The monetary transmission mechanism in Vietnam

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Introduction

- Monetary transmission mechanism (MTM): the way monetary policy affects economic activity.

- Timing and effect are critical to central bankers.

- Operates through different channels:
  - Interest rate
  - Exchange rate
  - Other asset price channels
  - Credit channel

Channels of MTM (1)

- Interest rate channel

$$M \uparrow \Rightarrow i_r \downarrow \Rightarrow I \uparrow \Rightarrow Y \uparrow$$

- Exchange rate channel

$$M \uparrow \Rightarrow i_r \downarrow \Rightarrow E \downarrow \Rightarrow NX \uparrow \Rightarrow Y \uparrow$$

- Other asset price channels
  - Tobin's q effect

$$M \downarrow \Rightarrow P_e \downarrow \Rightarrow q \downarrow \Rightarrow I \downarrow \Rightarrow Y \downarrow$$

  - Wealth effect

$$M \downarrow \Rightarrow P_e \downarrow \Rightarrow \text{wealth} \downarrow \Rightarrow \text{consumption} \downarrow \Rightarrow Y \downarrow$$

Channels of MTM (2)

- Credit channel
  - Bank lending channel

    $M \downarrow \Rightarrow$ bank deposits $\downarrow \Rightarrow$ bank loans $\downarrow \Rightarrow I \downarrow \Rightarrow Y \downarrow$

  - Balance-sheet channel

    $M \downarrow \Rightarrow P_e \downarrow \Rightarrow$ adverse selection & moral hazard $\uparrow$

    $\Rightarrow$ lending $\downarrow \Rightarrow I \downarrow \Rightarrow Y \downarrow$

    $M \downarrow \Rightarrow i \uparrow \Rightarrow$ cashflow $\downarrow \Rightarrow$ adverse selection & moral hazard $\uparrow$

    $\Rightarrow$ lending $\downarrow \Rightarrow I \downarrow \Rightarrow Y \downarrow$

Conduct of monetary policy in Vietnam

- Instruments of monetary policy
  - Discount policy
  - Open market operations
  - Reserve requirements
- Foreign exchange and exchange rate arrangements:
  - Current transactions: liberalized
  - Capital transactions: controlled (selectively)
  - Exchange rate: manage float

Literature review

- Empirical framework: Taylor (1995)
- Large number of studies, employing VAR approach, focusing on the US MTM.
- Morsink and Bayoumi (2001)
- Disyatat and Vongsinsirikul (2003)
- Poddar, Sab, and Khatrachyan (2006)
- Hwee (2004)

Data

- Quartely, seasonally adjusted, 1996Q1: 2005Q4 (40 obs).
- Variables:
  - *output*: Real industrial output (constant 1994 price)
  - *cpi*: Consumer Price Index (CPI), (2000=100)
  - *m2*: Broad money, measured in billions of VND
  - *irate*: Real lending rate
  - *credit*: Domestic credit, measured in billions of VND
  - *reer*: Real effective exchange rate, indexed (1996=100)
  - *oil*: World oil price, in USD/barrel
  - *rice*: Rice price, in USD/ton
  - *ffr*: Federal Funds rate, in percentage
- Source: IMF's IFS, DOT and VN's GSO.

Methodology

- VAR approach, using impulse response functions, Granger causality test and variance decomposition.

- ADF test showed that all variables in levels were non-stationary.

- Decided to transform variables in levels to percentage changes (taking log).

- Optimal lag length suggested by different criteria were mixed; decided to choose 4.

Basic VAR model (1)

- VAR ordering: *output, cpi, m2* and *oil, rice, ffr* as exogenous variables.

- Taylor (1995) suggested using "price" instead of "quantity".

- SBV's "basic interest rate" rarely changes, serves as guide to CBs.

- Growth rate of M2 considered as legal operating target.

- Decided to take M2 as proxy for monetary policy actions.

Basic VAR model (2)

- Positive shock to money results in positive responses in output and price level.
- Money Granger causes output at 5% significance level.
- Money accounts for 44.24% shocks in output after 4 quarters.

