The Diffusion and Dynamics of Producer Prices, Deflationary Pressure Across Countries and the Role of China

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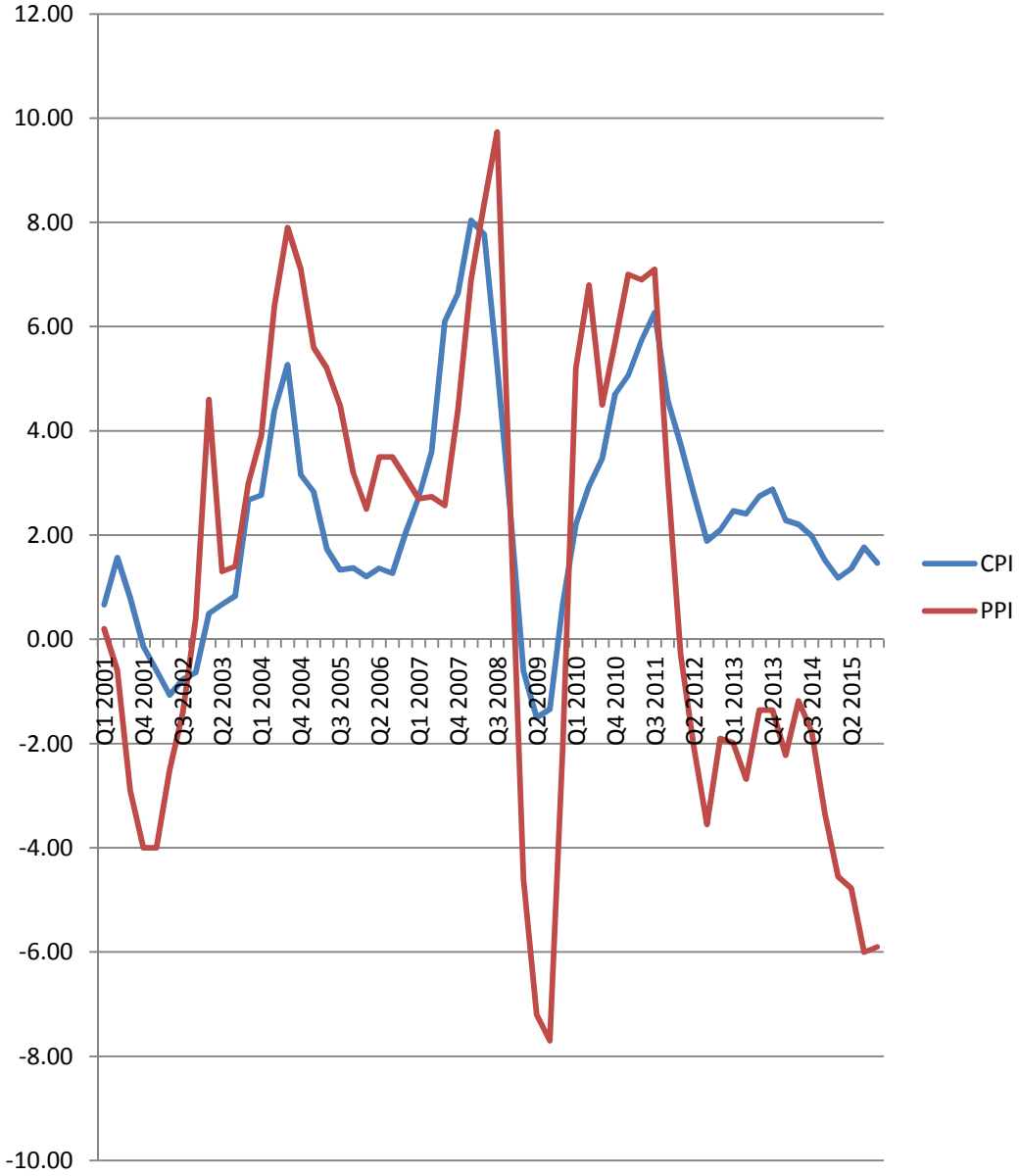
CHINA & INFLATION DISCONNECT

Beginning in 2012, CPI & PPI Inflation in China persistently diverged with PPI going into inflation.

