Discussion of

Measuring the effect of the zero lower bound on yields and exchange rates in the U.K. and Germany

by Eric Swanson and John Williams

Mico Loretan
Swiss National Bank

HKMA–FRBNY Joint Research Conference
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Outline of SW paper

- Introduction
- Illustrative model
  Q: Why might longer-term yields and exchange rates be affected by ZLB on overnight interest rate?
- Empirical framework
  Estimate news component of various data releases
  Run daily-frequency regressions
- Results
  Separate analysis for UK yields, DE yields, and exchange rates
- Discussion
  incl. analysis of implications of findings for effectiveness of fiscal policy during ZLB periods
- Conclusion
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Main contributions

- Operationalize what it means for some yield or asset price to be *constrained* by zero lower bound
  - Main criterion: Are yields less sensitive to econ. news when short rate is at ZLB?
  - Yield's numerical closeness to 0 not a good measure of how binding the ZLB is
- Companion piece to a recent paper by the authors that focused on sensitivity of US yields' to economic news
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  - Economic "news": Surprise components of econ. data releases from US, UK, and Germany
  - UK gilt (zero coupon) yields, various maturities
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Main findings

- Short-maturity German and UK bonds indeed show reduced sensitivity to news in various subperiods since 2008 (though not uniformly so)
- This is *not* the case for longer-maturity bonds
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Empirical framework, Part I

- US, UK, and DE macro data releases
  - Expected component: median forecaster's value from Bloomberg and Money Market Services (MMS)
  - Surprise component: Deviation of data release from expected value (standardized and centered)
- Time period: 1993–2012 (1995–2012 for DE), Daily
- Convert bond yields to zero-coupon yields
- Nonlinear (actually, bilinear-in-param.) regression

$$\Delta y_t = \gamma^{\tau_i} + \delta^{\tau_i} \beta X_t + \varepsilon_t \tag{10}$$

y_t: Yield of a zero-coupon bond of a given maturity
γ^{τ_i}, δ^{τ_i}: year-specific intercept and slope dummies
X_t: Surprise component of data releases

- Identify δ^{τ_i}, β: Set pre-2007 average of δ^{τ_i} to 1

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Empirical framework, Part II

- Data asynchronicity
  - Trading in DE bonds ends before US data released
  - DE bond returns are lagged appropriately
  - But: Many important US data releases happen on Fridays; DE bond returns on Monday also affected by news that accrued over the weekend.
- Suggestion: Instead of *government bonds*, use *interest rate swaps*
  - No problem with data asynchronicity
  - IR swaps in USD, GBP, and EUR (DEM) very liquid, available at intraday frequencies, comparability across currencies, no need for adjustments related to roll-overs of "benchmark" govt. bonds
  - Could compute intraday changes in yields during (narrow!) "time windows" around data releases
  - Better capture of response of yields to econ. data

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Rolling regressions, daily coefficient estimates

- Respecify eq. (10) as

$$\Delta y_t = \gamma^\tau + \delta^\tau \hat{X}_t + \varepsilon_t^\tau \tag{11}$$

- $\hat{X}_t \equiv \hat{\beta} X_t$: "generic surprise regressor"
- Surprises are standardized. Generic regressor — assume that all (scaled) data surprises have same marginal effect on yields, regardless of type of data release
- Rolling, 1-year centered window regressions with daily data
- Estimate δ^τ for any business day
- Q: Similar results with trailing instead of centered data window?