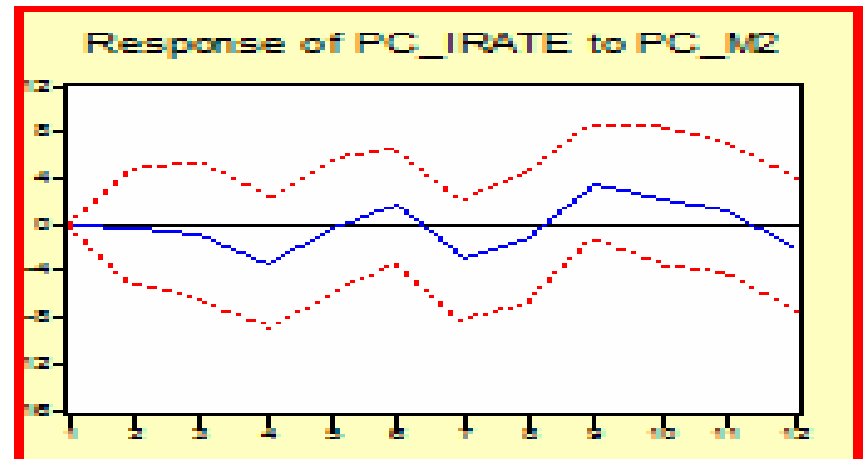Response of PC_OUTPUT to PC_M2

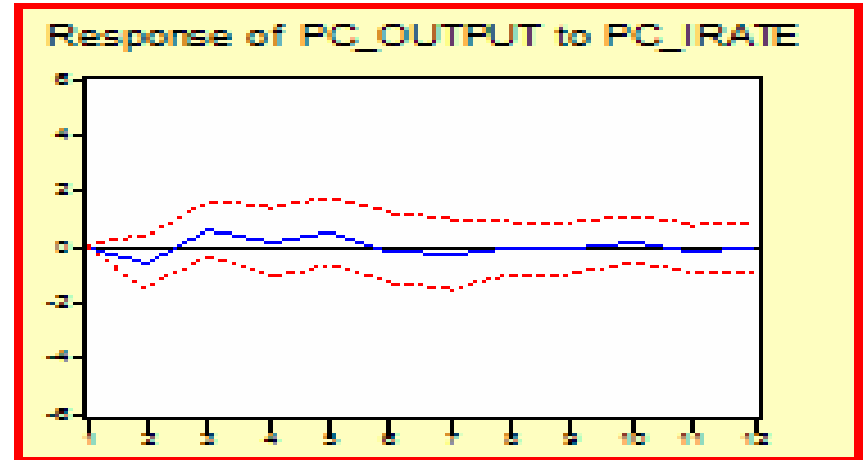Response of PC_CPI to PC_M2
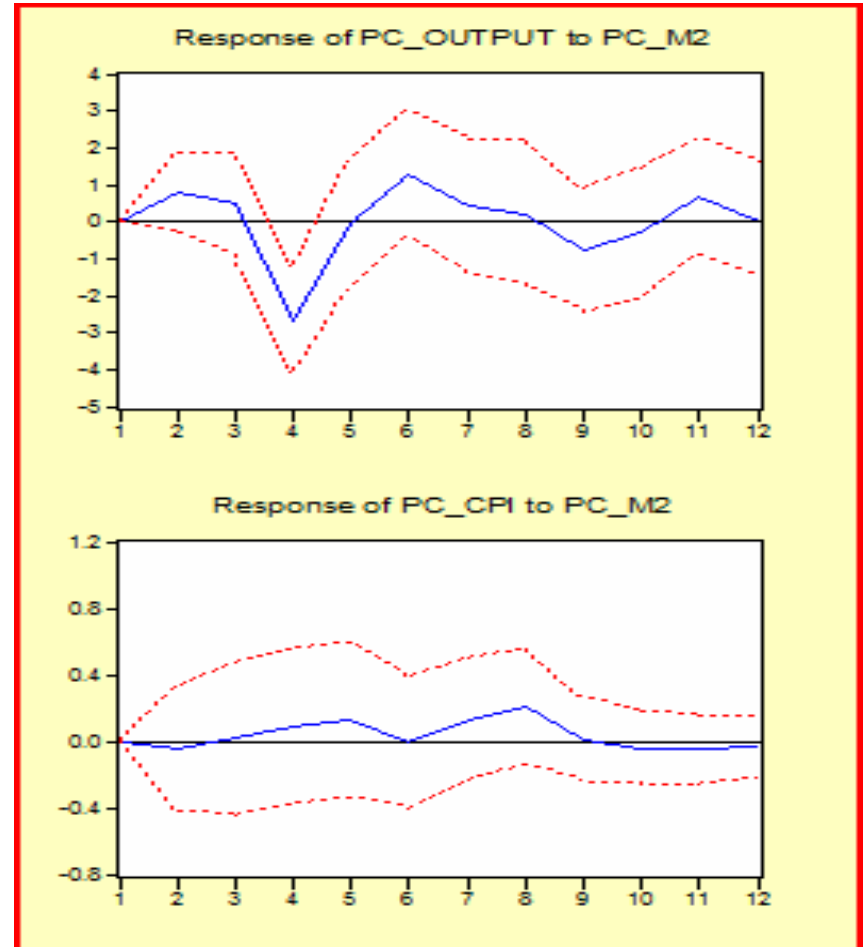
Interest rate channel (1)