What are the causes and what is the implication for China and rest of the Asia/Pacific.

CFT implement study in two parts

1) Panel study of macro level data for Asia/Pacific economies.
2) Industry level study of Chinese data



Findings

- Chinese PPI has been a leading indicator of PPI in other Asia-Pacific economy.
- After controlling for cyclical demand factors (internal and external), trade weighted exchange rates pass through into PPI but debt weighted exchange rates have contrary effects.

Leading indicator

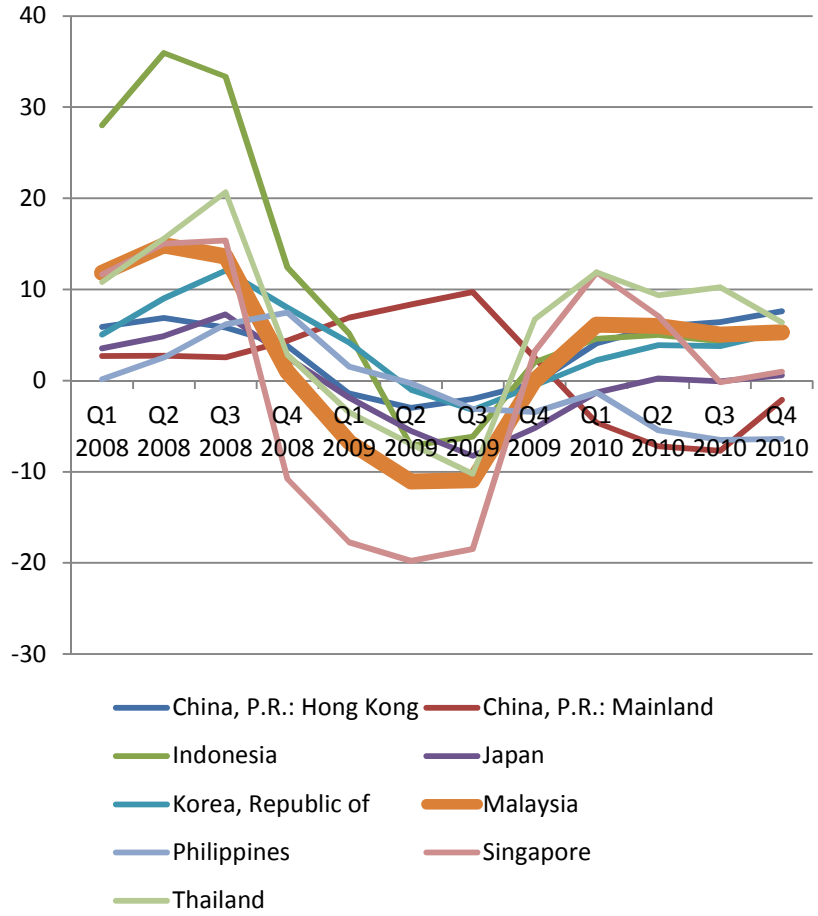
- Estimate Generalized VAR's with cross country VARS.
- Calculate variance decomposition of spillovers. Much of cross-country correlation comes from shocks to China and Malaysia.

Table 2. Producer price spillovers across countries based on 6-step-ahead forecasts