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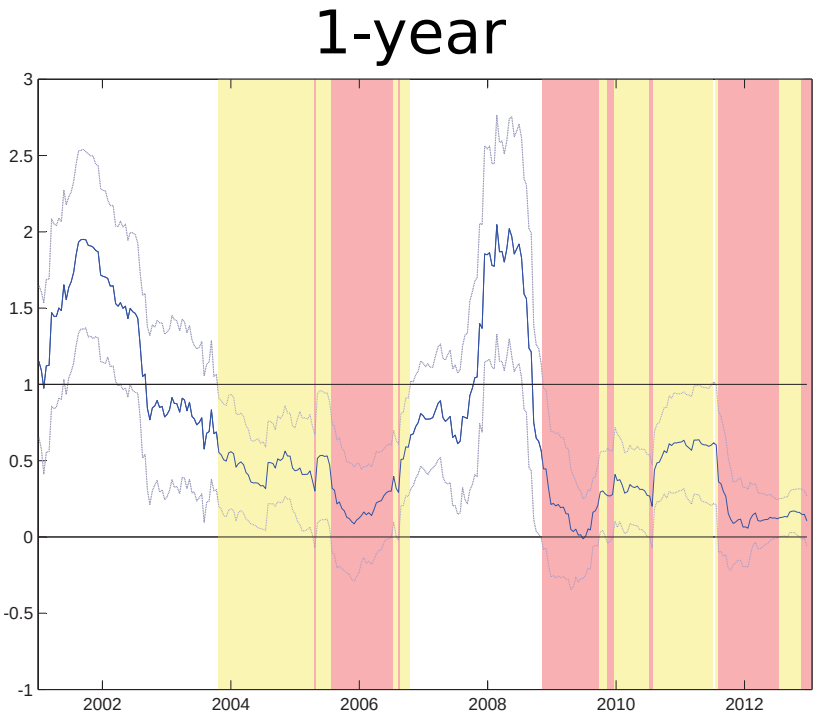
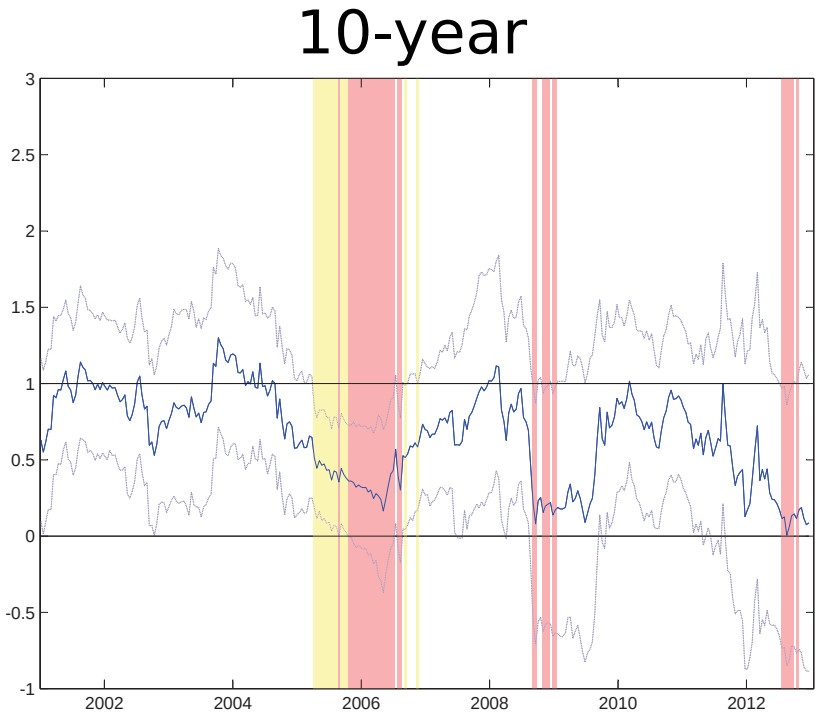
