Financial Stability Policies

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March 23, 2015

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Monitoring Vulnerabilities in Different Sectors

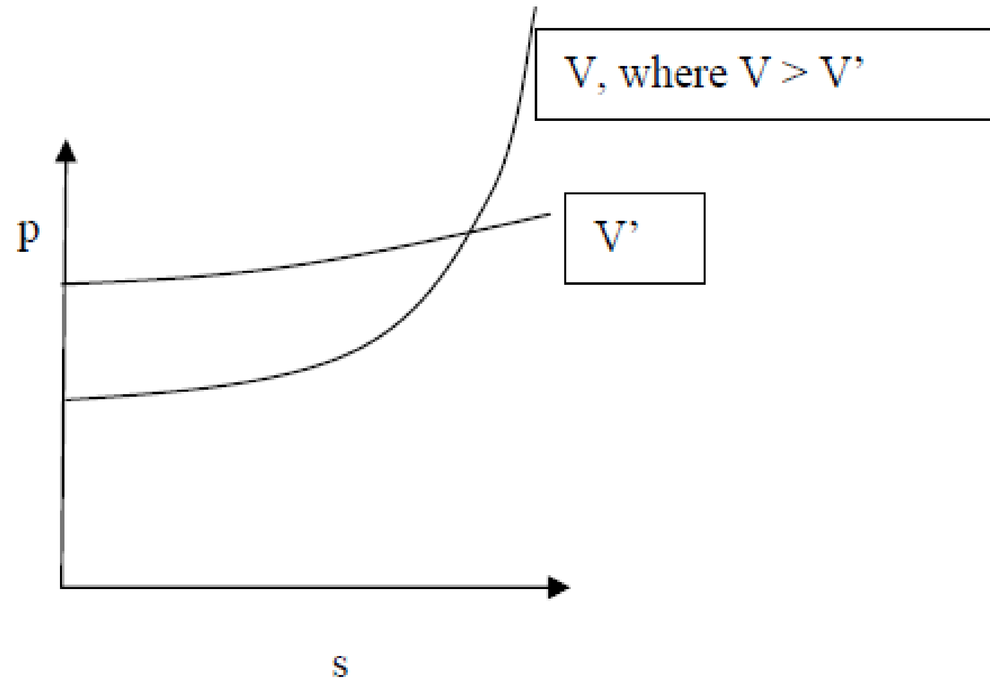
	A. Price of risk	**B. Leverage**	**C. Maturity and liquidity transformation**	**D. Interconnections and complexity**
(1) Asset markets	Asset valuations	Investor leverage	Carry trades Mutual funds & ETFs Broker-dealers	Derivatives and counterparties
(2) Banking sector	Risk taking in credit Underwriting standards	Bank capital ratios Market measures of risk Stress tests	Bank liabilities	Systemic risk Intra-financial assets & liabilities
(3) Shadow banks, Financial markets	Securities issuance Underwriting standards	Broker-dealer capital Securitization New products Capital arbitrage Hedge funds	Broker-dealer liabilities Agency REITs ABCP conduits Repo markets Sec sending MMFs, STIFs	CCPs
(4) Non-financial sector	Underwriting standards	Debt-to-GDP Leverage	Reliance on ST debt	

	Vulnerability	Macroprudential Policy
(1) Asset markets	Compressed risk premiums Low volatility and low risk premiums	LTVs and DTIs Sectoral risk weights at banks Countercyclical capital or liquidity buffer Margins and haircuts Limits on short-term collateralized funding
(2) Banking sector	Pro-cyclical leverage of banks & dealers Risk-shifting channel	Higher capital and liquidity requirements Countercyclical capital &liquidity requirements Sectoral risk weights Supervisory guidance, exposure limits Supervisory stress tests
(3) Shadow banking	Pro-cyclical dealer intermediated leverage Excessive maturity transformation Regulatory arbitrage	Monitor for regulatory arbitrage and reduce regulatory and accounting incentives to move activities from regulated sector Higher minimum haircuts or margins Tighter standards on securitizations
(4) Non-financial sector	Deterioration in underwriting standards Excess leverage	LTVs and DTIs Limits on adjustable rate loans for borrowers Stress test borrowers for rising rates

Conceptual Framework for Financial Stability Policies

1. **The price of risk, *p*, increases with financial shocks, *s***
2. ***p* is more sensitive to *s* when vulnerabilities, *v*, are high**
3. **When *s* is low, *p* is decreasing in *v***

Trade-off between the pricing of risk in normal times, and in crises



Monetary Policy and Financial Stability

Risk Taking Channel of Monetary Policy

- Loose policy can fuel risk taking that can increase vulnerabilities at the same time as it eases financial conditions

Financial Stability Policies

- First order defenses against vulnerabilities are macroprudential
- But macroprudential tools are limited, have potentially long lags, and shadow banking and international arbitrage limit usefulness

