Understanding Financial Stability & Macro-prudential Policy

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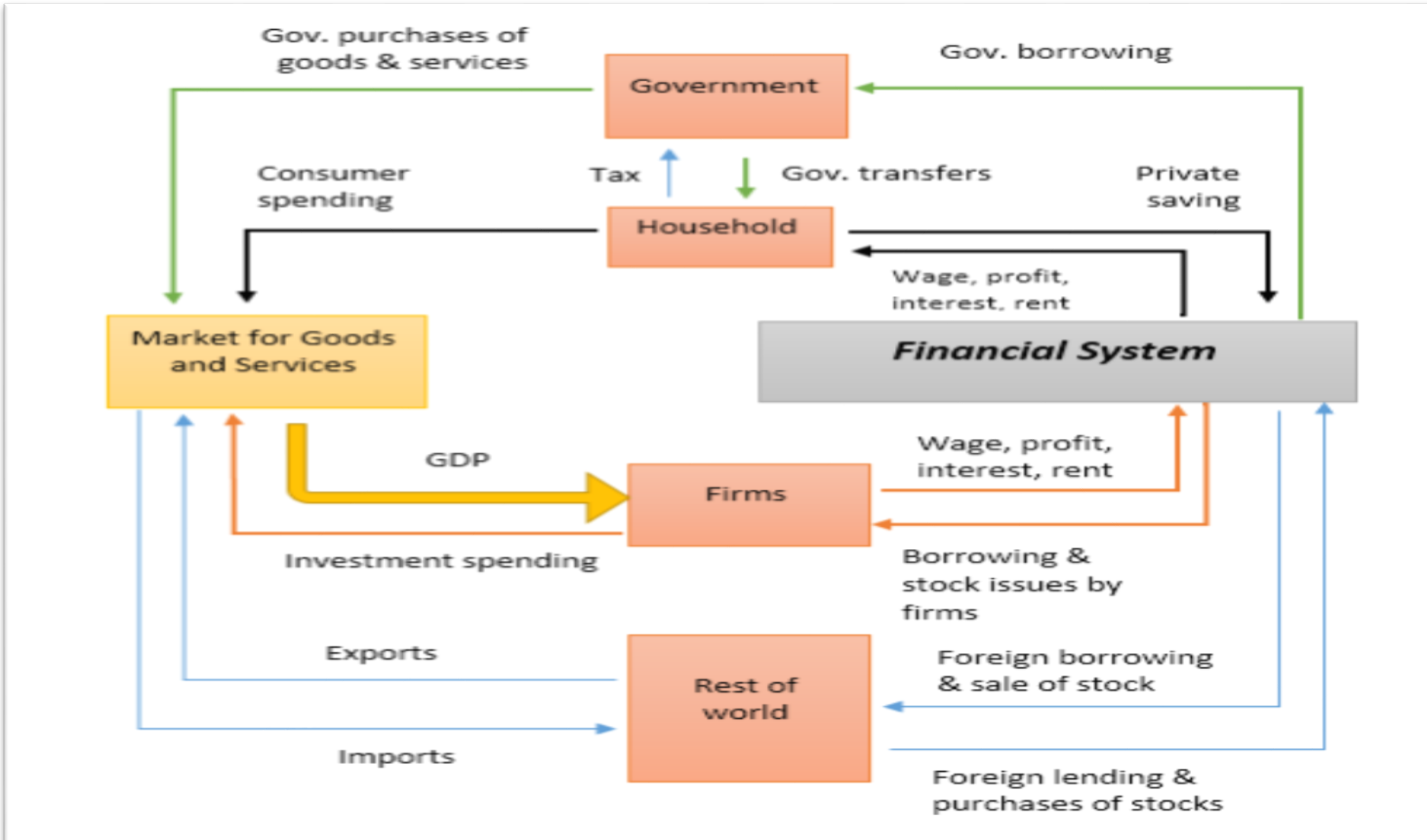
Outline

- What is Financial Stability (FS)?
- Why Financial Stability
- What is Macro-prudential Policy – Definition & Objectives
- Systemic Risk: Sources & Dimensions
- Macro-prudential Toolkit
- Macro-prudential Policy Interaction with Other Economic Policies
- Example for Systemic Risk Assessment – Saudi Arabia
- Macro-prudential Issues and Challenges

The Economic Circular Flow – Role of financial Systems



What is Financial Stability (FS)?

