U.S. UNCONVENTIONAL MONETARY POLICY AND TRANSMISSION TO EMERGING MARKET ECONOMIES

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Discussion by
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'*generally, what is good for each large, advanced economy is good for the rest of the world (and vice versa)*'

Quote from Global Impact and Challenges of Unconventional Monetary Policies, IMF (2013).

general remarks

- very timely, creative and thoughtful paper.

- large data sets and thus extensive empirical analysis.

- interesting results (though in line with conventional wisdom and previous findings).

key question:

how the effects of UMP announcements in the US measures up against an average correlation between EMEs and US financial conditions?

UNP announcements→ MP spill overs:

> signaling channel
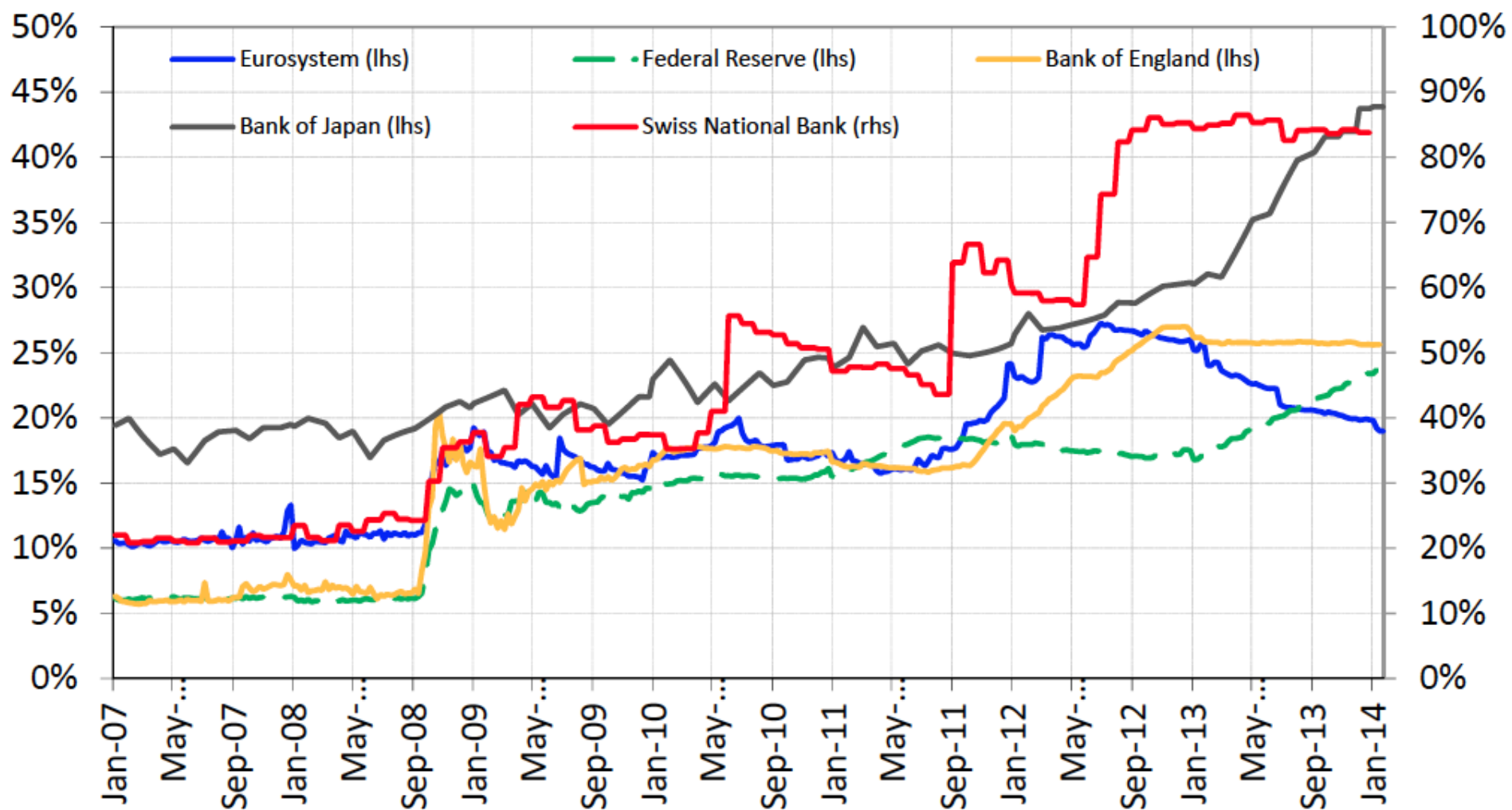> portfolio-balance channel
> financial market channel

empirical strategy:

1. VAR employed→ IRFs of the effects of US UMP on: EMEs
   > sovereign yields
   > foreign exchange rates
   > stock prices
2. an event study on the statistical significance of announcements
3. univariate and multivariate panel analysis model that control for country specific characteristics and other variables.
4. comparison of the results of the panel model with those of the event study.

findings:

- IRFs show UMP → EMEs sovereign yields (more so for some) → heterogeneity ↑↓
- event study in line with IRFs
- panel analysis → vulnerable EMEs more vulnerable to changes in US sovereign & high yield bonds yields.

