

# Macroeconomic Consequences of the Real-Financial Nexus: Imbalances and Spillovers Between China and the US

Ke Pang and Pierre L. Siklos  
Wilfrid Laurier

Discussed by David Cook HKUST

# Object of Interest

- Identify spillovers of “US economy” on “PRC economy” China and vice versa.
- Q: How do we model the “US economy” and “PRC economy” in a tractable way.
- A: Identify the driving forces in US and Chinese business cycles.

# Principal Component Analysis

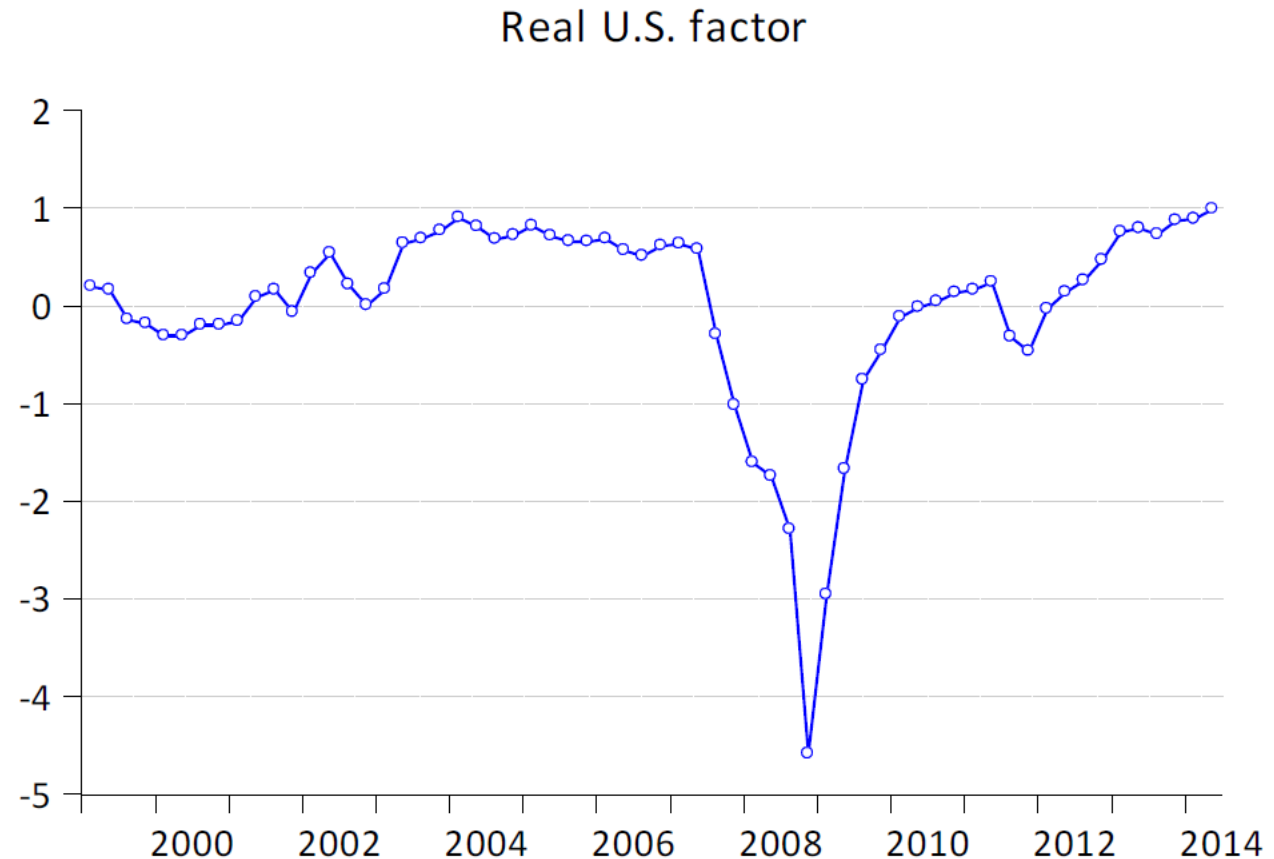
- Strong but not constant comovement between series within each economy.
- Conjecture there are multiple driving forces that impact economic series. “Driving” forces means assumed to be uncorrelated with each other.
- Easy to extract small number of uncorrelated series which can explain largest fraction of comovement of series within each economy.

# Real and Financial Cycle

- Both US and China variables over 1998-2014 are driven by two principal factors
- One Chinese factor strongly associated with economic growth & inflation before, during and after GFC
- Another Chinese factor basically uncorrelated with economic growth but mostly associated with credit and housing prices but looks quite different if we simultaneously try to explain monetary policy.
- Decide to model a separate monetary policy factor.