- Ability to withstand shocks (resilience) – e.g., macro and micro shocks
- Ability of the financial system to process transactions without interruption or intervention
- Market participants have confidence in the financial system
- Stable capital market in the sense that prices are based on fundamentals

FS Definitions by Other Central Banks

Central Bank	Definition
Australia	A stable financial system is one in which financial intermediaries, markets and market infrastructure facilitate the smooth flow of funds between savers and investors and by doing so, helps promote growth in economic activity
South Africa	The absence of the macroeconomic costs of disturbances in the system of financial exchange between households, businesses and financial-service firms
ECB	A condition in which the financial system—comprising of financial intermediaries, markets and market infrastructures—is capable of withstanding shocks and the unraveling of financial imbalances, thereby mitigating the likelihood of disruptions in the financial intermediation process which are severe enough to significantly impair the allocation of savings to profitable investment opportunities
Japan	"Financial system stability" refers to a state in which the financial system functions properly, and participants, such as firms and individuals, have confidence in the system"

Why Financial Stability?

- Significant developments in the financial world (deregulation, innovation, globalization)

- Frequent Financial Disruptions
  - ❑ Currency crisis in Mexico (1994)
  - ❑ Asian financial crisis (1997)
  - ❑ LTCM collapse (1998)
  - ❑ Argentina crisis (2000)
  - ❑ The GFC (2007 --)

Common symptoms of Crises

1. Exchange rate miss-valuation
2. Current account deficits (BoP crises)
3. Rising Debt (consumer, corporate, Government)
4. Low/Falling reserves
5. Mismatch on balance sheets (currency, maturity)
6. Erosion of policy credibility/Poor regulation (Confidence issues)
7. Sensitivity to external shocks

Why Financial Stability?

Crises revealed/re-emphasized that:

- Financial Crisis cause too much damage and output losses, contagious, and too costly to resolve
- Price stability is not enough
- Real and financial sectors inter-dependence
- Government-financial sector relationship
- Healthy financial system ensures smooth policy transmission mechanism
  - Financial markets host fiscal and monetary transmission channels

➔Should consider Financial Stability as an explicit economic policy objective and develop a policy to achieve it

→ ***Macro-prudential Policy***

What is MP Policy

Policy aimed at maintaining financial stability

The use of primarily prudential (regulatory) tools to limit systemic risk (IMF, 2011)

Systemic risk is *"the risk of disruptions to the provision of financial services that is caused by an impairment of all or parts of the financial system, and can cause serious negative* consequences for the real economy" (IMF , 2009)

Origins & Evolution

June, 1979

- BIS meeting on International lending
  - *"… microeconomic problems began to merge into macroeconomic problems at the point where micro-prudential problems became what could be called* ***macro-prudential*** *ones"*

Oct, 1979

- BoE background note: *"This* ***macro-prudential approach*** *considers problems that bear* ***upon the market as a whole*** *as distinct from an individual bank, and which may not be obvious at the micro-prudential level"*

1986

- First *public* appearance when published in a BIS report on *Recent innovations in international banking* which defined it as a policy that promotes "*the safety and soundness of the broad financial system and payments mechanism*

