

“Herding the Scapegoats: Foreign Exchange Order Flow and the Time-Varying Effects of Fundamentals”

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Why are the authors writing this paper?

- After Meese and Rogoff (1983), many years in the wilderness for exchange rate models.
- Models based on economic fundamentals did not seem helpful in predicting future FX movements: OK, understandable.
- Models based on economic fundamentals did a very poor job explaining current and past FX movements: much more of a problem. The “exchange-rate disconnect puzzle.”

- Around 2000 (Evans and Lyons, 2002): Evidence that “order flow” (the net directional trades of the “takers” in the market) has clear explanatory power for FX movements (past, current, and even future).
- Is this deep, or mechanical? My view: some of each, but there is quite probably a deep part.
- The “deep” part:

“The high-frequency behavior of spot exchange rates reflects the flow of new information reaching dealers concerning the slowly evolving state of the macroeconomy...” (Evans, 2010).

“Order flow is strongly related to fundamentals and, in turn, can provide useful guidance to forecast exchange rate movements.” (Rime, Sarno, Sojli, 2010).

- Around 2000: Idea that fundamentals do matter for FX, but not always with the same weights, maybe not always the same set of fundamentals. The relationship is unstable, hence it can appear not to exist.
- Bachetta and Van Wincoop (2004, 2013) provide one way to formalize this instability between observed macro fundamental and FX movements: The **Scapegoat** model(s). Very good empirical support (Fratzscher et al., 2014).
- Uncertainty about structural parameters of FX-fundamental relationship. The learning process leads to large, rational, variations in expectations of the parameters. Shifts in those expectations drive large short-run movements in FX rates, looking like “disconnect.” Scapegoat effects.
- **BUT:** No real role for order flow. Worse “The exchange rate may change for reasons that have nothing to do with observed macro fundamentals, for example due to unobserved liquidity trades.” In the scapegoat model, **order flow is orthogonal to fundamentals, or just seems forgotten.**



What does the paper try to do?

- The paper provides evidence to **re-link OF and fundamentals in the context of the scapegoat model.**
- In that context, it aims to explain why the impact of order flow on FX is far more stable than that of individual macro fundamentals. The explanation is driven mainly by the idea that order flow always reflects the current “theme” of the market, the current scapegoat.
- The paper argues for a different role for order flow than simply reflecting dispersed macro information. Order flow now reveals both 1) the identity and importance of the scapegoat(s) and 2) the dispersed fundamental information related to those scapegoats. In that sense, the paper argues that order flow is like a “sufficient statistics” for the scapegoats.

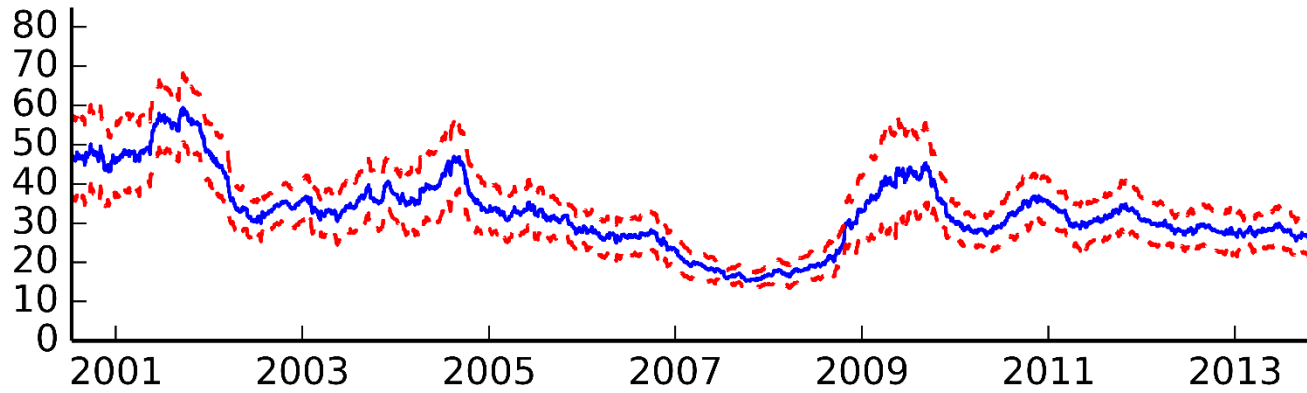
Does the paper fully succeed?