- VAR ordering: *output, cpi, irate, m2* and *oil, rice, ffr* as exogenous variables.

- Based on the assumption that change in money supply leads to change in real interest rate and investment.

Interest rate channel (2)

- Increase in money results in decrease in real interest rate.

- Increase in real interest rate results in decrease in output.

- 48.06% of the shocks in output is due to money, 3.63% due to real interest rate.

Response of PC_OUTPUT to PC_IRATE


Response of PC_IRATE to PC_M2

Exchange rate channel (1)

- VAR ordering: *output, cpi, reer, m2* and *oil, rice, ffr* as exogenous variables.

- Based on the assumption that expansionary monetary policy leads to depreciation of the domestic currency, boosting export and aggregate demand.

- Might be insignificant because of capital controls and rigid exchange rate regime.

Exchange rate channel (2)

- Increase in REER results in decrease in output.

- REER Granger causes output only at 10% significance level but money does not Granger cause REER.

- REER accounts for 26.12% shocks in output after 5 quarters

Response of PC_OUTPUT to PC_REER


Response of PC_REER to PC_M2
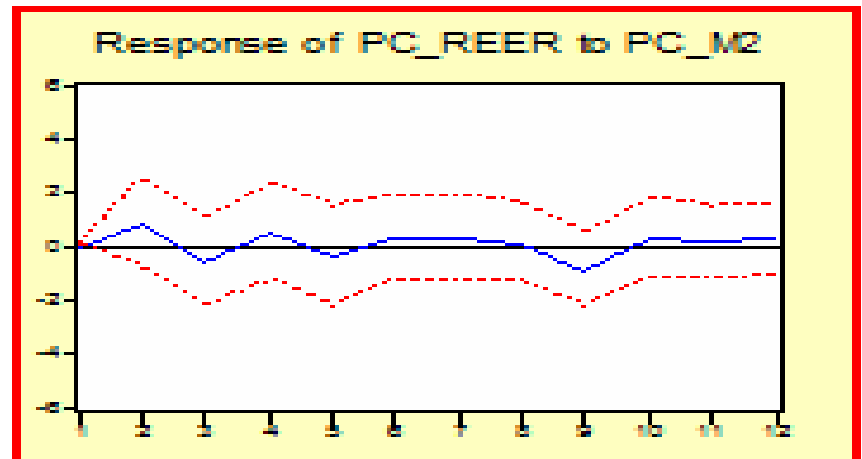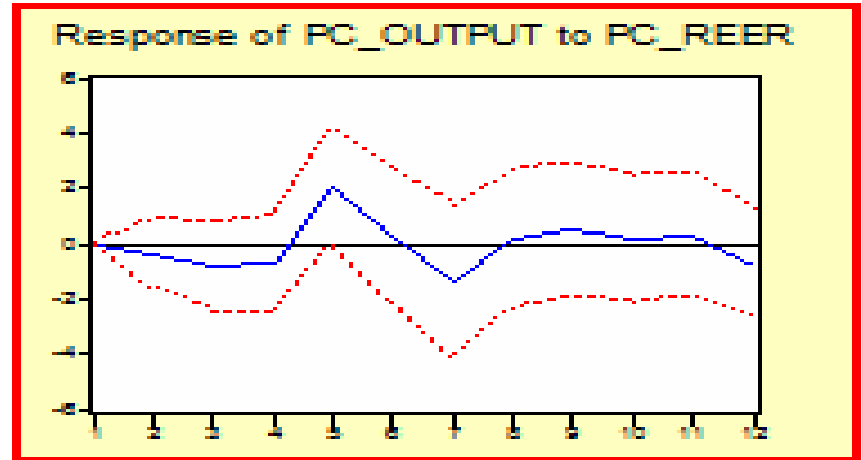
Credit channel (1)

