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On DSGE Models

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A decorative graphic at the bottom of the slide consisting of several overlapping purple shapes. On the left, a light purple triangle points upwards. To its right, a medium purple triangle points upwards. On the far right, a dark purple triangle points downwards, overlapping the other shapes.

“We’d rather have Stanley Fischer than a DSGE model, but we’d rather have Stanley Fischer with a DSGE model than without one.”

- A paraphrase of Stanley Fisher paraphrasing Samuelson on Solow.

Friedman (1959) : Monetary and fiscal policy is rather like a water tap that you turn on now and that then only starts to run 6, 9, 12, 16 months from now”.

Figure 1: VAR Impulse Responses to a Monetary Policy Shock

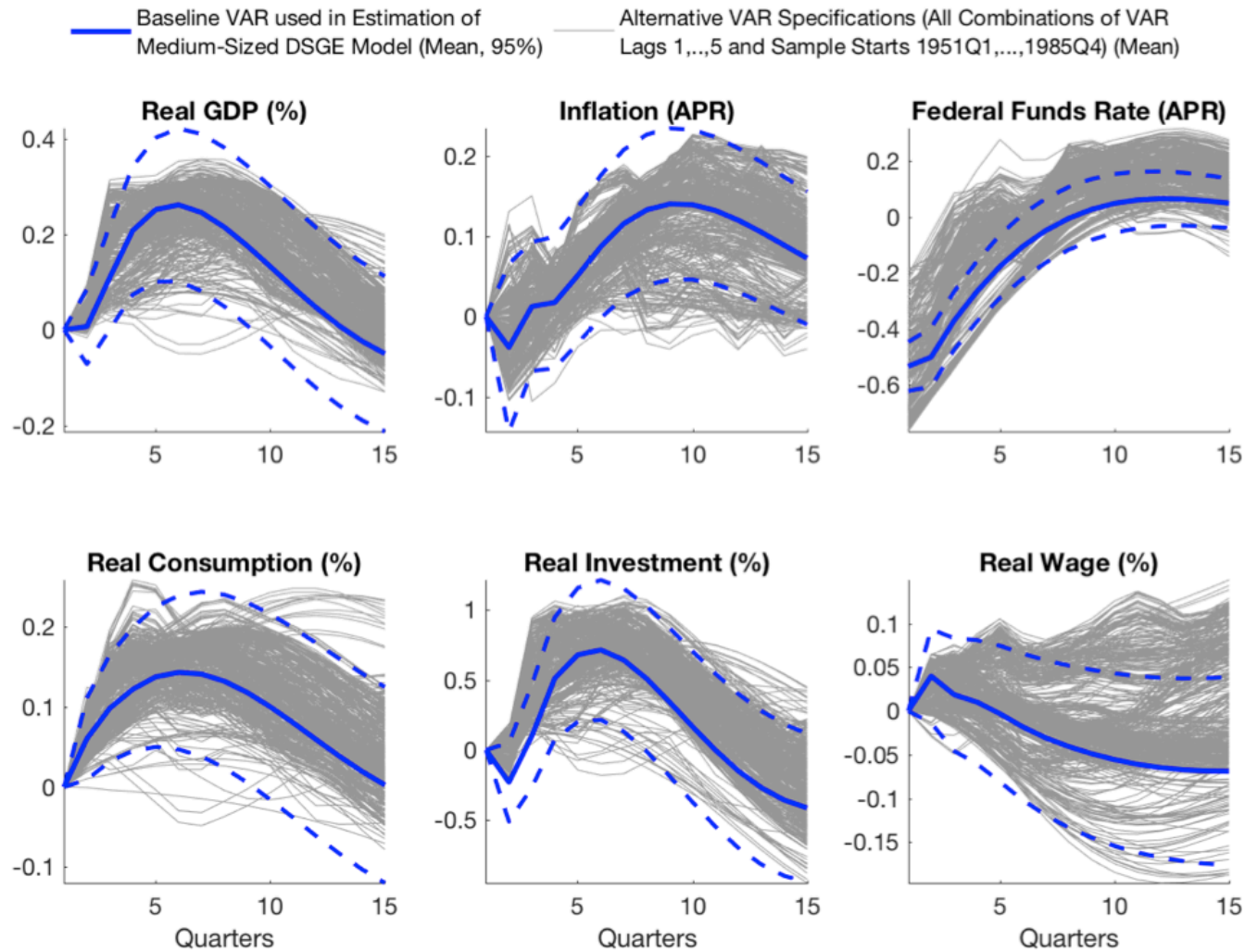
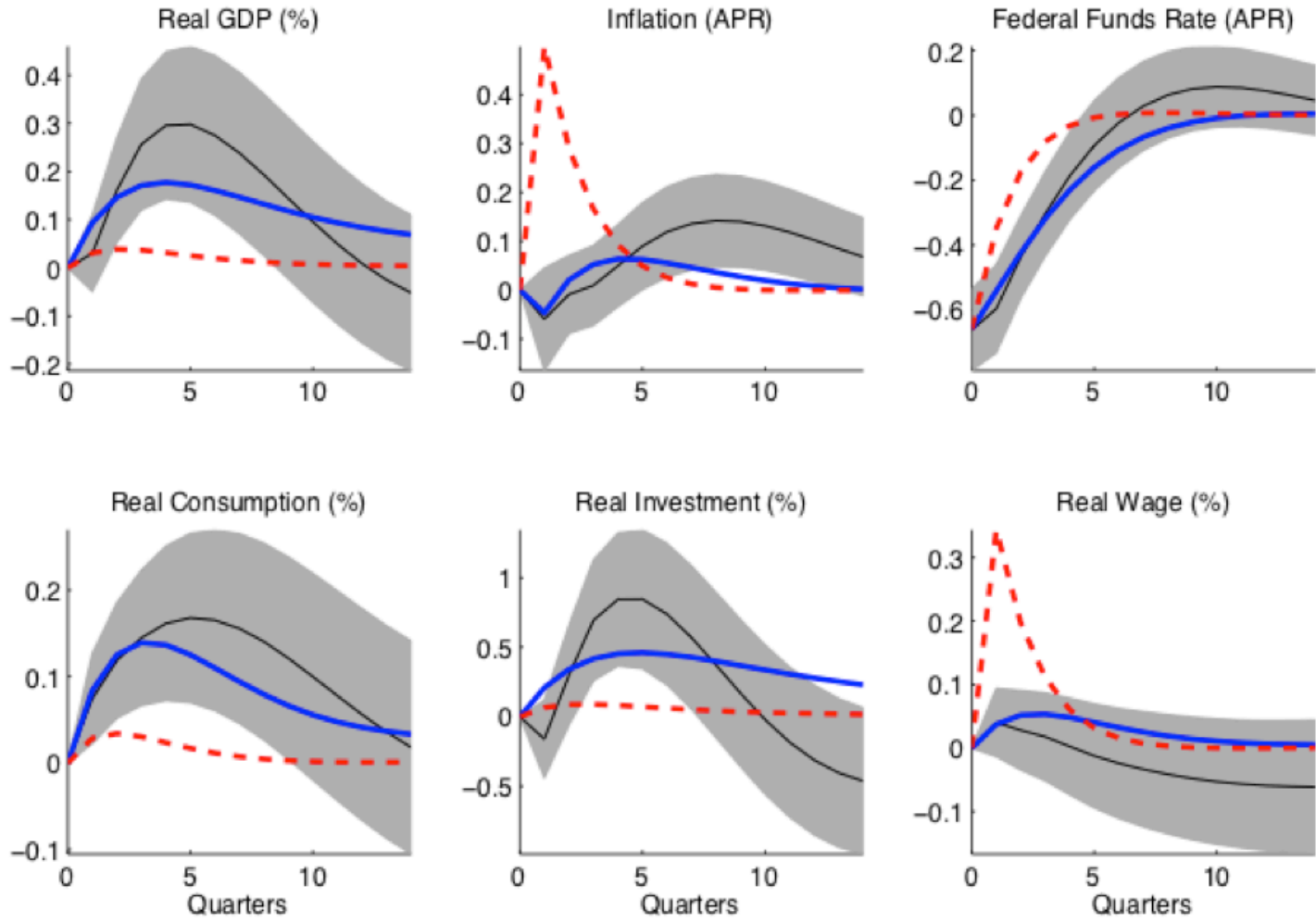