- Empirically, on its way, but perhaps not completely there yet. Lots of linear regressions, building upon each other in some cases, comparing R^2 s across regressions, etc... It feels like the early version that it is.
- Some technology is unorthodox, likely clever, like the “similarly unstable” analysis. But hard to judge how econometrically solid it is.
- In the end, I find myself mostly convinced by the evidence, but wondering whether there is a better, cleaner, simpler way to study the same relationships. Something more like (a cousin of) cointegration, etc...?

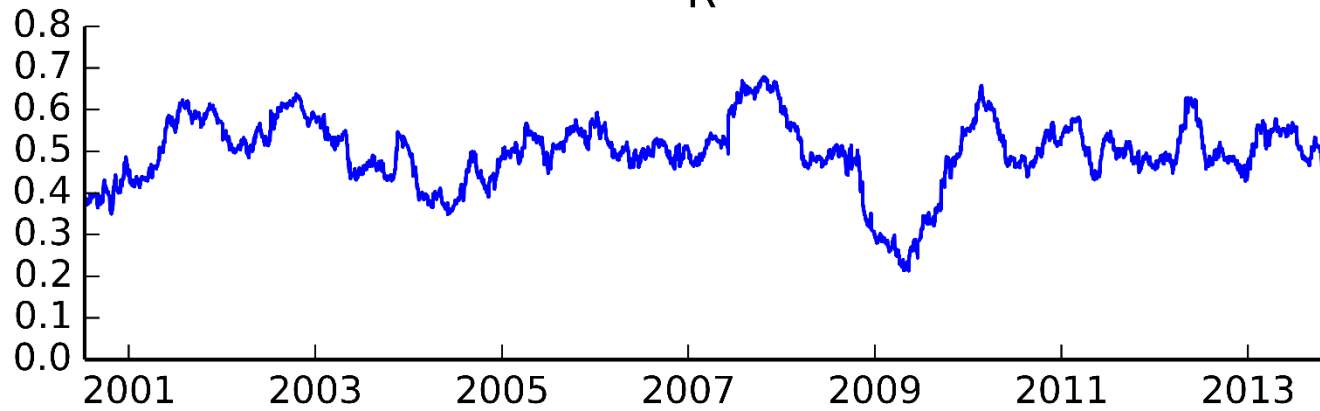
- A nitpick:
 - Are equity return differentials really “fundamentals”? Fair to use?
 - If it is fair, changes in expected short-term interest rate differentials (like 3-month rates one year ahead) are probably the most powerful “kind of fundamental” explanatory variable to use in an FX horse race.

- But the paper clearly succeeds in making one think more deeply, and in new ways, about price discovery, the role and relationship of fundamentals and order flow, beauty contests in financial markets, etc...

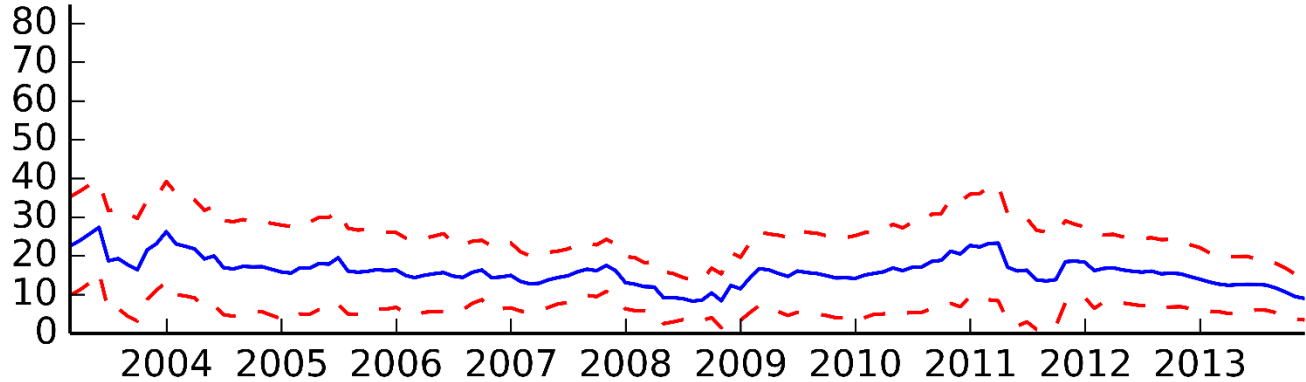
EURUSD 130 Day Order Flow Parameter Estimates