Balance sheets of major Central Banks, total assets as % of GDP

Legend:
- Eurosystem (lhs)
- Federal Reserve (lhs)
- Bank of England (lhs)
- Bank of Japan (lhs)
- Swiss National Bank (rhs)

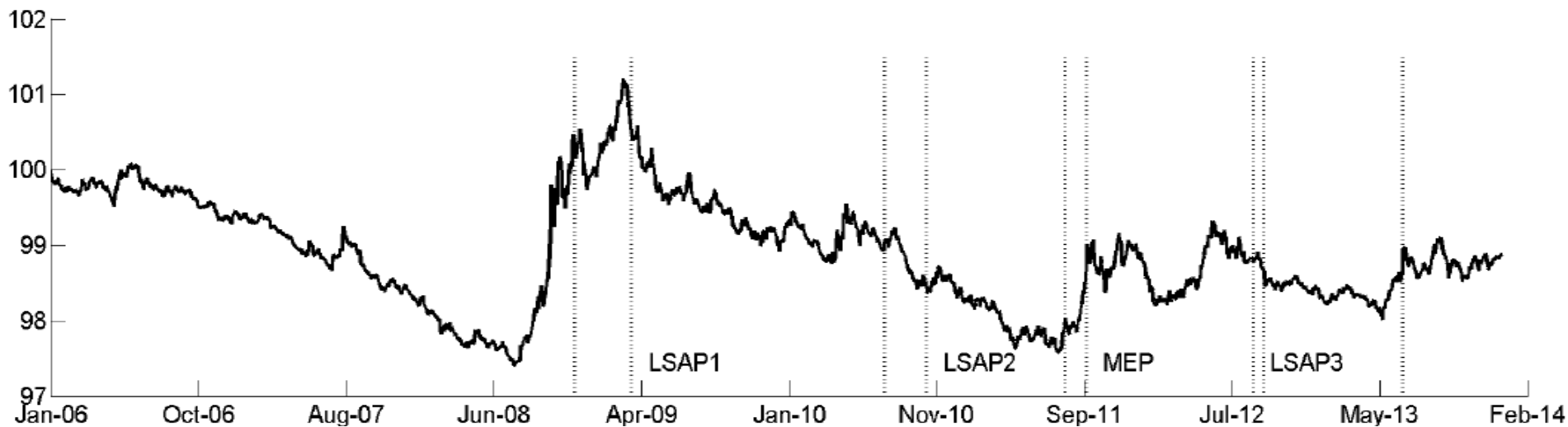Source: ECB, Federal Reserve, Bank of England, Bank of Japan.
Last observations: Last points in February 2014.