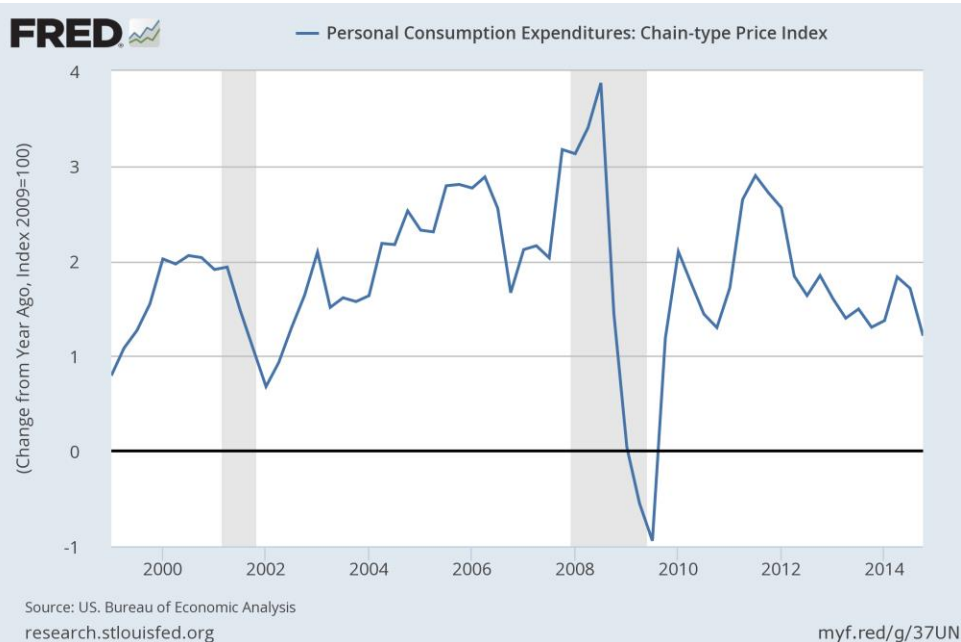
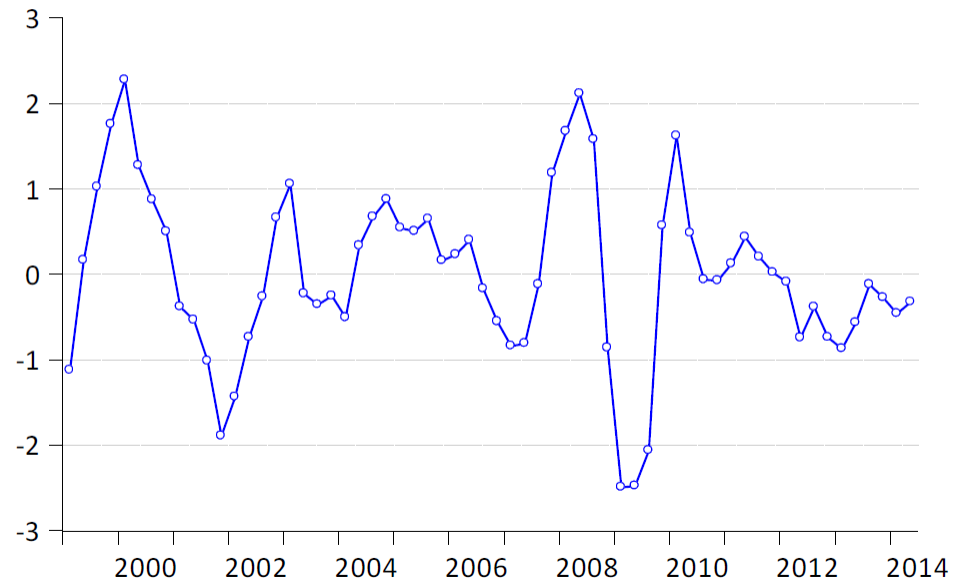
# Two driving forces in US business cycles over last 15 odd years

- “Real factor” -  
Namely  
productivity  
slowdown  
simultaneous  
with GFC,  
associated  
with financial  
variables and  
GDP growth  
but not much  
inflation.



- US “Financial Factor” strongly loaded on PCE inflation and oil prices.
- Not exactly the same as year on year PCE but not that different.
- Factor loadings on financial variables seem small.
- Seems a stretch to call this “financial” factor except for reasons of symmetry.
- Puzzling that US inflation shocks lead to PRC real exchange rate appreciation!

Financial U.S. factor



- Mostly interested in spillovers from real and financial factors from China to USA and USA to China after controlling for a China monetary factor and US monetary policy indicator.
- Main spillover results from autoregressive system in a vector of six variables: real and financial factors for each country and monetary indicators for each country.
- Consistent estimates might be derived with two stage FAVAR (more efficient estimates might be obtained with dynamic factor models), but seem fairly robust.

# Spillovers

- Very limited spillover from China to USA as identified by FAVAR.
- Spillovers from US to China are significant and occur over a cyclical horizon.
- US real factor leads China real factor
- USA “Financial Factors” moves in opposite as China real and financial factors
- Monetary shocks seem to explain very small fraction of fluctuations.



- Within country factors should be orthogonal by construction. Not clear what dynamic correlations mean.
- Useful characterization of co-movement, but should be careful with interpretation.