- VAR ordering: *output, cpi, credit, m2* and *oil, rice, ffr* as exogenous variables.

- Mishkin (1995) suggested that it works through 2 channels: bank lending and balance sheet.

- Credit channel might be insignificant because most of loans given to SOEs according to Government's direction.

Credit channel (2)

- Increase in credit results in increase in output.

- Increase in money results in increase in credit.

- Credit Granger cause money at 5% significance level.

- Credit accounts for 23.08% of the shocks in output after 8 quarters.

Response of PC_OUTPUT to PC_CREDIT

Response of PC_CREDIT to PC_M2
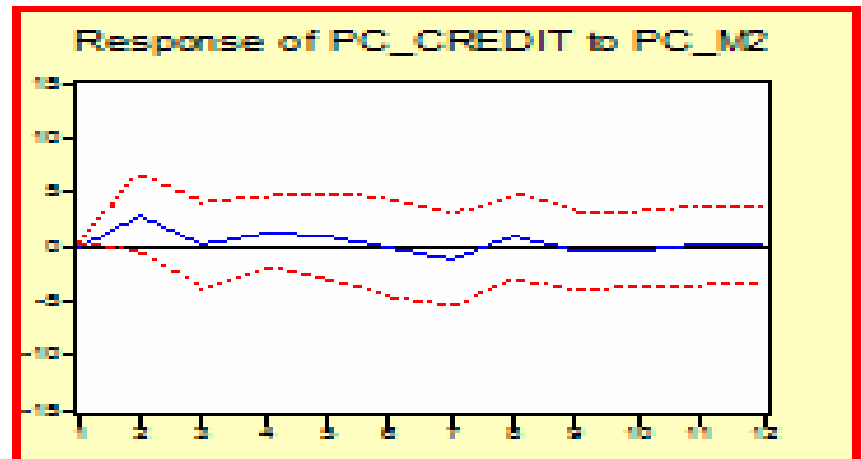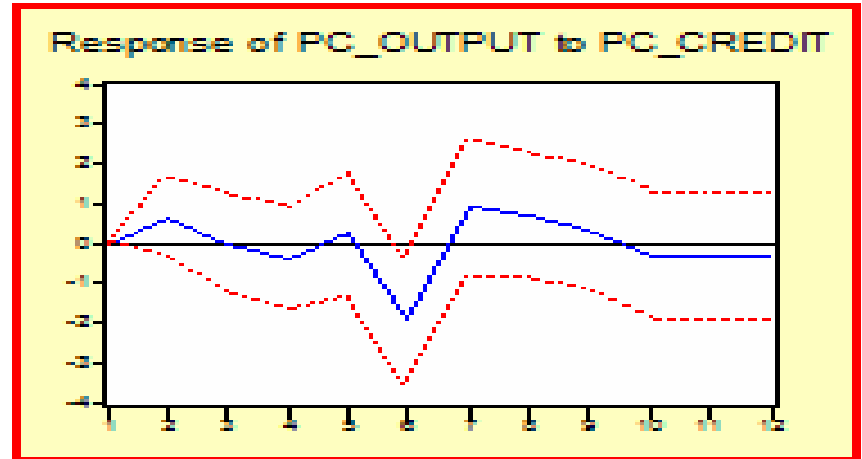
Conclusion and policy implications

- Conclusion:
  - Monetary policy can affect output and price level, effect strongest after 4 quarters.
  - However, significance of different channels are weak; exchange rate and credit channels are the most significant.

- Policy implications:
  - Improve SBV independence.
  - Using interest rate as policy stance.
  - More flexible exchange rate.