1992

- BIS report on Recent developments in international bank relations

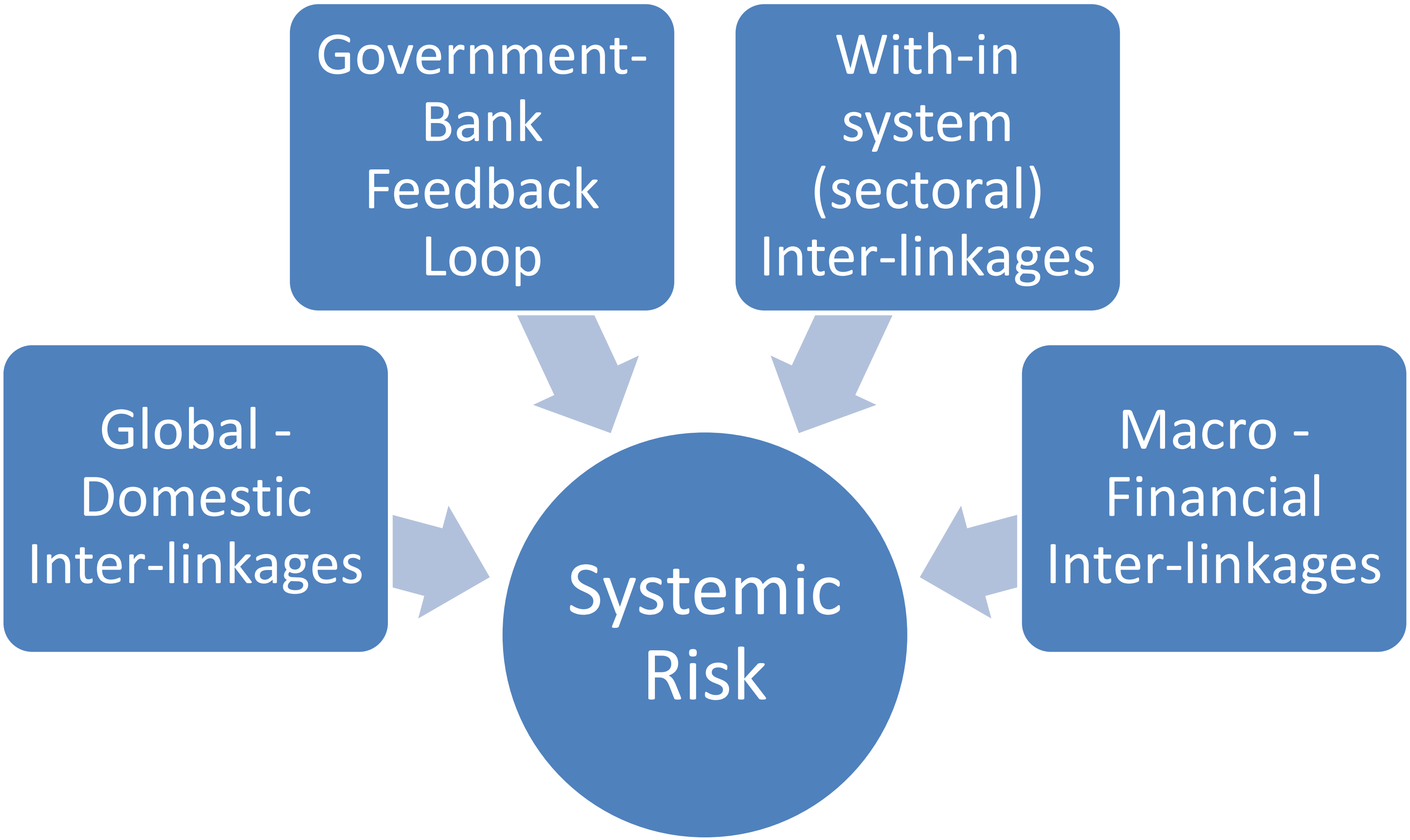
1998-2000

- Triggered by the Asian crisis, IMF report Toward a framework for a sound financial system stated that "… macro-prudential analysis […] focuses on developments in important asset markets, other financial intermediaries, and macroeconomic developments and potential imbalances.
- BIS GM (Andrew Crockett) speech in the international conference of banking supervisors comparing Micro Vs. Macro – prudential policies.

Macro-prudential Policy Objectives

- Three main objectives:
  1. Increase <u>resilience</u> of the financial system to aggregate systemic shocks
  2. Contain the build-up of systemic vulnerabilities over time – <u>*time dimension*</u>
  3. Control the build-up of vulnerabilities within the financial system that arises through inter-linkages - <u>*structural (cross-sectional) dimension*</u>

Sources of Systemic Risk



Systemic Risk Dimensions

- Time Dimension
  - Pro-cyclicality: excessive risk taking during booms
  - Two Key elements:
    - Credit (leveraging)
    - Liquidity (maturity mismatch)
- Cross-Sectional (Structural) Dimension
  - Distribution of risk in the financial system at a given point of time
  - Key elements:
    - Size
    - Interconnectedness
    - Substitutability
    - Concentration

MP Toolkit

Time Dimension Tools

- Capital Requirements (CAR, CCB, Counter-cyclical buffers)
- Time-varying risk weights
- Liquidity Requirements (LCR, NSFR)
- Leverage ratios
- Dynamic Provisioning
- Reserve Requirement
- Loan-To-Deposit (LTD) ratio
- Ceilings on credit/credit growth

Cross-Sectional Tools

- Systemic Capital Surcharges
- Systemic Liquidity Surcharges
- Limits on foreign exposure/ lending
- Debt-To-Income (DTI) ratio
- Limits on margin lending
- Loan-To-Value (LTV) ratios