Diagram from B. Winkler (2014), 'International dimensions of conventional and unconventional monetary policy'.
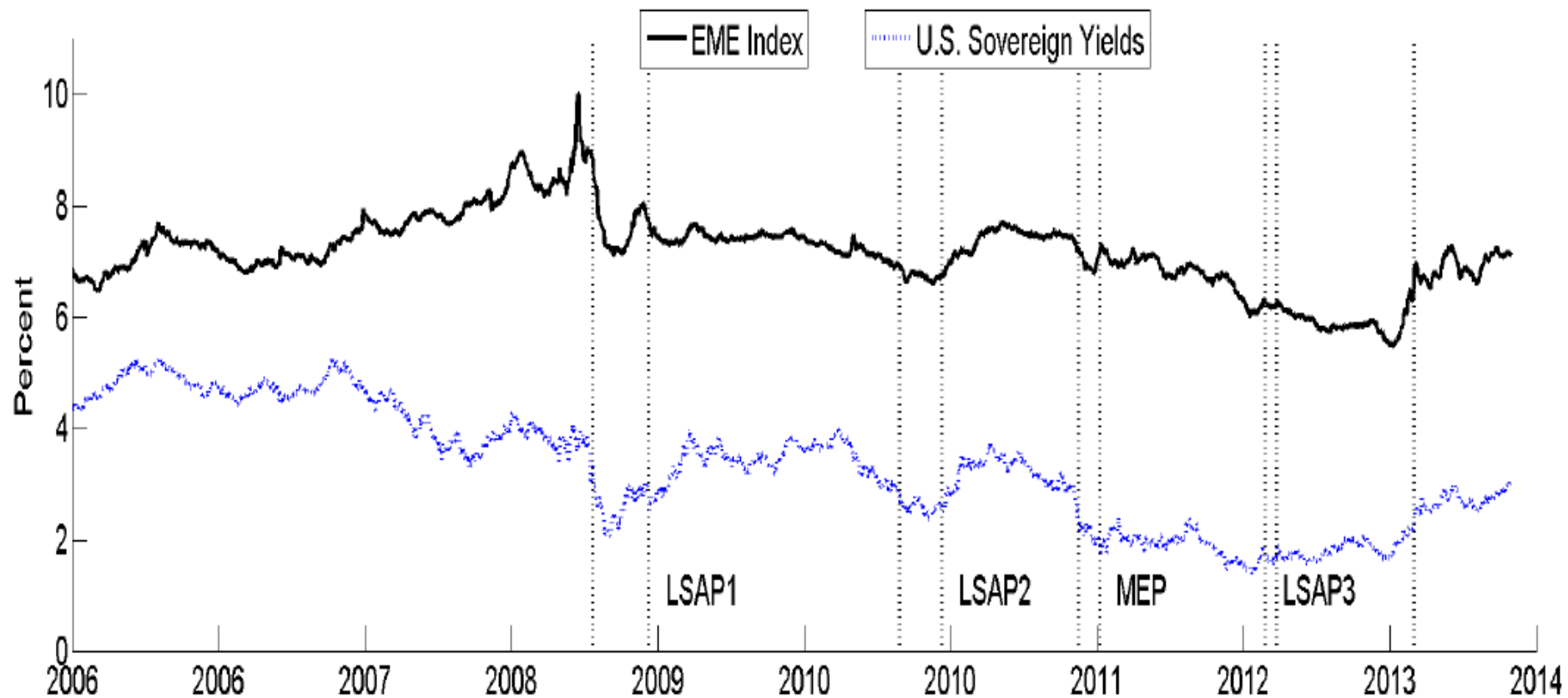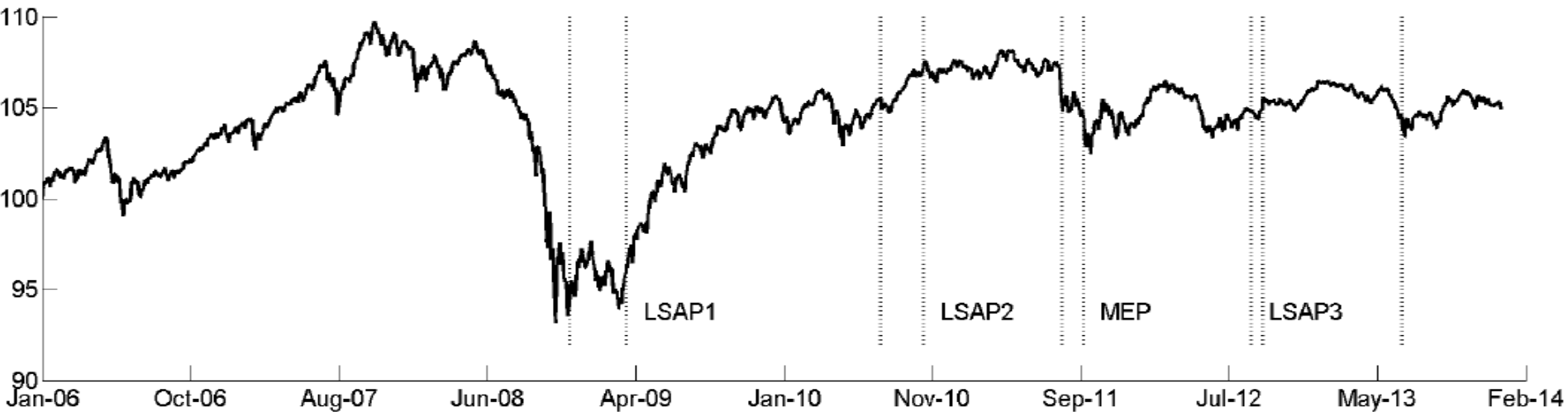
A. EME sovereign yields

Diagram from Bowman et al. (2014).

Real effective exchange rate indexes (2007=100), Table from Mohan and Kapur (2013).
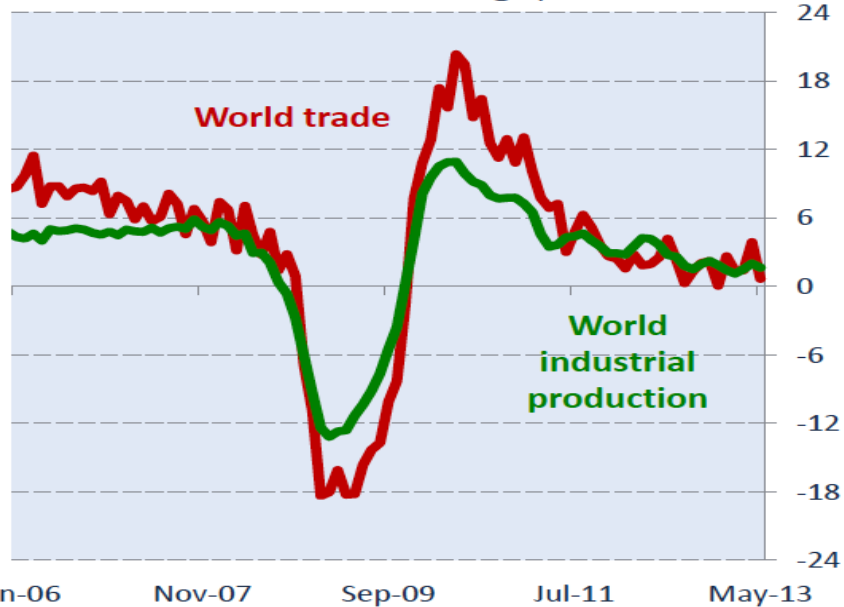
Country	2007	2008	2009	2010	2011	2012	2013 @
Advanced Economies							
Australia	100	97	94	108	115	117	113
Canada	100	97	93	101	103	102	99
Euro area	100	102	102	94	94	89	92
Japan	100	107	120	121	123	121	98
Switzerland	100	104	108	112	123	118	116
United Kingdom	100	87	78	79	79	82	81
United States	100	96	99	95	90	92	93
Emerging Market Economies							
Brazil	100	105	105	120	125	113	110
China	100	108	113	112	115	122	130
India	100	95	90	101	100	94	91
Indonesia	100	95	94	106	106	102	102
Korea	100	81	72	77	77	77	80
Malaysia	100	100	97	102	102	101	102
Mexico	100	97	86	92	92	89	94
Russia	100	107	98	107	111	112	115
South Africa	100	87	95	109	107	101	91
Thailand	100	100	97	103	102	102	109
Turkey	100	101	95	104	92	96	96