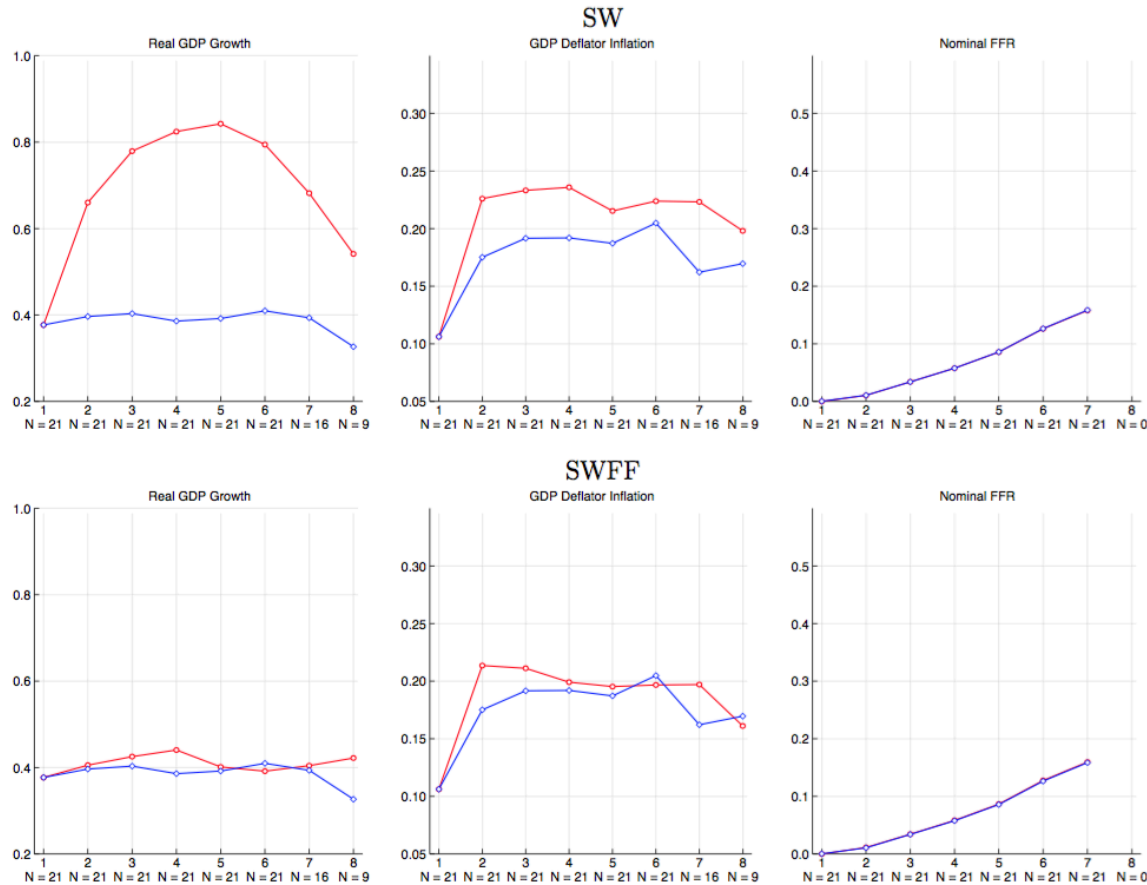
Figure 2: Impulse Responses to a Monetary Policy Shock -- VAR vs. Model

VAR 95% VAR Mean Estimated CET (2016) Model with Sticky Wages Model with Flexible Wages



Out-of-sample forecasting: DSGE model without and with financial frictions (SW, SWFF), Blue Chip Forecasters (blue lines)

Figure 3: RMSEs for SW and SWFF models



Note: The top and bottom panels compare the RMSEs for the SW (top row, red circles) and SWFF (bottom row, red circles) DSGE models with the Blue Chip (blue diamonds) for one through eight quarters ahead for output growth, inflation, and interest rates. Output growth and inflation are expressed in Q/Q percent annualized terms, whereas interest rates are in quarterly annualized percentage points. The $N = n$ labels under each x-axis tick indicate the number of observations available for both the BCEI and DSGE forecasts at that horizon. The forecasts included in these calculations are from April 2011 to April 2016. The DSGE forecasts are conditional on the BCEI forecasts for the federal funds rate, and the BCEI nowcasts for output growth and inflation. Section 3.2 provides the details of the forecast comparison exercise.

Concluding remarks

- The key features of the pre-crisis DSGE models evolved as we tried to capture the main characteristics of post-war business cycles.
- The models quickly evolved in response to the financial crisis and the Great Recession, incorporating new financial market frictions and shocks.
- DSGE models are now evolving in response to the ever-growing treasure trove of micro data available to economists.
- It's no longer enough for the models to fit the macro facts.
 - It's critical that the key mechanisms embedded within them be consistent with micro data, broadly conceived.