Macro-Financial Linkages: Issues and Challenges

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Background (1)

• Key feature of recent financial market development- close and immediate feedback between real economy and financial conditions:

• Credit and housing boom preceding recent financial crisis went hand in hand with strong spending and production.

• During the economic crash, deteriorating financial conditions triggered recession & exacerbated decline in economic activity.

• Manifested in extraordinary financial market dislocations coinciding with a global macroeconomic free fall.

• Such macro-financial linkage bringing public policy makers, macroeconomists and finance economists together to better understand intertwined financial crisis & economic recession.
• Strong theories & vast empirical literature exist on effects of monetary policy on output & other real sector variables

• Feedback from financial sector to real economy is emerging subject from both theoretical and empirical aspects.

• Empirical studies show financial (including stock) market crashes to decrease aggregate demand through a reduction in wealth and a rise in the cost of capital, then reducing consumer spending and real investment.

• Central banks do fine tune monetary policy if stock market crashes have the potential to destabilize the financial system and to produce more stress on the economy.
Causality in Macro-Financial Linkage

- Macro-financial inter linkage suggests the direction of causality potentially in both ways, i.e., there is a feedback loop.
- Empirical studies reveal monetary policy and financial shocks to have significant effects respectively on output, price level and on other variables.
- A series of macro-financial research observe a strong linkage between interest rates and economic activities.
- Also asset prices and the macro economy are inextricably linked, as asset markets are the mechanism by which consumption and investment are allocated across time and types.
Determinants of Macro-Financial Linkage

- Nature of macro financial linkage determined by depth & extent of financial sector & global trade & financial integration.

- ‘Depth’ of financial system - indicators of banking institutions (e.g. private sector credit/GDP) including sophistication of providing banking services.

- ‘Extent' of financial system - breadth of financial services, which includes deposit taking institutions, capital markets, insurance markets, etc.

- With deepening of financial markets and global integration, non conventional transmission channels - credit availability, asset price, & liquidity - explain financial sector links to real economy.

- Effectiveness of these channels depends on structure of economy and stage of financial system development.
Channels of Macro- Financial linkage (1)

• Macro-financial linkages could be analyzed from different channels:
  – credit channel,
  – wealth channel,
  – exchange rate channel, and
  – monetarist channel

• Voluminous discussion on the effect of the macro-financial link such as on real business cycles – i.e. finance accelerator and relationship with 'external finance premium'
Channels of Macro- Financial linkage (2)

• BIS working paper identifies three channels of financial and real sector linkage:
  – Borrower balance sheet channel which refers to both firms & household whereby lenders are unable to fully assess & monitor relevant risks & enforce fully debt repayment.
  – Bank balance sheet channel which refers to financial institutions, which affect their lending behavior & then economic activity.
  – Liquidity channel which refers to banks ability to extend credit and in turn to affect real economic activity.

• All channels suggesting how financial markets efficiently allocate resources & risks to facilitate wealth accumulation leading to economic growth.
Channels of Macro- Financial linkage (3)

- Textbook IS-LM analysis: interest rate a link between monetary and real sector; i.e. cost of funds leading to opposite change in national income via allocation of investment.
- More recently, macro prudential measures opted by regulatory authorities affecting financial market along with interest rate.
- Macro prudential regulations like capital adequacy ratio, credit to deposit ratio, liquidity ratio, dynamic provisioning, sectoral credit restrictions influence credit supply credit & eco. activities.
- In open economy with external financial flow, macro prudential measures in capital flows affect both liquidity and exchange rate situation and then real economy –also through trade competitiveness channel.
Channels of Macro- Financial linkage (4)

• In open economies with higher degree of globalization (reflected in economic and financial integration), flow of credit affected by both the state of capital account and exchange rate regime.

• In liberalized capital account with fewer controls and restrictions on mobility of funds and flexible exchange rate regime, flows of fund are volatile and make it harder to predict the magnitude of macro-financial linkage.

• Presence of huge external capital flows also breaks the conventional transmission mechanism of monetary policy thus making monetary management even more complex.
Monetary Policy Implications (1)

- Key issues: (i) does monetary policy continue to impact real economy directly or through financial system? (ii) is single monetary policy objective still valid amid complex financial system.