Source: Bank for International Settlements.

110
105
100
95
90
Jan-06 Oct-06 Aug-07 Jun-08 Apr-09 Jan-10 Nov-10 Sep-11 Jul-12 May-13 Feb-14

LSAP1 · LSAP2 · MEP · LSAP3

Figure 2A. World Trade and Industrial Production
Annual % change; s.a.

World trade

World industrial production

Jan-06 Nov-07 Sep-09 Jul-11 May-13

s.a./ Seasonally adjusted data.
Source: CPB Netherlands.

Figure 2B. Emerging Economies' Exports and World Industrial Production
Annual % change of 3-month moving average

India
Korea
China
Mexico
Brazil
← World industrial production

Jan-06 Apr-07 Jul-08 Oct-09 Jan-11 Apr-12 Jul-13

Source: CPB Netherlands, Haver Analytics and INEGI.

Diagram from A. Carstens (2013), 'Global Dimensions of UMP'.

- measuring UMP not easy (LSAPs1,2,3; MEPs; MBS)

- picking the dates of announcements not easy.

- difficult to decouple the effect of UMP on EMEs from that of the crisis.

- frequency of data: high frequency vs. low frequency (intradaily for announcements).

- what about the unconventional monetary policy outside US (euro, UK, JP).

- commodity prices.

- capital flows → could ⬆ exchange rate volatility, commodity prices volatility, inflation volatility.

- institutional factors, capital controls, regulations, financial fragility.

UMP shocks are '*plugged in*' a structural VAR following Wright (2012) and Rigobon (2003), Rigobon and Sack (2003, 2004, 2005) → rather '*agnostic*' → no need to specify market expectations:

$$A(L)Y_t = \mu + \varepsilon_t \qquad \varepsilon_t = \Sigma_{i=1}^{p} R_i \eta_{i,t}$$

provides useful guide over sign restrictions within a macroeconomic model.

But depends on a crucial assumption:

the monetary policy shock has mean zero and variance σ_1^2 on announcement days, otherwise variance σ_0^2.

data-driven approach→ identification through heteroscedasticity not possible if variances of all other shocks are negligible.

event study: crucially depends on the definition of UMP and the underlying distribution.

panel model: UMP in US → US interest rates (both sovereign and HYB) cross interact with country specific variables (together with some control variables)→ asset prices in EMEs; data frequency monthly? endogeneity?.

comparison between event study and panel model, but what about the VAR?

separate estimates on the response of each EMEs in VAR

→ possible bias and inefficient estimates

→possible ⬆ variability in simulation results → possible inconsistency.

event study over the identification of VAR?

• consider variances of all shocks, but UMP, are insignificant (→ no identification through heteroscedasticity).

minor commends in VAR: VDCs? specifications tests? VAR estimation method (OLS, Baysian)?

why two steps approach? VAR vs event study and panel model.

panel analysis:

→country specific variables are of importance

→could they also play also a role in the first step of VAR?

introduce country specific (also Zit) variables in the structural VAR.

the comparison between event study and panel model?