Incorporating Financial Vulnerabilities into Monetary Policy

- Financial vulnerabilities impact the downside tail risk to real activity
- Reacting to vulnerabilities is compatible with the dual mandate

Monetary Policy, Financial Conditions, Financial Stability

	Financial conditions	Financial stability
(1) Asset markets	Higher asset prices Lower risk premiums	Compressed risk premiums Low volatility and low risk premiums
(2) Banking sector	Bank lending channel	Pro-cyclical leverage of banks & dealers Risk-shifting channel
(3) Shadow banking	Balance sheet channel Liquidity creation	Pro-cyclical dealer intermediated leverage Excessive maturity transformation Regulatory arbitrage
(4) Nonfinancial sector	Borrowing conditions Balance sheet channel Credit growth	Deterioration in underwriting standards Excess leverage

Financial Stability Policies for Asset Markets

Macroprudential policies

- Tighten underwriting standards & capital (buffer & risk weights)

Cleaning up after the crash can lead to excessive risk taking

- Collective moral hazard due to "Greenspan put" (Farhi Tirole 2009)
- Ex ante macroprudential policy preferable (Farhi Tirole 2012)

Forward guidance can contribute to low volatility

- Asset prices can be fueled by the combination of low rates and low volatility, exacerbating the leverage cycle (Adrian Shin 2008)

Financial Stability Policies for the Banking Sector

Macroprudential policies: countercyclical capital and risk weights

Augmented Taylor rules

- When financial vulnerabilities impact aggregate macroeconomic dynamics, the output gap and inflation are no longer sufficient statistics to optimize welfare, augmented Taylor rules are optimal
    - Credit spreads (Woodford 2010, 2011, Stein 2014)
    - Leverage (Gambacorta Signoretti 2014)
    - Estimates of risk (Kocherlakota 2014)

Financial Stability Policies for Shadow Banking

Policy tools specific to vastly heterogeneous shadow banking activity

- Margin setting in derivatives and funding markets (FSB 2013)
- Money market reform (FSOC 2012, SEC 2013)
- Repo market reform (FRBNY 2012)
- Securitization reform
- Capital planning based on stress tests counteracts procyclicality of broker dealers (Adrian Shin 2014)
- Align incentives of credit rating agencies

Among macroprudential tools liquidity most promising to preempt

- Goodhardt Kashyap Tsomocos Vardoulakis (2013) find that underwriting standards and margins are less useful than liquidity requirements due to inflated asset values

Financial Stability Policies for the Nonfinancial Sector

Constraints on nonfinancial sector borrowing

- DTI and LTV limits are used by several countries, with suggestive evidence of some positive impact
- Limits might be more useful than monetary policy in the presence of demand externalities & zero lower bound (Korinek Simsek 2014)
- However, asset values are inflated in booms (Goodhardt et al 2012)

Supervisory action

- U.S. bank regulators issued regulation & guidance for leveraged lending aiming at containing nonfinancial borrower leverage

Takeaway: Chair Yellen, July 2, 2014

How should monetary policy and macroprudential approaches be balanced in the pursuit of financial stability?

1. Macroprudential approach to supervision and regulation needs to play a primary role
   - Through the cycle regulation plus cyclical tools
2. Low interest rates might increase reaching for yield and risk taking
   - "Risk taking channel of monetary policy"
   - Macroprudential policy might be limited due to limited authority and shadow banking

- ➢ **While monetary policy is a blunt tool (costs in terms of current output usually outweigh benefits in terms of financial stability) adjustments in monetary policy, may, at times, be needed to curb risks to financial stability**
- ➢ Policy makers should clearly communicate role of financial stability

Further Reading

Janet Yellen (2014) "Monetary Policy and Financial Stability" speech at the 2014 Michel Camdessus Central Banking Lecture, IMF, July 2, 2014
http://www.federalreserve.gov/newsevents/speech/yellen20140702a.htm

Tobias Adrian, Daniel Covitz, Nellie Liang (2013) "Financial Stability Monitoring" *Federal Reserve Bank of New York Staff Reports* 601
http://www.newyorkfed.org/research/staff_reports/sr601.pdf

Tobias Adrian (2014) "Financial Stability Policies for Shadow Banking" *Federal Reserve Bank of New York Staff Reports* 664
http://www.newyorkfed.org/research/staff_reports/sr664.pdf

Tobias Adrian, Nellie Liang (2014) "Monetary Policy, Financial Conditions, and Financial Stability" Federal Reserve Bank of New York Staff Reports 690
http://www.newyorkfed.org/research/staff_reports/sr690.pdf

Simon Gilchrist, Egon Zakrajšek (2011) "Monetary Policy and Credit Supply Shocks" *IMF Economic Review* 59(2) 195-232
http://www.palgrave-journals.com/imfer/journal/v59/n2/full/imfer20119a.html