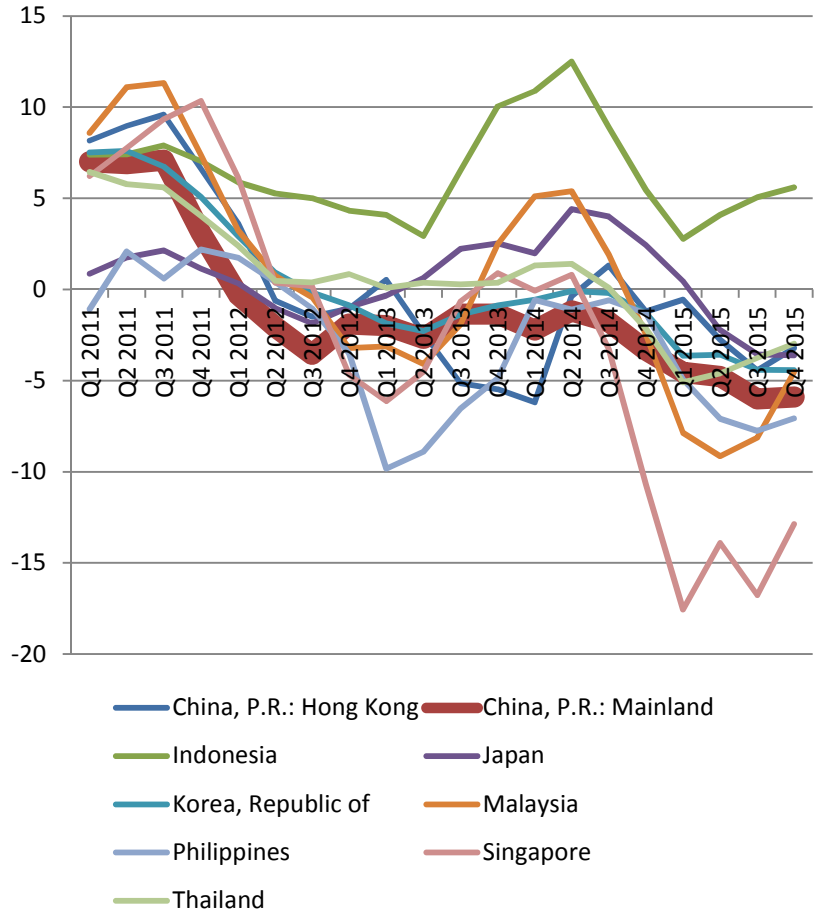
From

	From China to..	From Malaysia to
CN	67.2	22.2
IN	17.1	10.8
ID	17.6	6.3
KR	27.5	20.0
MY	24.2	64.4
PH	19.1	1.3
SG	29.9	37.1
TW	25.8	28.9
TH	26.1	21.9
HK	7.8	4.6
JP	19.3	29.7

- During the deflation of the GFC, Malaysia seemed to lead other economies.



- PRC Disinflation of 2012 seems to lead other Asian economies.