- **explosion of empirical prs**: Georgiadis (2014), Chen, Filardo, He and Zhu (2014), Gagnon et al. (2011), Arai (2013), D'Amico et al. (2012), D'Amico and King (2013), Ghysels et al. (2012), Gichrist, Lopez-Salido and Zakrajsek (2013), Glick and Leduc (2012), Joyce and Tong (2012), Kiley (2013), Krishnamurthy and Vissing-Jorgensen (2011, 2013), Li and Wei (2013), Meaning and Zhu (2011), Neely (2010), Raskin (2013), Rosa (2012), Swanson (2011) and Wright (2012), Mohan and M. Kapur (2013), Rogers, Scotti and Wright (2014), Chodorow-Reich (2014), Wu and Xia (2014), Chen, Filardo, He, and Zhu (2014).
- **some proposals on gaining efficiency and consistency:**
  - switching regime models so as to distinguish between crisis and non-crisis periods → further examining asymmetries
  - panel VAR
  - time-varying parameter VAR (TVP-VAR)
  - Global VAR (GVAR)
  - Global VECM (GVECM)
  - FAVAR
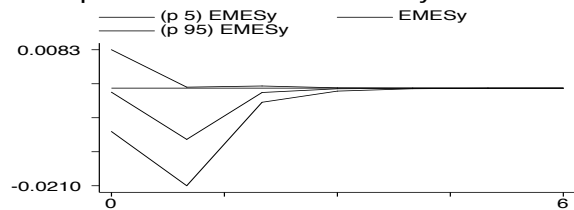 - Threshold VECM (TVECM)
- **theory challenging.**
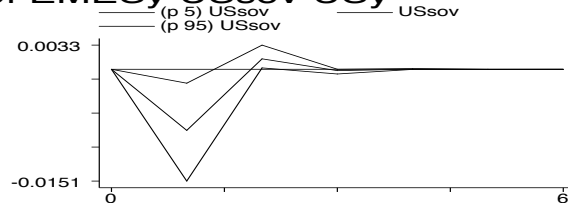
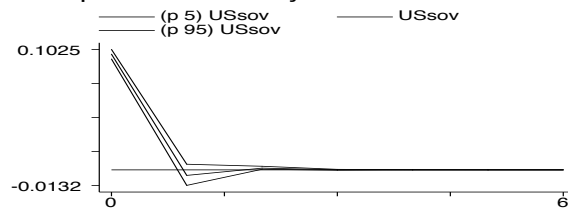Impulse-responses for 1 lag VAR of EMESy USsov USy
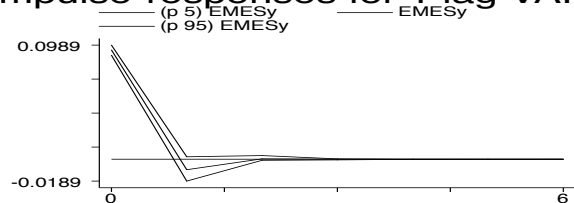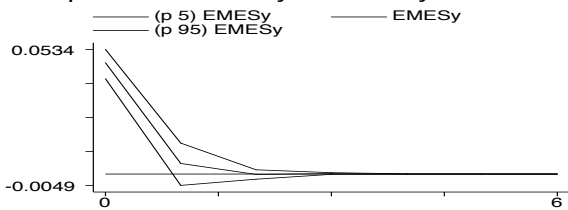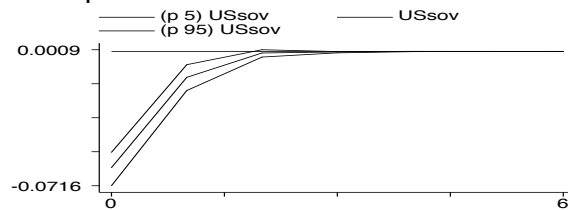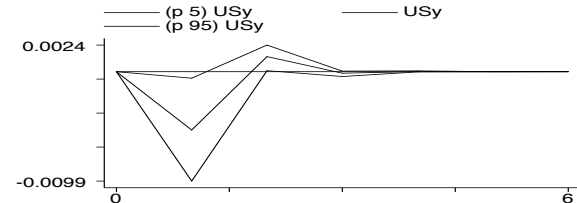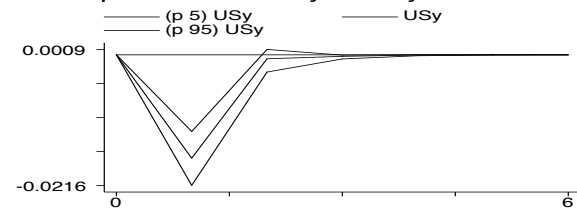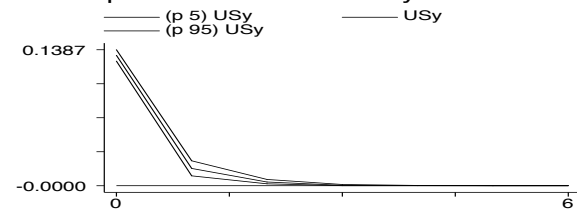
Errors are 5% on each side generated by Monte-Carlo with 500 reps

	s	EMESy	USsov	USy
EMESy	10	.98909533	.00762557	.0032791
USsov	10	.1864915	.78973552	.02377298
USy	10	.00557934	.18163097	.8127897
EMESy	20	.98909533	.00762557	.0032791
USsov	20	.1864915	.78973552	.02377298
USy	20	.00557934	.18163097	.8127897

Source: own estimations.

