

Comments on :
"Oil prices, Exchange rates and Interest rates"
by L. Kilian and X. Zhou

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BdF-ECB-BdI Workshop
Exchange Rates
Paris / 14 December 2018

General comments

- Exciting paper that tries to assess relationships between oil prices, exchange rate and interest rate, in real terms
- Very challenging exercise as the 3 variables are extremely endogeneous
- Important topic for policy-makers, especially central bankers
- Impressive econometric machinery has been developed to disentangle shocks in a SVAR framework

Shock identification procedure

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 - 1 A baseline SVAR à la Kilian-Murphy that accounts for REER
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- Complex identification scheme, 4 types of restrictions in SVARs:
 - 1 Exclusion restrictions (imposing zeros)
 - 2 Sign restrictions (Kilian-Murphy, JAE, 14)
 - 3 Bounds on impact prices elasticities
 - 4 Narrative sign restrictions (Kilian-Murphy, JAE, 14, Antolin-Diaz and Rubio-Ramirez, AER, 18)
- But needed when strong endogeneity

Takeaways for policy-makers

- A large set of results in the paper that should be streamlined to be helpful for policy-makers

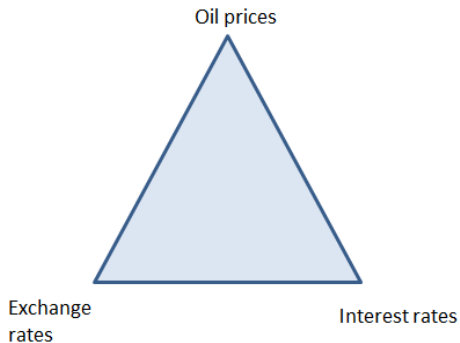
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- Important empirical result: Overall, oil price models without REER and interest rates (ie Kilian, 09, or Kilian-Murphy, 14) remain valid !
→ Good news for economists and practitioners ...

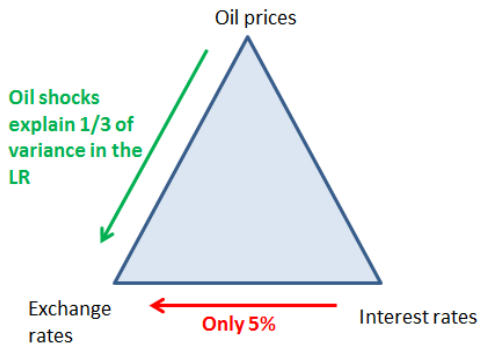
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→ Good news for economists and practitioners ...
- Interesting narrative results about the increase in oil prices in 2000s:
 - Global business cycle (ie demand from EMEs) mainly contributes to the rise in oil prices: → **expected result**
 - but USD depreciation contributes to 1/3 of the increase: → **less expected result**
 - and interest rates do not contribute: → **unexpected result**

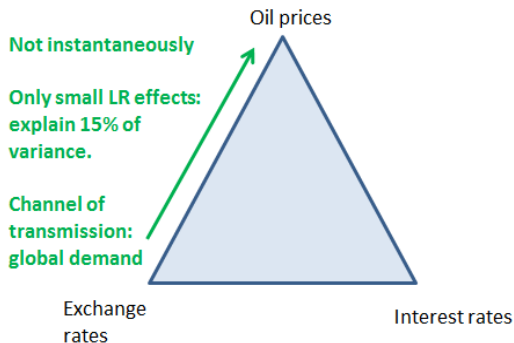
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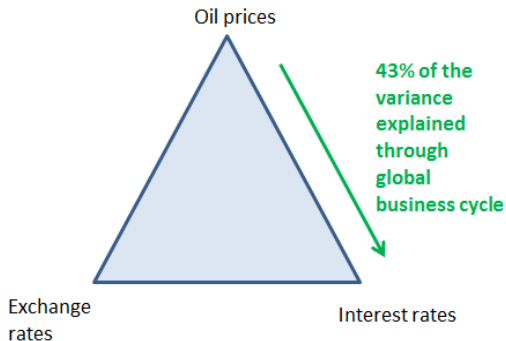
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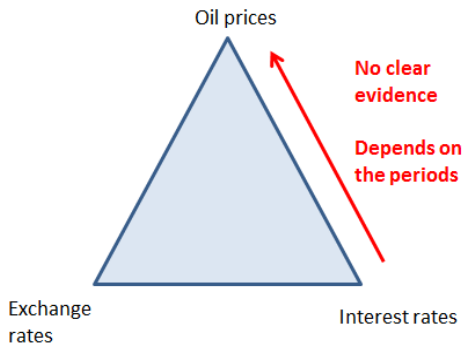
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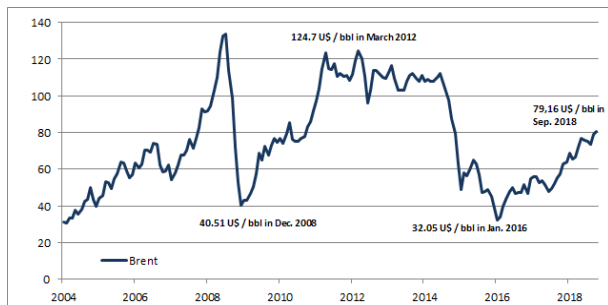


Shock identification procedure

- Bounds on impact prices elasticities are a way to reinforce sign restrictions
- How to set the bounds ? Use micro elasticities
- However, there is a concern stemming from the trade literature : price elasticities of imports are much bigger in micro-economic data than in the aggregate, this is the so-called *elasticity puzzle* (Mejean and Imbs, AEJ Macro, 15)
- Mainly an issue of heterogeneity at the sectoral level
- Use this restriction on bounds with caution (To what extent is it useful for the identification?)