Macro-prudential Policy Interactions

Macro Vs. Micro Prudential Policies

- Despite the differences, they should work together
  - Micro-prudential is a necessary, but not sufficient condition for financial stability
- But where to draw the line between “micro” and “macro” prudential policies
  - Some instruments are used for both policies

Macro Vs. Micro Prudential Policies

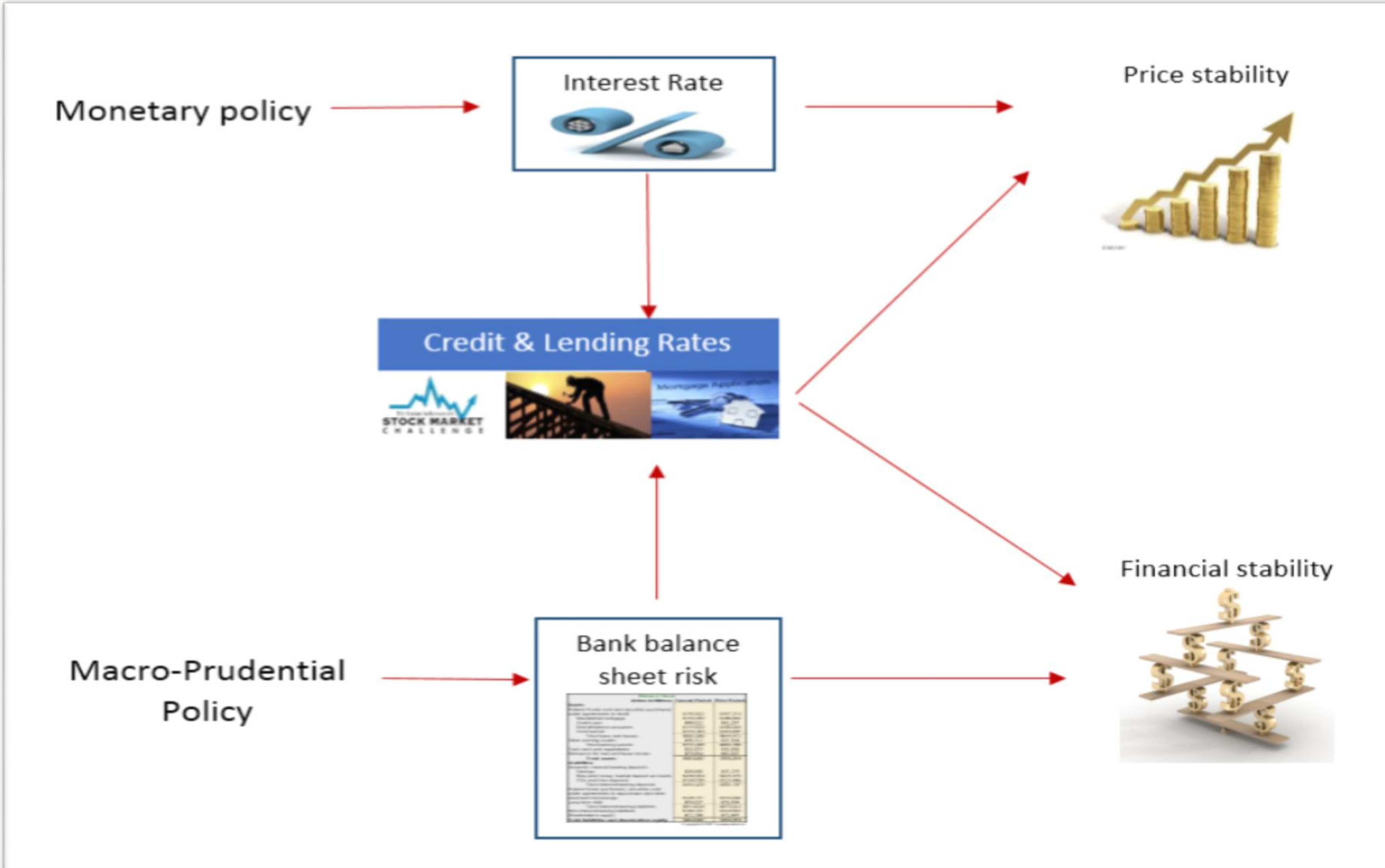
The Macro- & Micro-prudential Perspectives Compared		
	Macro-prudential	Micro-prudential
Objective	Stability/limit distress of the financial system as a whole (system-wide)	Stability/limit distress of individual institutions (Idiosyncratic)
Concern	Financial instability (avoid crises)	Consumer Protection (investors/depositors)
Characterization of Risk	Endogenous (system-wide Correlations)	Exogenous (independent of individual agents' behavior)
Fallacy of composition: ***the state of the whole is NOT the sum of the state of seemingly independent parts***		