Impulse-responses for 1 lag VAR of EMESy USsov USy cds10
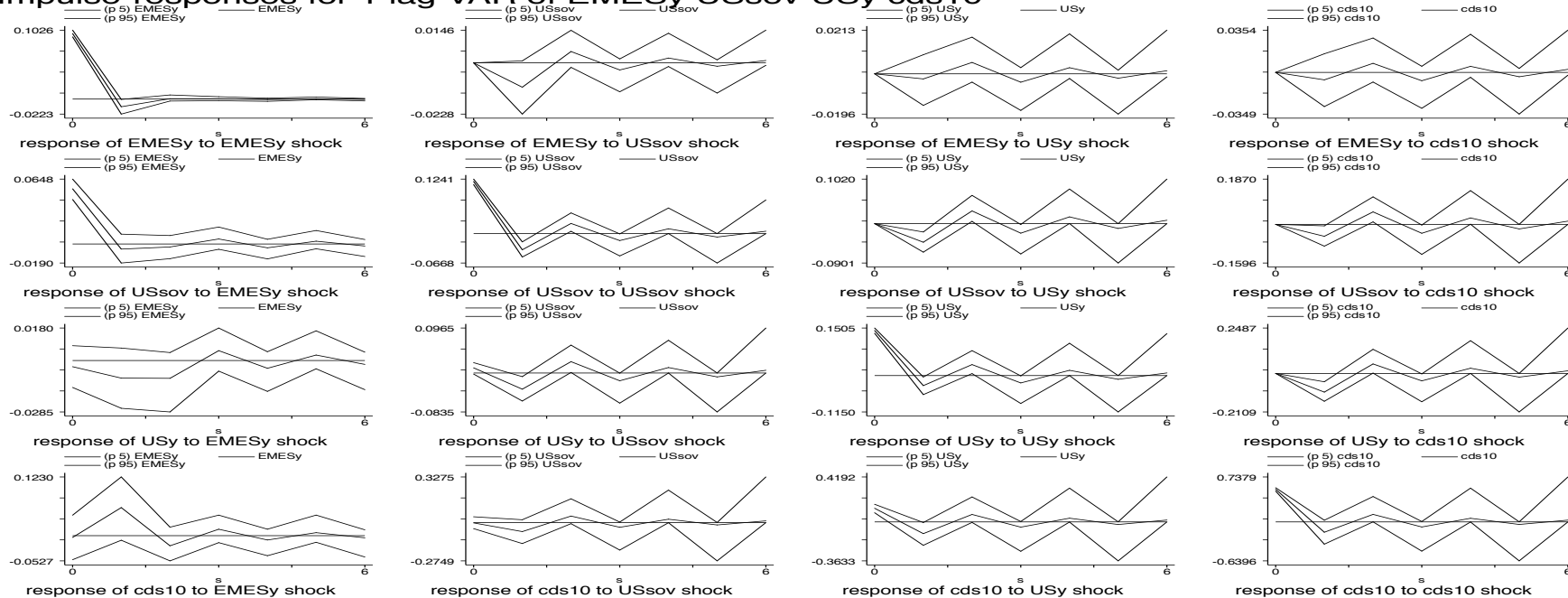
Errors are 5% on each side generated by Monte-Carlo with 500 reps

	s	EMESy	USsov	USy	cds10
EMESy	10	.95724388	.01613704	.00706408	.019555
USsov	10	.10085798	.53027243	.11650421	.25236539
USy	10	.00633285	.05768546	.55224548	.38373621
cds10	10	.01079595	.02203503	.09515537	.87201365
EMESy	20	.95712404	.01614902	.00709147	.01963548
USsov	20	.10076359	.52981193	.11662036	.25280412
USy	20	.00634058	.05773364	.55194389	.3839819
cds10	20	.01079762	.02207208	.09520875	.87192155

Source: own estimations.