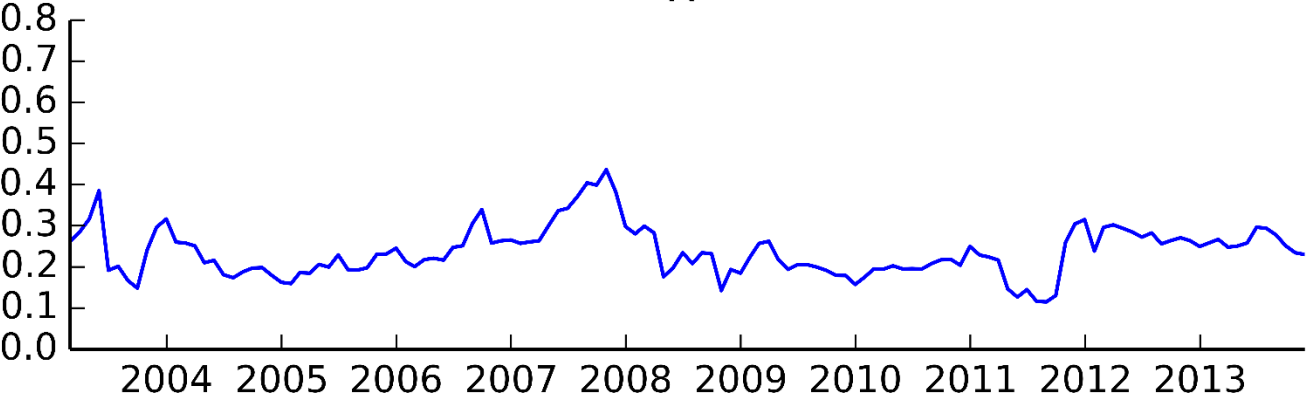
R^2



EURUSD 36 Month Order Flow Parameter Estimates



R²



EURUSD Order Flow Regressions (2008-2013)

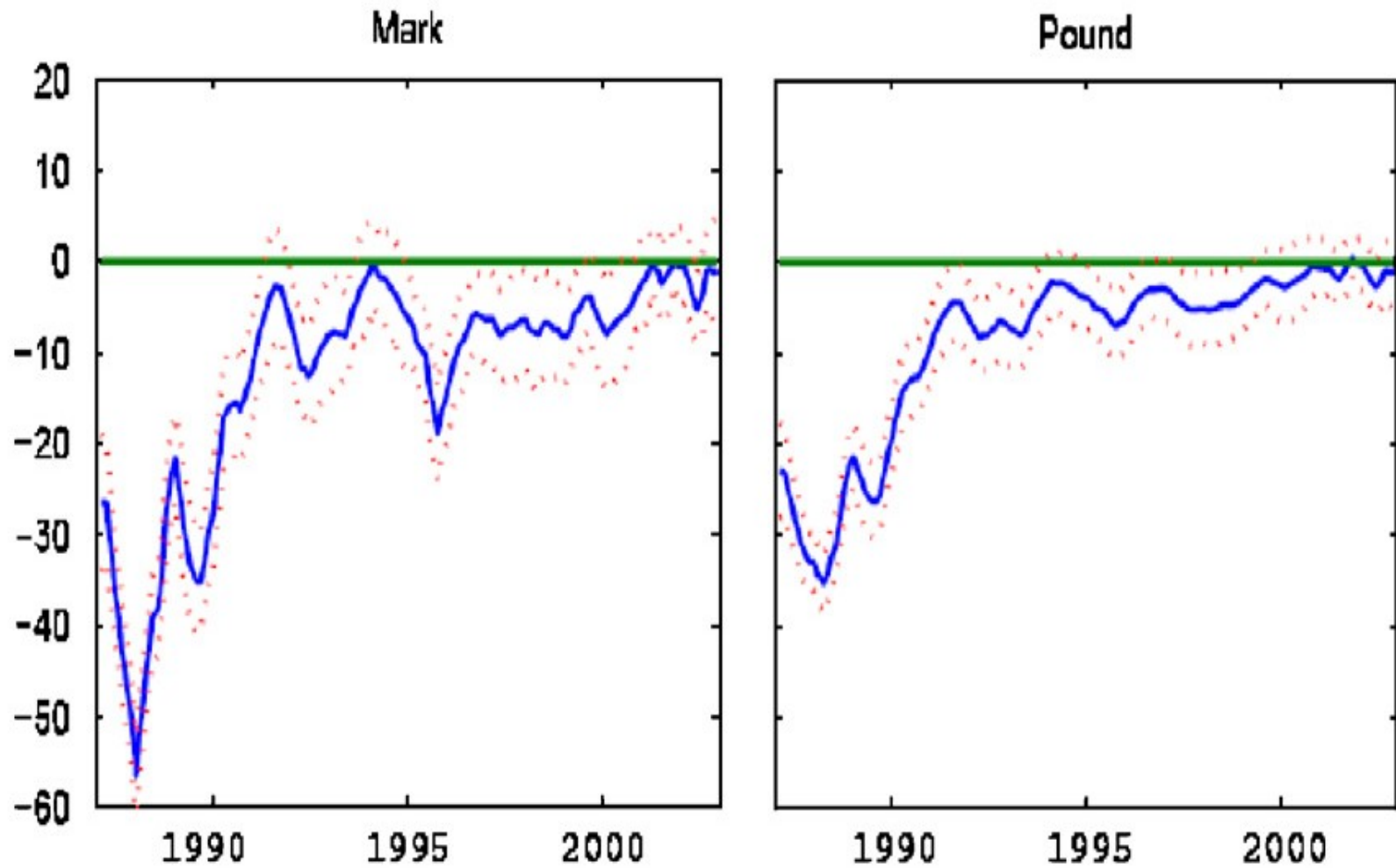
	Daily	Weekly(F)	Monthly
Total Order Flow	27.286*** (0.870)	21.689*** (1.522)	11.953*** (3.125)
R2	0.39	0.40	0.18
Human Order Flow	26.646*** (1.333)	25.419*** (2.288)	14.715*** (4.297)
R2	0.21	0.29	0.15
Bank Algo Order Flow	48.030*** (2.281)	49.199*** (4.387)	38.467*** (8.622)
R2	0.22	0.29	0.23
Prime Brokerage Order Flow	31.633*** (3.201)	15.333** (6.509)	-8.833 (10.973)
R2	0.06	0.02	0.01
N	1541	308	70