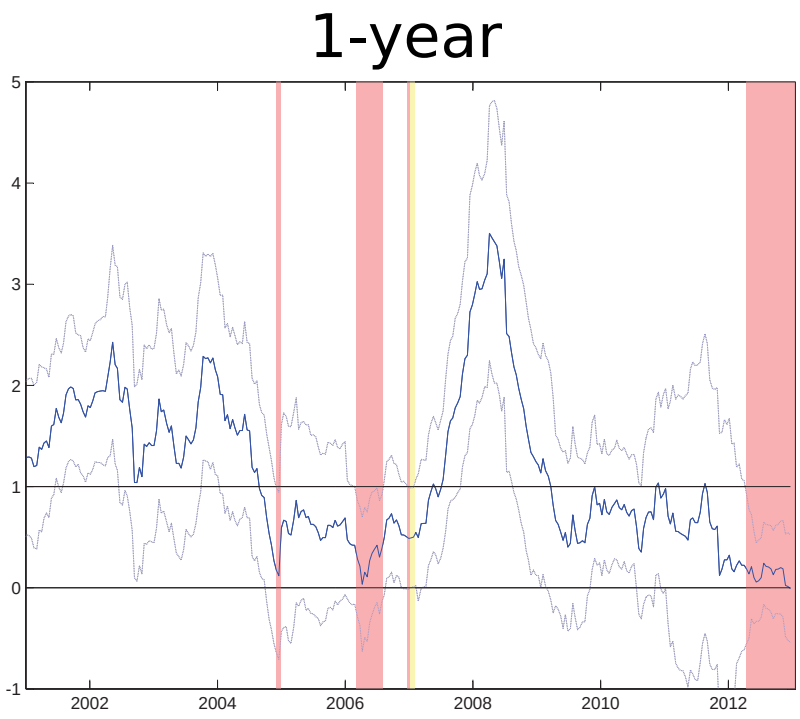
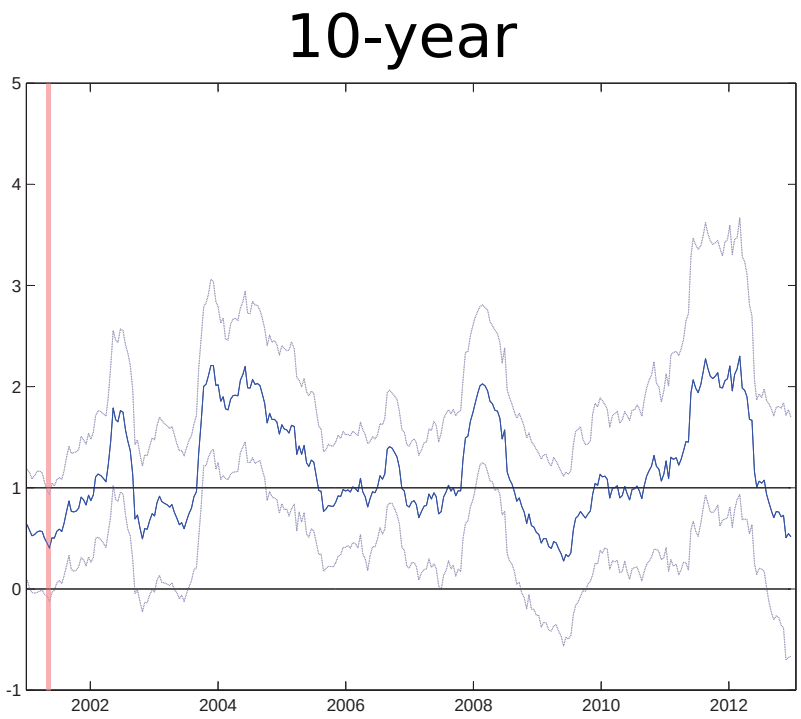
Scaled news sensitivity, Rolling regressions, GBP yields, 2001–2012