- Neoclassical model: cost of capital determined by monetary policy stance a key to demand for investment and real output; but less effective amid extensive non-banking services.

- Strong financial market infrastructure with prudential regulatory and supervisory framework critical to strengthen monetary transmission through credit channel.

- Credit conditions a conduit through which financial conditions affect real output; and, only stable financial market condition can ensure uninterrupted credit flows to achieve targeted economic growth.
Monetary Policy Implications (2)

- Monetary impulses also transmitted through asset (real estate and stocks) price channel; fluctuations in asset prices prompted by monetary policy impulses impacts real economy.

- Higher monetary expansion lowers interest rate; stocks become more attractive leading to higher stock prices.

- Conversely, lower interest rate raises demand for real estate, resulting in higher prices; asset price channel works through wealth effects, leading to a change in business investment and households wealth.

- In abnormal financial market situation, this channel is disrupted & real economy adversely affected; in essence, monetary policy transmission disrupted by financial market condition.
Shadow Banking: Implication for Macro-Financial Linkage (1)

• ‘Shadow banking’ system broadly described as credit intermediation involving entities and activities outside regular banking system; potential source of systemic risk, especially when it is structured to perform bank-like functions.

• If interconnected with regular banking system, any shocks in shadow banking may transmit to proper banking system with a bearing to real sector as well.

• FSB suggests appropriate monitoring and regulatory frameworks for the shadow banking system to be in place to mitigate the build-up of risks.

• FSB also recommends entity-based focus of 'macro-mapping' to cover developments in relevant markets where shadow banking activity may occur.
Shadow Banking: Implication for Macro-Financial Linkage (2)

• Challenges posed by shadow banking system in macro-financial linkages largely due to regulatory arbitrage concern, where funds move between regulated & unregulated banking system.

• Interconnectedness of formal financial system & shadow banking exacerbate pro-cyclical build-up of leverage & heighten risks of asset price bubbles, e.g. property markets which has a bi-directional feedback to the financial sector.

• More concerning with financial integration & credit being internationally mobile and affecting financial stability.

• Need for harmonizing regulations and communication between different regulators (domestic & international); unification of fragmented regulations to fully encompass financial system.
Low Income Countries’ Cases

• Macro-financial linkages vary over time and across countries, depending on degree of institutional development, depth and size of financial markets, modalities for conducting monetary policy, and degree of financial integration, among others.

• Transmission process evolves through both price & quantities of credit; in price-mediated mechanism, monetary impulses affect economic activities through effects on interest rates, asset prices and exchange rates.

• Given poor linkages among the financial variables, interest rate and exchange rate channels of monetary transmission not so effective in explaining macro-financial linkages.

• Amid informal financial market with high interest rates & insufficient supply of credit to meet the demand, availability rather than cost of capital primarily determines investment and real output.
Concluding Remarks (1)

• Experiences show strong correlation between financial sector development & economic growth, with causation running in both directions.

• As developed financial sector promotes economic growth through better resources allocation, economic growth also spurs demand for financial services & financial development.

• Both borrowers’ and banks’ balance sheet positions are important in analyzing real & financial transmission channels:
  – Banks' balance sheet influences their ability to extend credit, which has direct impact on real economic activities.
  – Weaker macroeconomic conditions reduce businesses profits and incomes of households, resulting in rise or fall in net worth.
  – Weaker business revenues and household incomes push up borrowers’ default risks, thus weakening banks’ balance sheets.
  – Probably, speed of this reversal mechanism (from real to financial sector) is slower, but results may be more pervasive!
Concluding Remarks (2)

• In changing context, understanding monetary transmission mechanism & its linkage to both real & financial sectors very crucial - critical for central bankers to assess the nature of linkages & speed of transmission.

• Recent financial crisis renews interest in exploring linkages between financial & real economic variables; central bankers facing policy challenges when financial development seemingly matters monetary policy targets.

• Growing financial sophistication, cross border financial integration, and existence of shadow banking, particularly in low income economies, magnifying complexities in analyzing the extent of macro-financial linkages.

• We central bankers, therefore, need to calibrate our policy responses to macroeconomic developments.

Thank You Very Much