Macro-prudential Vs. Monetary

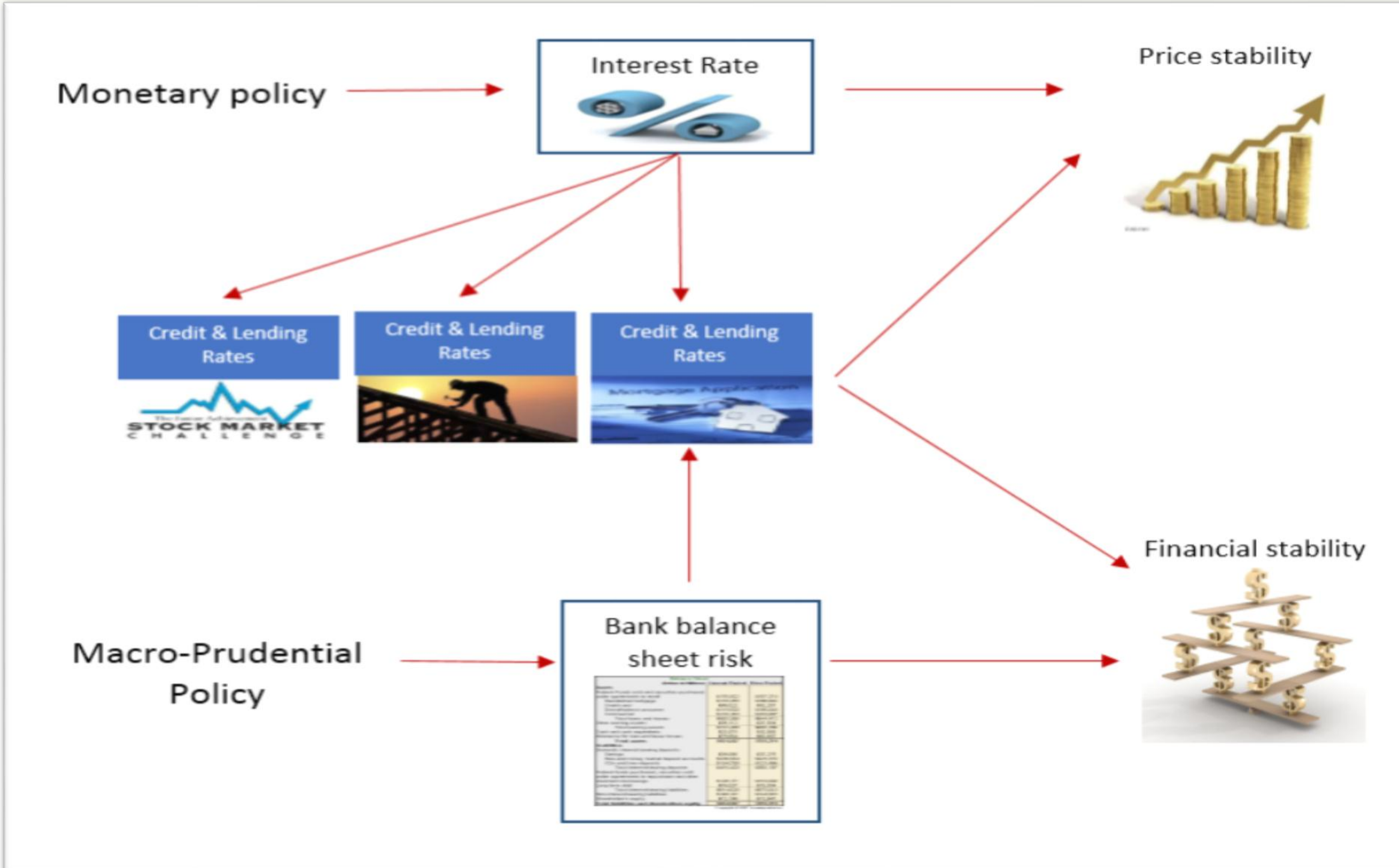
- Is there a trade off between the two policies' objective (Monetary Vs. Financial Stability)
  - Complements or Substitutes?

