Discussion of “Not All Oil Price Shocks Are Alike”
by Lutz Kilian

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March 29, 2008
Summary of the paper

“Not all oil price shocks are alike”

- Supply ↔ demand
- Overall demand for commodities ↔ relative demand for oil

Higher oil price ↔ 3 different shocks:

Findings

- Supply shocks not important
- Recent increase oil price due to global boom
- Previous high oil prices due to high relative demand for oil
- Explains ‘why the 2000s are so different from the 1970s’ (Blanchard and Gali 2007)
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Empirical approach

- **Structural VAR**
  - Monthly data 1973(?) - 2006
  - Short-run restrictions
  - Variables: oil price, oil production, global economic activity

- **Identifying restrictions**
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  - **Oil supply shocks**
    - All shocks that affect oil production within a month
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     - All remaining shocks that affect global activity within a month
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     All remaining shocks that affect global activity within a month
  3. **Oil-specific demand shocks**
     All other shocks to the price of oil
Identifying supply (vs demand) shocks

- All shocks that affect oil production within a month
  - “Crude oil supply is assumed not to respond to innovations to the demand for oil within the same month.”
  - “oil-producing countries will be slow to respond to demand shocks, given the costs of adjusting oil production and the uncertainty about the state of the crude oil market.”

- Plausible, no obvious alternatives

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- Does it work?
Identifying supply (vs demand) shocks

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Identifying supply (vs demand) shocks

- Negative supply shock
  - Production decreases (by construction)
  - Price increases very little, eventually decreases

- Positive demand shock
  - Production almost not affected (partly by construction)
  - Price increases as expected

- Most price fluctuations from oil-specific demand shocks
Identifying supply (vs demand) shocks - sign restrictions

Quantity and price of oil

Oil production (red dashed)
Real price of oil (blue solid)


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Identifying ‘aggregate’ (vs oil-specific) demand shocks

- All demand shocks that affect global activity within a month
  - “increases in the real price of oil driven by shocks that are specific to the oil market will not lower global real economic activity immediately, but with a delay of at least a month.”

- Plausible, no obvious alternatives

- New, monthly measure for global economic activity
  - Average dry cargo freight rate for various commodities
  - Detrended to control for technological advances in shipping

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- Compare to other measures
Identifying ‘aggregate’ (vs oil-specific) demand shocks

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Interpreting the residual

- Oil-specific demand shocks
  - Not supply & not overall demand ⇒ oil-specific demand
  - "will reflect in particular fluctuations in precautionary demand for oil driven by uncertainty about the availability of future oil supplies."

- Precautionary demand interpretation
  - "no other plausible candidates"
  - "large impact effect on oil price ⇒ expectational shock"
  - "timing consistent with exogenous events that affect uncertainty"

- Direct evidence?
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- Direct evidence?
  - Expenditure share oil in production function
Concluding

- Important question
- Provocative answers
- Not (yet) convincing
  - Are there (predictable) supply shocks that affect other variables before production?
  - Are there aggregate demand shocks that do not immediately affect global activity?