Impulse-responses for 1 lag VAR of EMESy USsov USy cds10 rdif
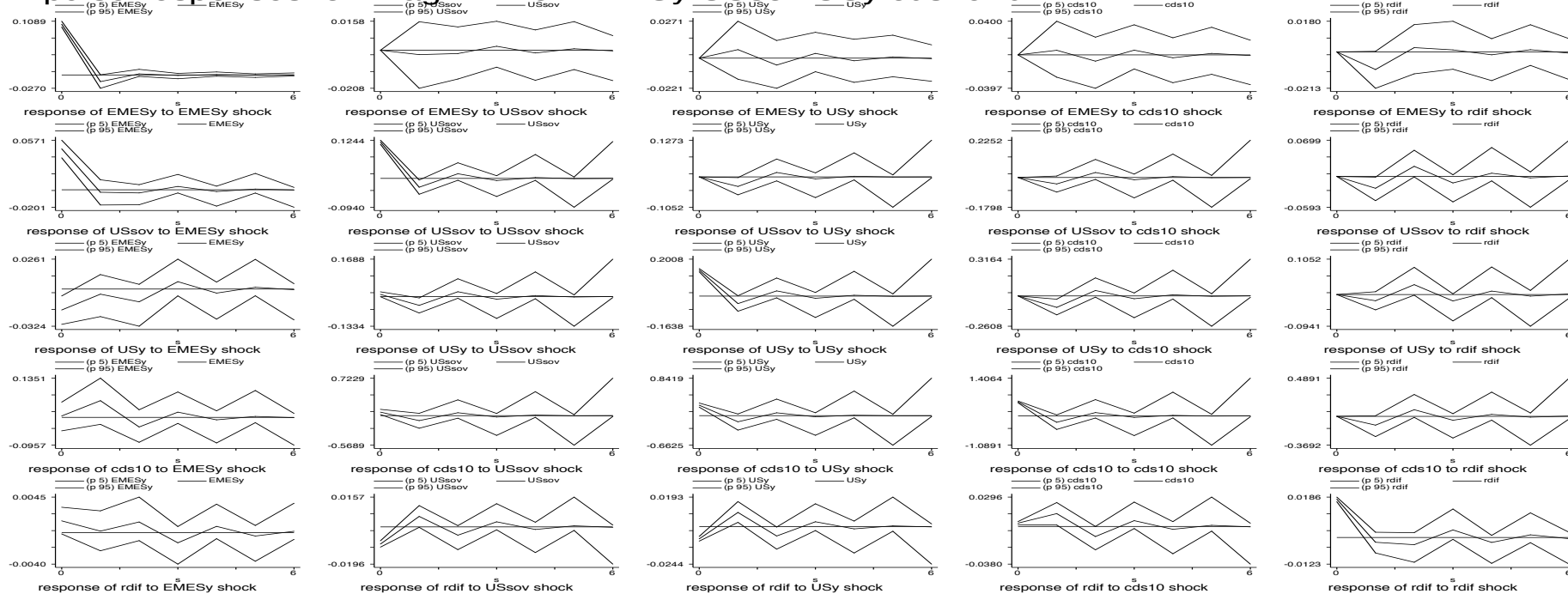

Errors are 5% on each side generated by Monte-Carlo with 500 reps

	s	EMESy	USsov	USy	cds10	rdif
EMESy	10	.96837804	.0015186	.00734254	.01199363	.01076719
USsov	10	.10066315	.67035394	.06184795	.11805243	.04908253
USy	10	.01344071	.05773527	.5680176	.31802535	.04278107
cds10	10	.01020819	.03741102	.16645896	.73701884	.048903
rdif	10	.00661138	.13768914	.19454274	.32038433	.3407724
EMESy	20	.96837794	.00151861	.00734256	.01199369	.0107672
USsov	20	.10066309	.67035348	.061848	.11805271	.04908271
USy	20	.01344073	.05773532	.56801711	.31802555	.04278128
cds10	20	.0102082	.03741106	.16645893	.73701868	.04890313
rdif	20	.00661141	.13768909	.19454272	.32038479	.34077199

Source: own estimations.