- Monetary policy as a *blunt* tool; Can MP policy help?
- Could MP policy prevent the GFC? A case on MP & Monetary policies coordination

A Conflict May Arise …



Or May NOT !!!


Monetary policy
Interest Rate
Price stability
Credit & Lending Rates
Credit & Lending Rates
Credit & Lending Rates
STOCK MARKET
CHALLENGE
Financial stability
Macro-Prudential Policy
Bank balance sheet risk

Macro-prudential Vs. Fiscal Policy

- Prudent fiscal Policy →low systemic risk →less burden on MP policy

Prudent Fiscal Policy →
- Debt sustainability
- Budget Surpluses

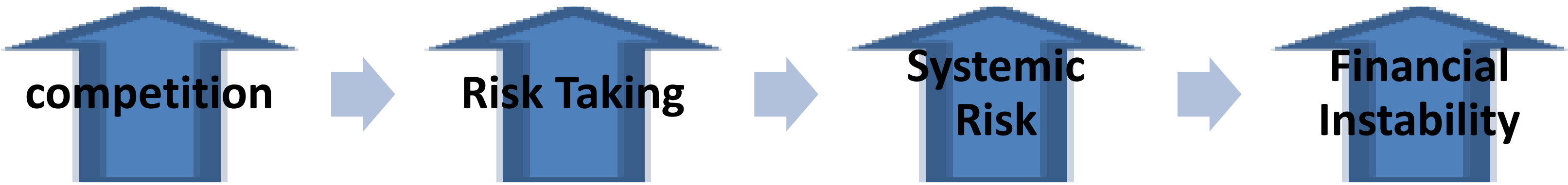
Lower systemic risk →
- No sovereign-bank feedback loop
- Low volatility in bond markets

Stable Financial systems
- Less need for frequent MP interventions
- Sustainable growth rates

- Tax structure
  - Current structure encourages leveraging
  - Can assist MP by targeting risky sectors