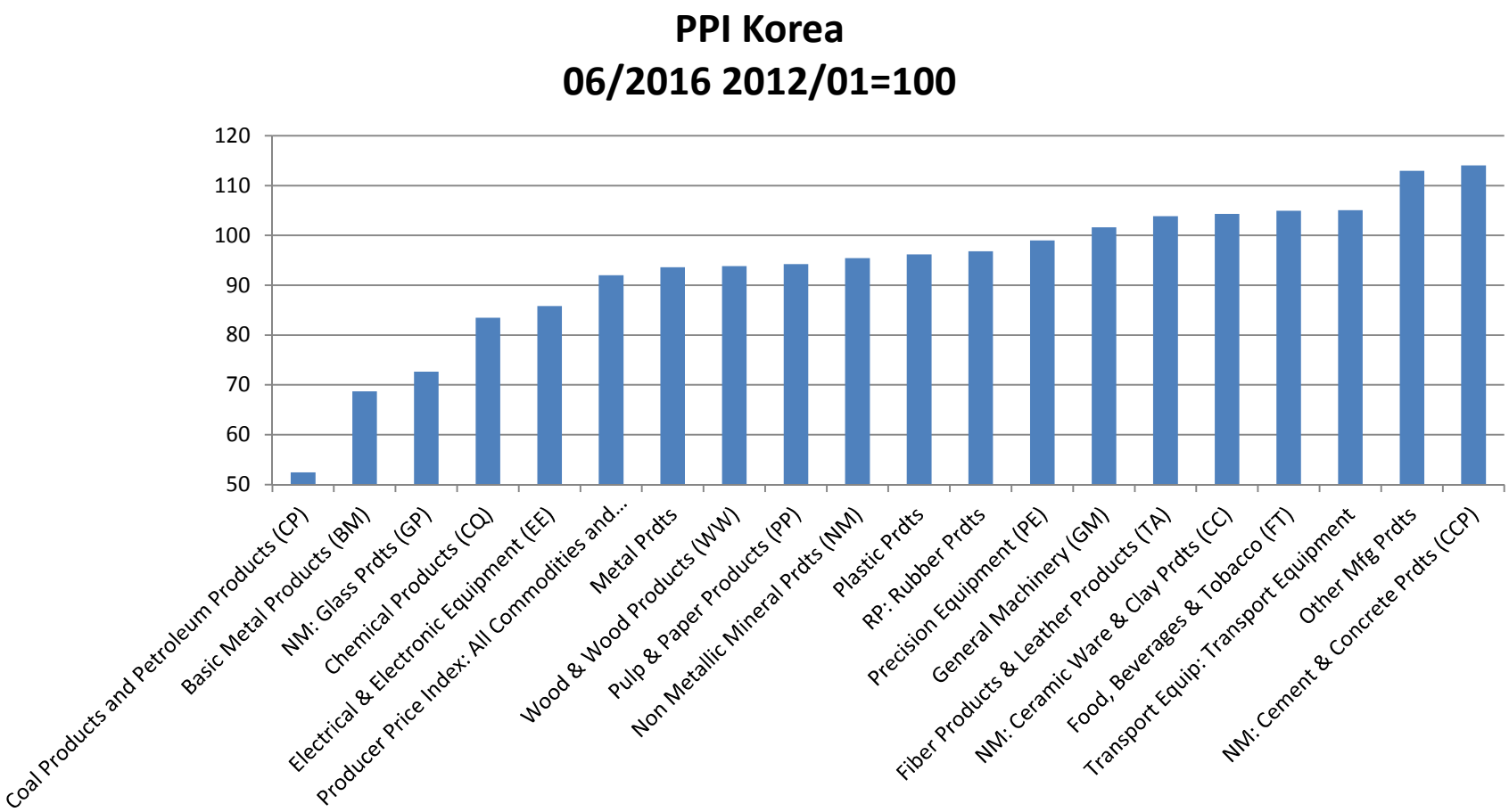
Channels of Spillovers

- Demand side factors like stock price, export demand and GFC pro-cyclically related to PPI
- Exchange rate indices also significantly associate.
- When domestic currency appreciates vs. trading partner's currencies, PPI deflation.
- When domestic currency appreciates vs. creditors currencies, PPI inflation.