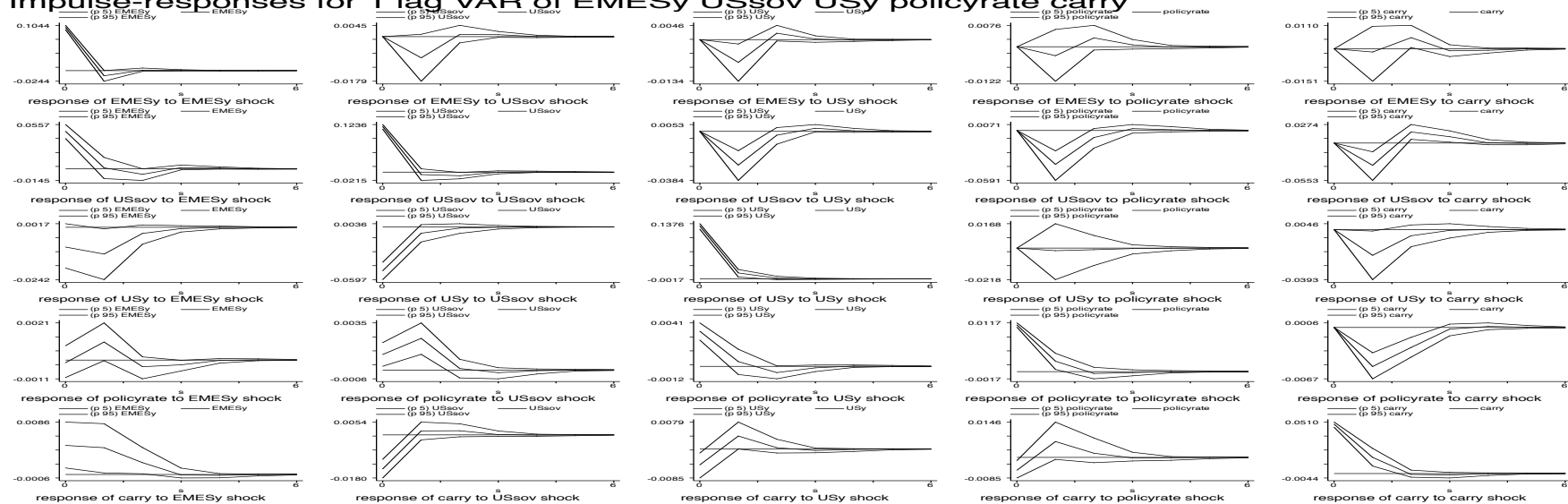Impulse-responses for 1 lag VAR of EMESy USsov USy policyrate cur
Errors are 5% on each side generated by Monte-Carlo with 500 reps
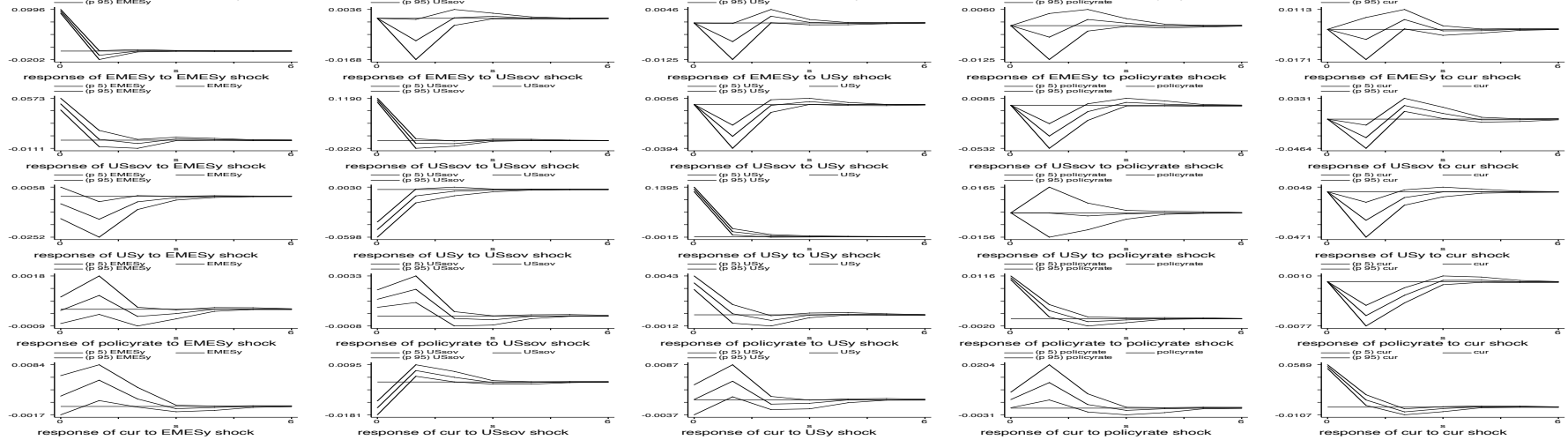
	s	EMESy	USsov	USy	policyrate	cur
EMESy	10	.97663455	.00899466	.00488804	.00255826	.0069245
USsov	10	.12817894	.67747183	.0426604	.07857271	.07311612
USy	10	.01061679	.11949887	.82788699	.00020219	.04179516
policyrate	10	.00423458	.03599749	.06763613	.679739	.2123928
cur	10	.00925955	.06501005	.00609408	.04313652	.8764998
EMESy	20	.97663455	.00899466	.00488804	.00255826	.0069245
USsov	20	.12817894	.67747183	.0426604	.07857271	.07311612
USy	20	.01061679	.11949887	.82788699	.00020219	.04179516
policyrate	20	.00423458	.03599749	.06763613	.679739	.2123928
cur	20	.00925955	.06501005	.00609408	.04313652	.8764998

Source: own estimations.

Impulse-responses for 1 lag VAR of EMESy USsov USy policyrate carry

Errors are 5% on each side generated by Monte-Carlo with 500 reps

	s	EMESy	USsov	USy	policyrate	carry
EMESy	10	.98210544	.00723256	.00565888	.00199759	.00300553
USsov	10	.1127409	.69750875	.03516209	.08318693	.07140134
USy	10	.01177283	.12148725	.84571723	.00022169	.02080099
policyrate	10	.00699409	.03834114	.06302513	.71273349	.17890614
carry	10	.015306	.06923203	.01205684	.02447522	.8789299
EMESy	20	.98210544	.00723256	.00565888	.00199759	.00300553
USsov	20	.1127409	.69750875	.03516209	.08318693	.07140134
USy	20	.01177283	.12148725	.84571723	.00022169	.02080099
policyrate	20	.00699409	.03834114	.06302513	.71273349	.17890614
carry	20	.015306	.06923203	.01205684	.02447522	.8789299

Source: own estimations.

'cessante causa, cessat effectus',
from Aristotle's philosophy (Physica and Metaphysica)

the cause being removed, the effect ceases

Malynes, on England's economic crisis in the early 1620s, argued the way to overcome crisis is through breaking-down all its components and through reforming the trade of the commonwealth, but:

breakdown/decomposition/identify of causes not easy.

complexity → primary '*immediate*' causes and '*mediate*' not primary causes.

and yet there is more '*never ended*' complexity → '*activity and passivity*' in all things (Aristotle, Physica) .

would money be '*active*' and commodities *'passive'*?
would those two differ no more than '*the way from Thebes to Athens and from Athens to Thebes*'?

too many questions on the crisis→ too many causes→ possible too complex for '*cessat effectus'*.