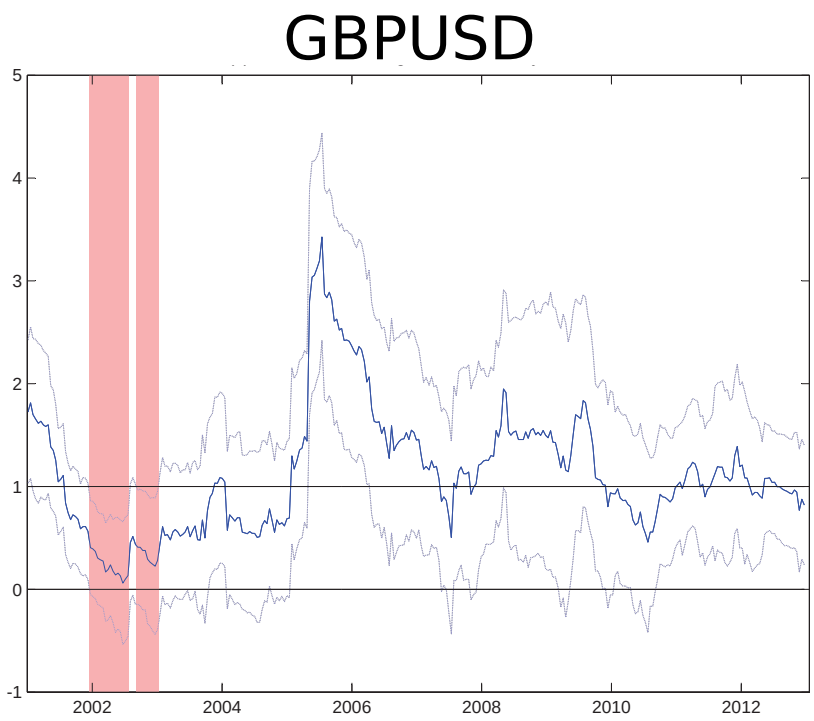


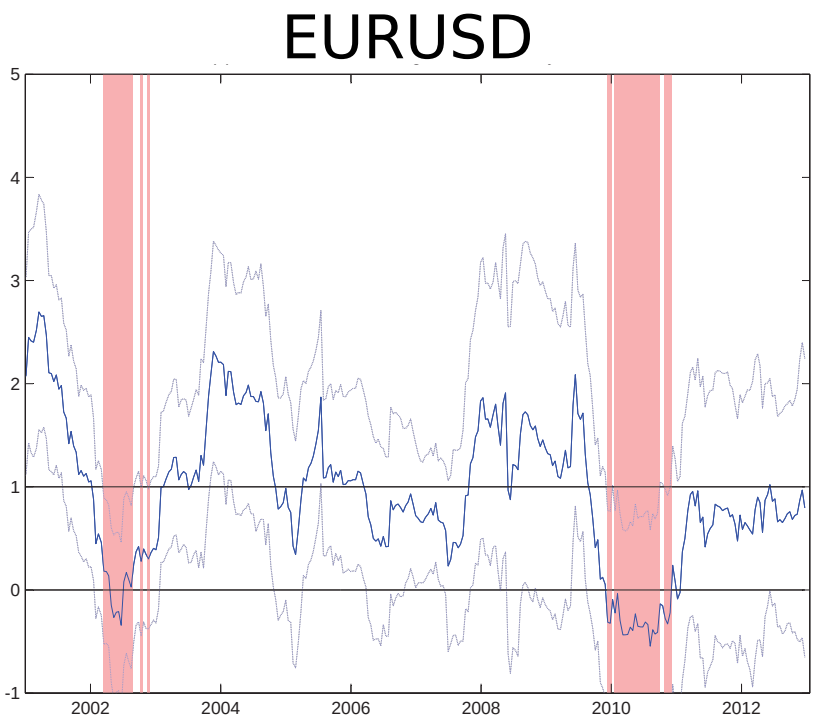
Scaled news sensitivity, Rolling regressions, EUR yields, 2001–2012





Scaled news sensitivity, Rolling regressions GBPUSD and EURUSD returns, 2001–2012





Further comments and suggestions

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  - More forward guidance by ECB and BoE
  - Rate-cut by ECB in Nov. 2013
- Is EURGBP sensitive to UK or DE economic data?
- Use FRB as source for FX data? (Collected at noon NY time — no data asynchronicity issues)
- Other explanations for low sensitivities in 2004–06?
  - 2004–06: Extended period of unusual calm in global financial markets
  - Since pre-2007 average sensitivity $\equiv 1$, does prolonged period of market quiescence show up as period of low sensitivities as well?
- Conversely, does market turmoil in 2007–08 contribute to elevated sensitivity during that period?

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