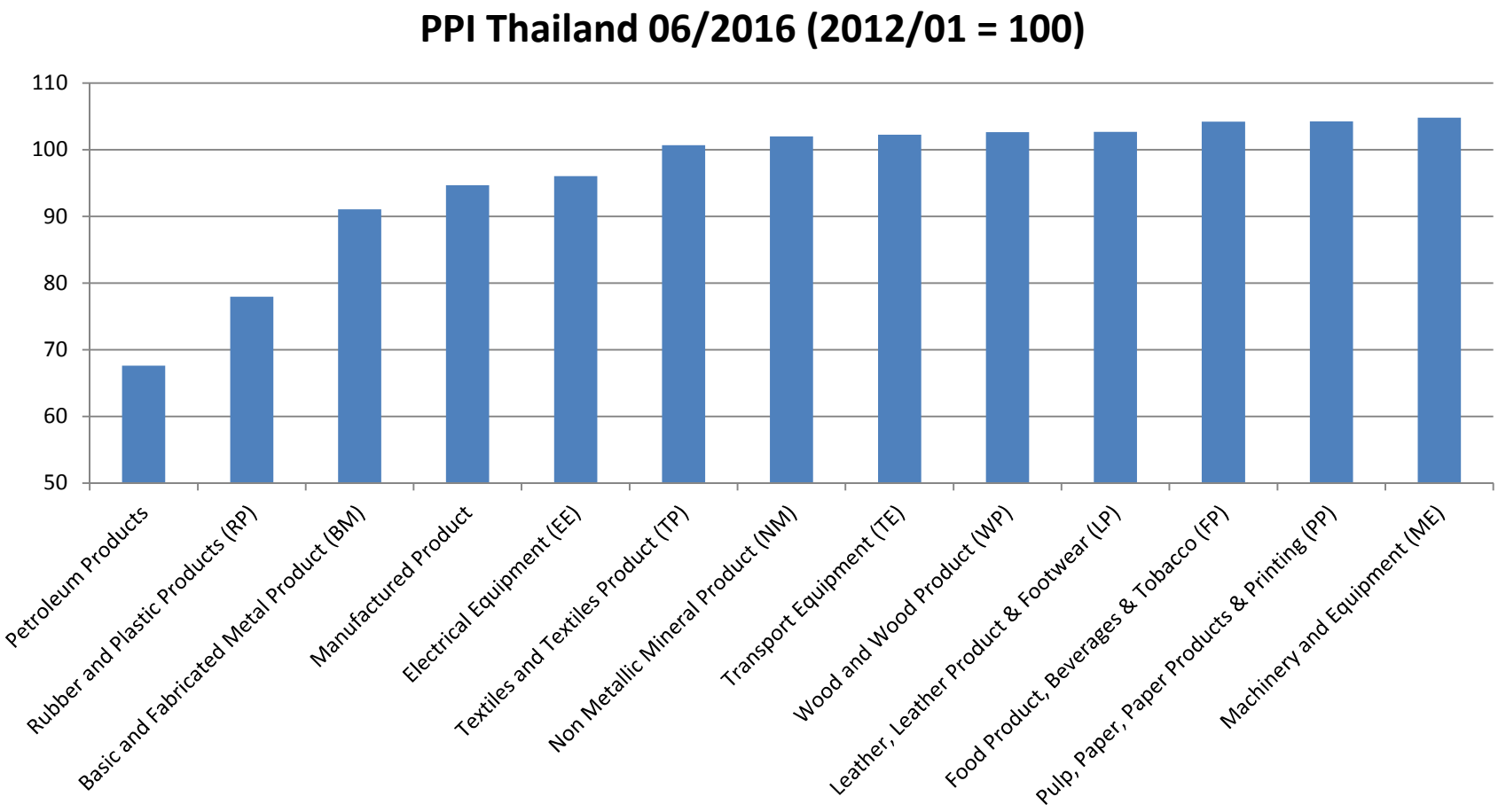
$$ppi_t = .932\, ppi_{t-1} - .069 NEER_{t-1} + .039 DWER_{t-1} + ...$$

- Regional currencies overweighted in NEER.
- Extra-regional currencies overweighted in DWER.
- Regional spillover through exchange rates but spillover seems concentrated on upstream industries.

Korea PPI


PPI Korea
06/2016 2012/01=100
120
110
100
90
80
70
60
50
Coal Products and Petroleum Products (CP)
Basic Metal Products (BM)
NM: Glass Prdts (GP)
Chemical Products (CQ)
Electrical & Electronic Equipment (EE)
Producer Price Index: All Commodities and...
Metal Prdts
Wood & Wood Products (WW)
Pulp & Paper Products (PP)
Non Metallic Mineral Prdts (NM)
Plastic Prdts
RP: Rubber Prdts
Precision Equipment (PE)
General Machinery (GM)
Fiber Products & Leather Products (TA)
NM: Ceramic Ware & Clay Prdts (CC)
Food, Beverages & Tobacco (FT)
Transport Equip: Transport Equipment
Other Mfg Prdts
NM: Cement & Concrete Prdts (CCP)

Thailand PPI



China Industry Level Data

- PPI deflation appears concentrated in industries that are:
  1. Ùpstream
  2. Capital Intensive
  3. Dominated by SOE sector
- Makes circumstantial case that deflation fueled by state directed credit expansion