Note: Results are reported as basis points per billion euros of order flow.
Each cell represents a distinct regression.

Source: EBS

Another way to measure the scapegoat weights?

- Fratzscher et al (2014) uses regularly published survey data from Consensus Forecasts to measure the weights that traders assign to various macro fundamentals when analyzing several exchange rates. The survey is infrequent (about 2-3 per year).
- How about using instead variations in the measured short-term reaction of FX rates to macroeconomic announcements? “The High-Frequency Response of Exchange Rates and Interest Rates to Macroeconomic Announcements.” (Faust, Rogers, Wang, Wright, 2007).
- For instance, the US trade balance was the release most influential on FX in the late 1980s, but its influence has decreased to near zero over time. There is also variation over time in the impact of non-farm payrolls.



Smoothed impact of US trade balance release (1987-2002)

The expanded role of order flow

- **Exchange rate = $S = E(mx)$**
- Basic, old, limited, role of OF: reveals dispersed information about macro variables (**X**). No information about the discount factor.
- A little more realistic (but pre-scapegoat) role for OF: a little information about risk appetite, positioning, etc... Some info about the discount factor.
- Now (scapegoat-era): In addition to the previous 2 roles, OF now also contains/reveals/aggregates information about the scapegoats, the value of the structural parameters, **the model itself**. A lot of info about **m**.

A new expanded role for order flow. Is this new role more important or more trivial?

- **Old:** There is an underlying, stable, fundamental-based model driving FX. OF is important because it aggregates, reveals dispersed information about the value of those important fundamentals. OF reveals exogenous “truth.”
- **New and more important:** Not only does OF reveal dispersed information about important fundamentals, but it also reveals the model used by the market to link fundamentals to exchange rate movements. OF is a “sufficient statistic” for what drives financial markets, the “truth’ about both fundamentals and the model linking fundamental to prices.

- **New and more trivial:** There may or may not be an underlying, stable, fundamental-based model driving FX. But it does not really matter because, for the purpose of price discovery, the truth does not matter, only what markets believe to be the truth. OF is a revealer/aggregator of fads, fashions, animal spirits, beliefs. As such it is so proximate to the price discovery process that it conveys no truly fundamental information. OF is not an important actor in a Lucas island model, just the reflection of a large Keynes-style (or Morris and Shin-style) beauty contest in financial markets. We are just observing how markets work, and order flow is just evidence of the process.