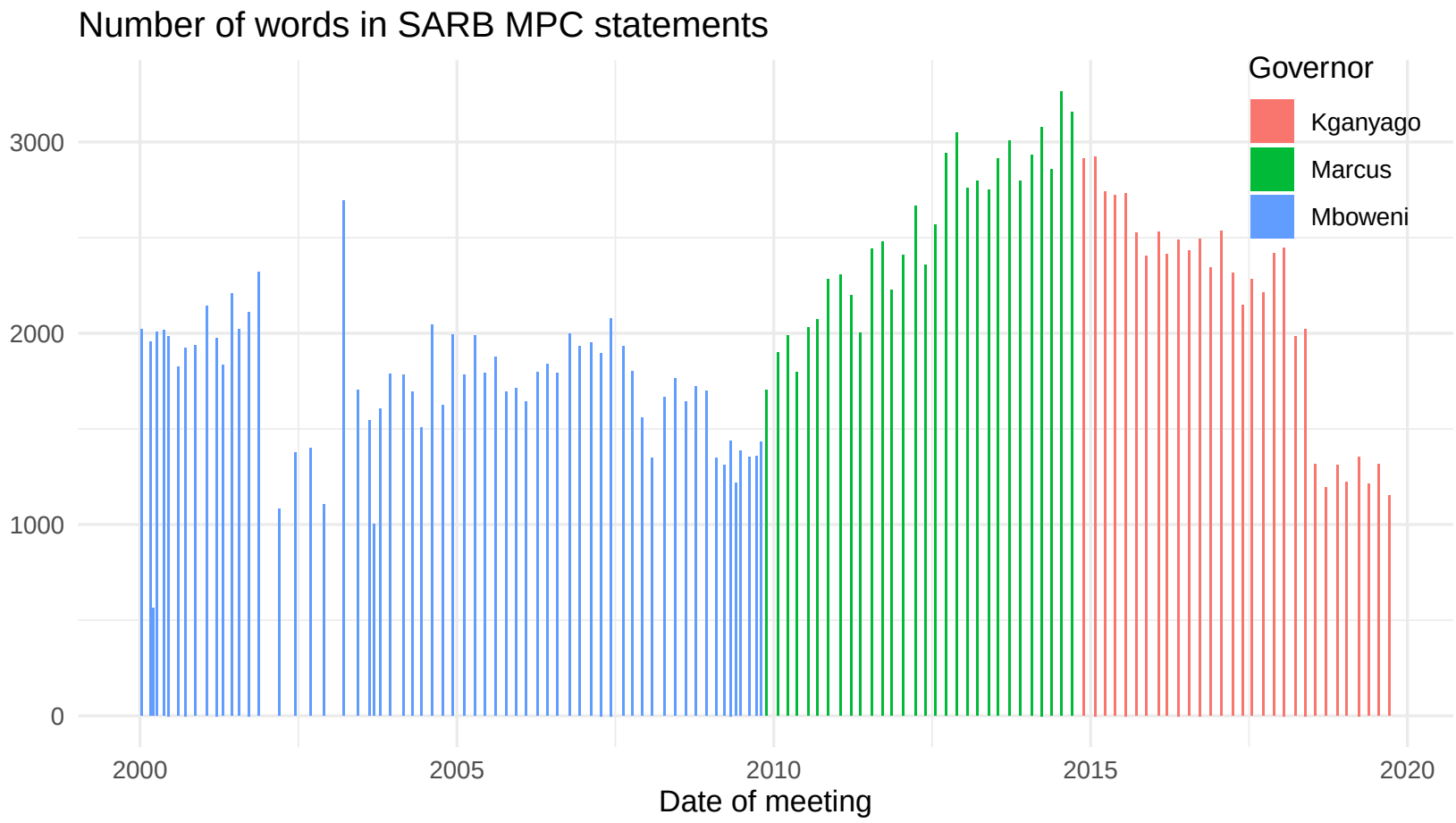

Figure 1: South African Reserve Bank, Monetary Policy Statements

Explaining the residual: Words as a weapon

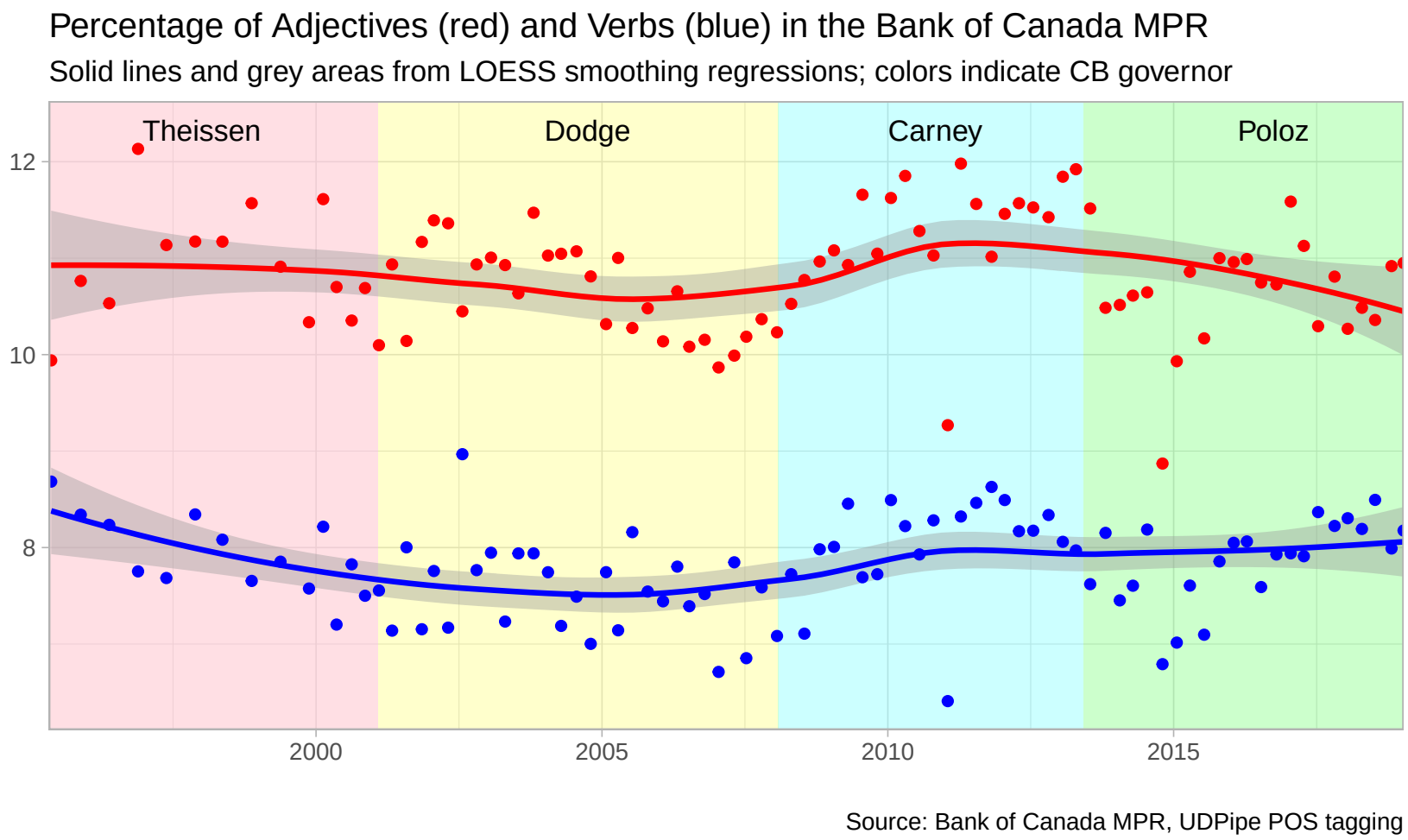

Figure 2: Bank of Canada, Monetary Policy Report

Explaining the residual: Words as a weapon

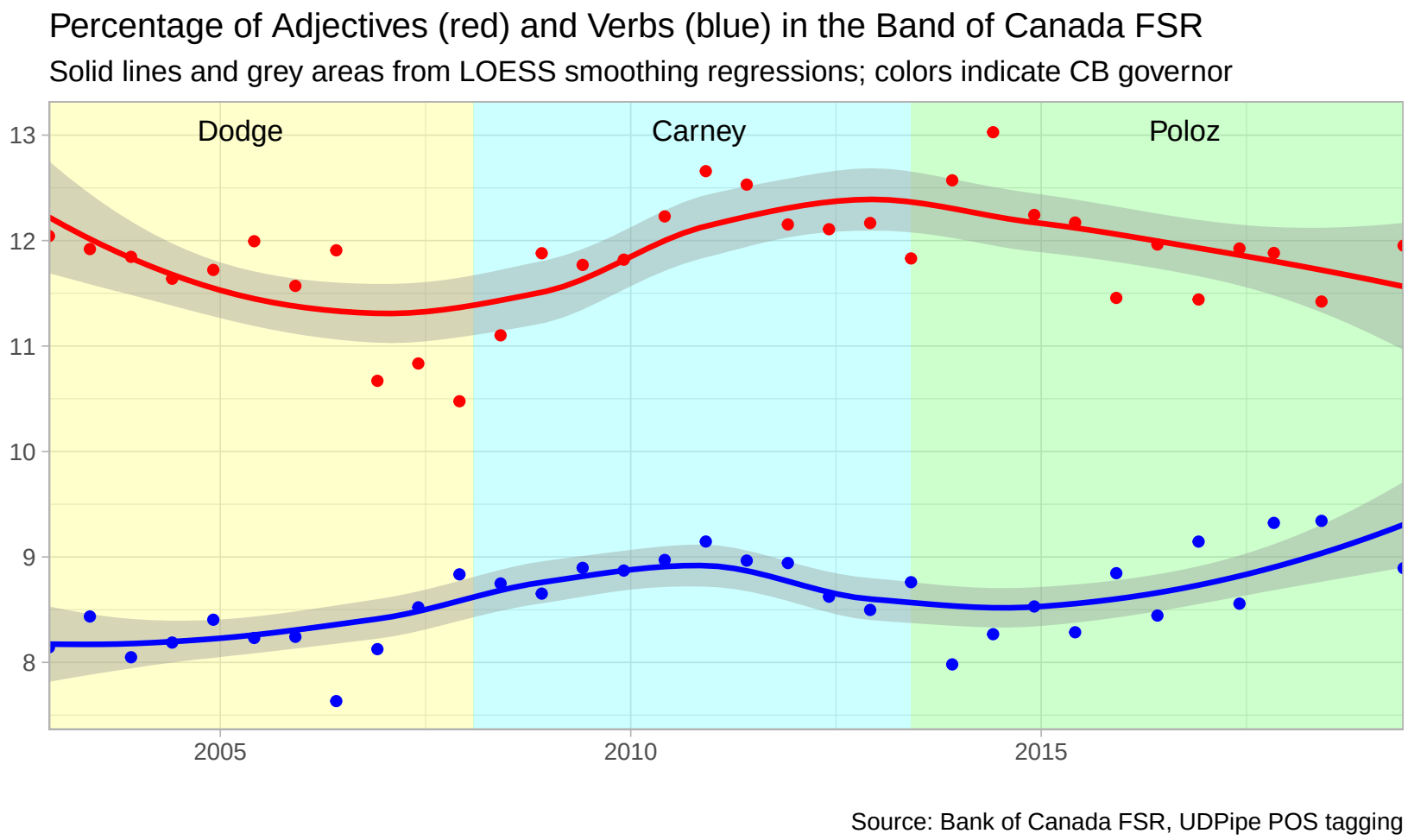

Figure 3: Bank of Canada, Financial System Review

DSGE filter as a method to interpret topics

- Structural topic models add meta data to the text
  - Roberts, Stewart and Tingley (2018). stm: R Package for *Structural Topic Models*
  - Idea that some series (author, month, inflation rate, weather) are correlated with topics
- In a similar vein we could view the DSGE model as a data filter to help identify the topics in the text data
- Thus a latent supply shock, say, could be strongly associated with a topic the committee discuss when deciding on policy trade-offs
- The approach here could therefore add value both ways