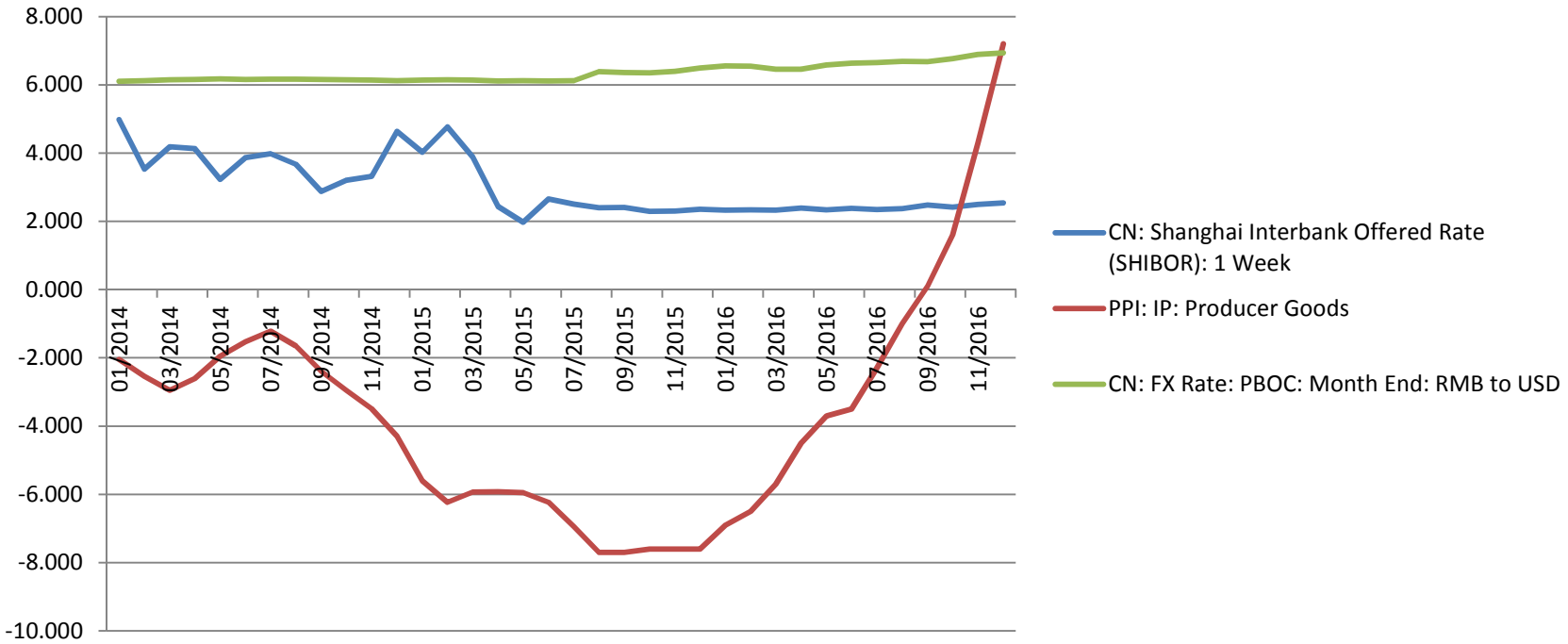
Circumstantial Case

- PPI tracks capacity utilization
- Primary industries have seen decrease in utilization.
- Industries with overcapacity have seen sharp decline in profitability.
- SOEs have had a sharp decline in productivity
- Rapid growth of Chinese corporate leverage has been concentrated on SOE's.

Credit Policy vs. Monetary Policy

- Prior to 2015, gov’t stabilization policies emphasized stabilization policies based on targeted credit rather than market based monetary policy.
- Targeted credit policy seemed to have dominant supply side effects with positive effects on growth but negative effect on prices.

Interest Policy and the Supply Side

- In theory, interest rate policy could have supply side effects.
- Modelled as input (including labor) usage requiring credit in advance (see Christiano, Eichenbaum and Evans, 2005, for example) so interest costs affect marginal cost of production.
- Back of the envelope tells you normal rate adjustments have very limited effects on marginal cost.
- Ex ante theoretical basis suggests only very large subsidies with no commercial basis could bring down real marginal costs by 20%.

- More recent stabilization policy mix has emphasized the demand side.
- Long lag between cut in interest rates/depreciation and PPI acceleration, so it may be something else.