Is this time different? Shale oil impact

- Baumeister and Kilian (BPEA, 17): Lower oil prices and the U.S. economy: Is this time different?

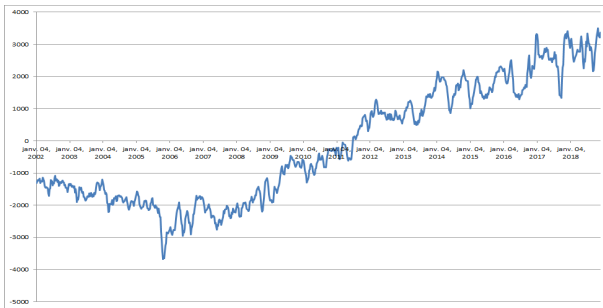


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- Why this time would it be different?

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- Weekly U.S. Net Exports of Total Petroleum Products (Thousand Barrels per Day, MA over 4 weeks)



Is this time different? Shale oil impact

- Answer from Baumeister-Kilian (BPEA, 17): No !
"U.S. economy's response was not fundamentally different from that observed after the oil price decline of 1986"

That is the macro effect (close to 0) of the drop in oil prices mid-2014 is as expected by usual multipliers (+0.7 on consumption and -0.6 on non-oil investment)

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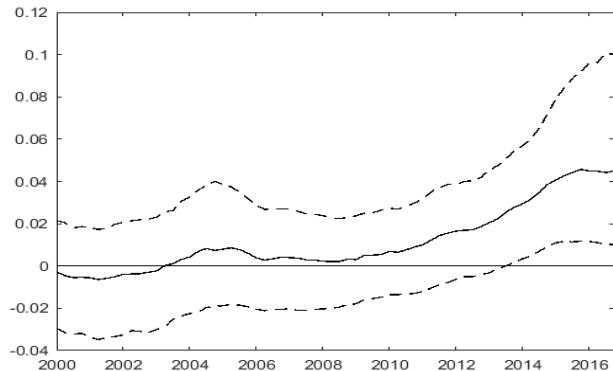
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- Answer from Bjornland and Zhulanova (WP, 18): Yes!
Evidence of positive spillovers from oil shock to non-oil investment, employment and production, visible at the aggregate level

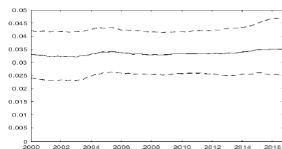
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Evolution of IRFs of an oil shock on business investment after 4 quarters
(source: Bjornland and Zhulanova, WP 18)

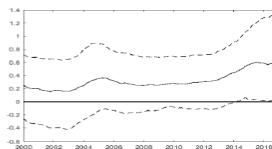


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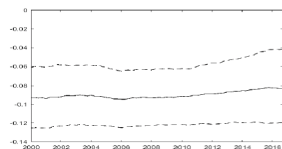
Evolution of IRFs of an oil shock on CPI, Interest Rate, Exchange rate and Stock prices after 4 quarters (source: Bjornland and Zhulanova, WP 18)



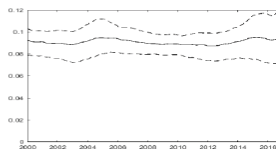
(a) CPI



(b) Interest rate



(c) Exchange rate



(d) Stock prices (S&P 500)

Is this time different? Shale oil impact

- Possible impact on identification step
- Example: On the role of real interest rate on production on impact

Is this time different? ZLB

- Important question for central bankers: Are conventional and unconventional monetary shocks similar?
- Buoyant literature on macro (Lhuissier and Szczerbowicz, BdF WP, 18) and financial effects (Brainard, 17, Inoue and Rossi, NBER WP, 18) of UMPs
- How to account for this in your framework?
 - Consider longer maturities (10y instead of 1y)
 - Use shadow interest rates
 - Disentangle the interest rate between expectations and term premium
 - ...

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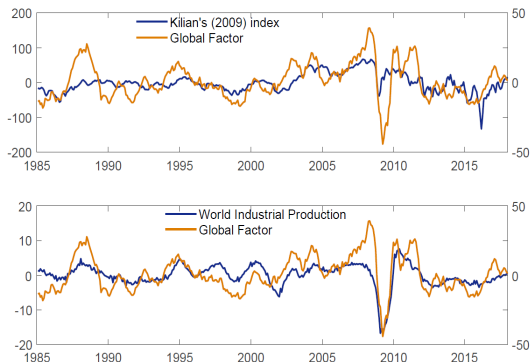
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- Based on this sample, evidence of non-significant effect of supply shocks on oil prices (Kilian, AER, 09)
- Yet, the shale oil boom (positive supply shock) generated a large drop in oil prices from mid-2014 to Dec. 2015
- This suggests asymmetric effects of supply shocks on oil prices. Would you agree? (in spite of a lack of observations)
Would an ST-SVAR help in this context?

Alternative measure for global economic activity

Delle Chiaie, Ferrara, Giannone (ECB WP, 18): measure based on a DFM with blocks estimated for 52 commodity prices, a good proxy for global demand



* All series are in annual growth rates. The World Industrial Production is given by the monthly industrial production for the OECD countries plus 6 other major countries (Brazil, China, Indonesia, the Russian Federation and South Africa) as in Baumeister and Hamilton (2008).