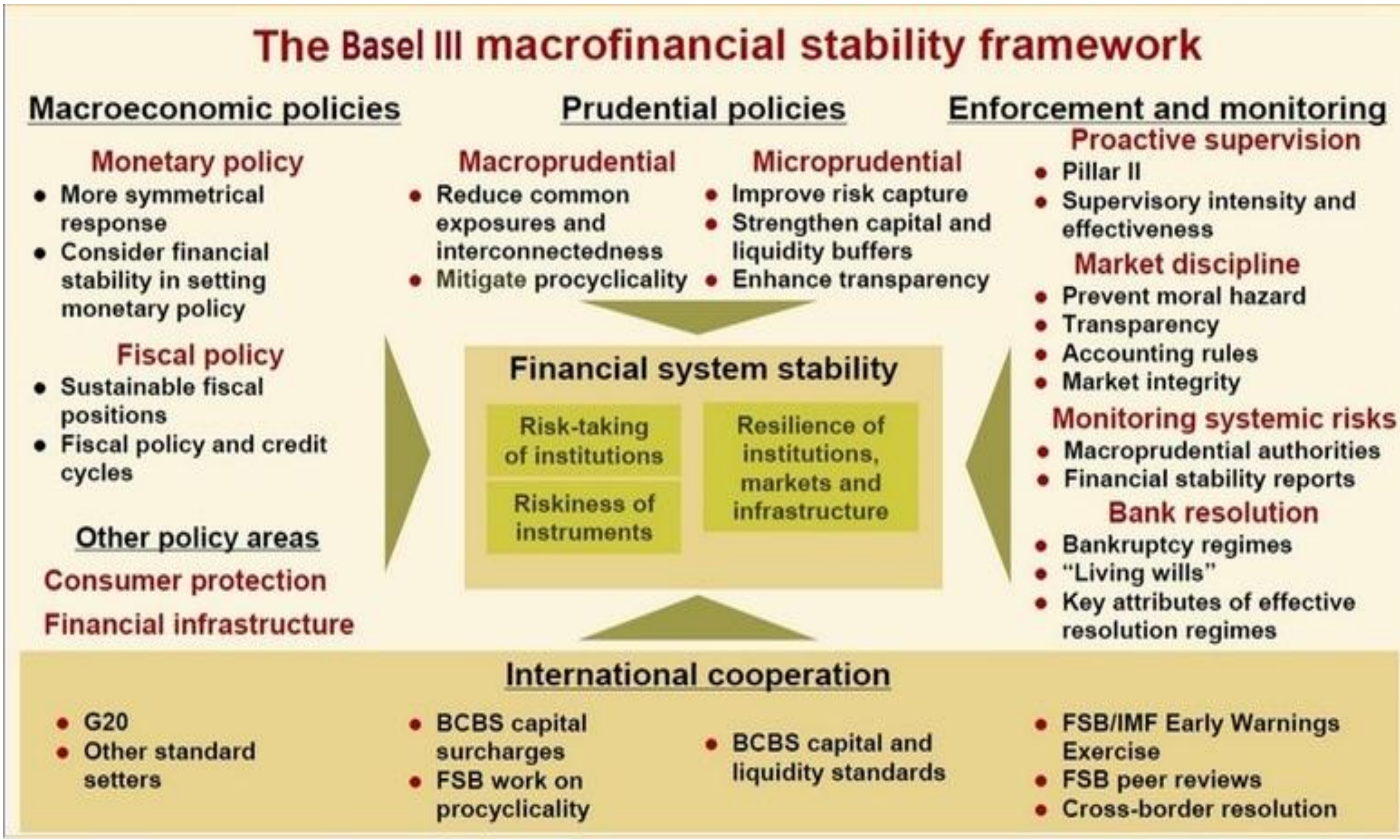
Macro-prudential Vs. Other Policies

- Competition Landscape:



- Cross-border MP policies
  - Regulatory Arbitrage
  - Need for International Cooperation
- Crisis Management Policies
  - Deposit Insurance Schemes (DIS)
  - Resolution frameworks

The complete interaction landscape



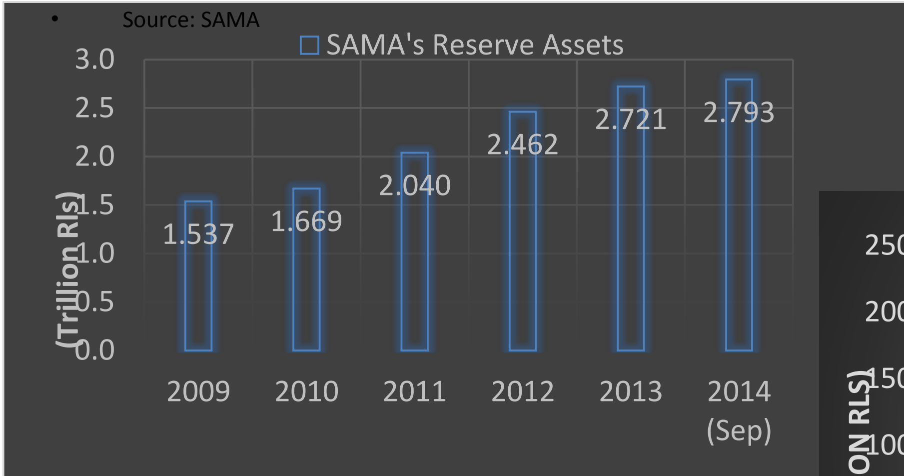
Source: The Basel III Accord

Macro-prudential policy and Systemic Risk Assessment – Saudi Arabia

SAMA's Macro-prudential Toolkit

Instrument	Regulatory Requirement
Capital Adequacy Ratio	Basel requirement of a Minimum of 10.5%
Provisioning	General: 1% of total loans Specific: Minimum of 100% of NPLs
Leverage Ratio	Deposits/(capital + Reserves) ≤ 15 times
Reserve Requirement	7% for Demand Deposits 4% for Time Deposits
Loan-To-Value (LTV)	Mortgage loans ≤ 70% of home value
Debt Service – To – Income (DTI)	Monthly repayments ≤ 33% of Income
Loan-to-deposit (LTD) ratio	85%
Liquidity: • SLR • LCR (Basel III) • NSFR (Basel III)	 Liquid Assets/deposits ≥ 20% 100 % by 2019 (already fulfilled) 100 % by 2019 (already fulfilled)
Counterparty Exposure	Individual Exposure/total capital ≤ 25%
Foreign Exposure	Approval Needed

Systemic Risk Assessment: Fiscal Sustainability



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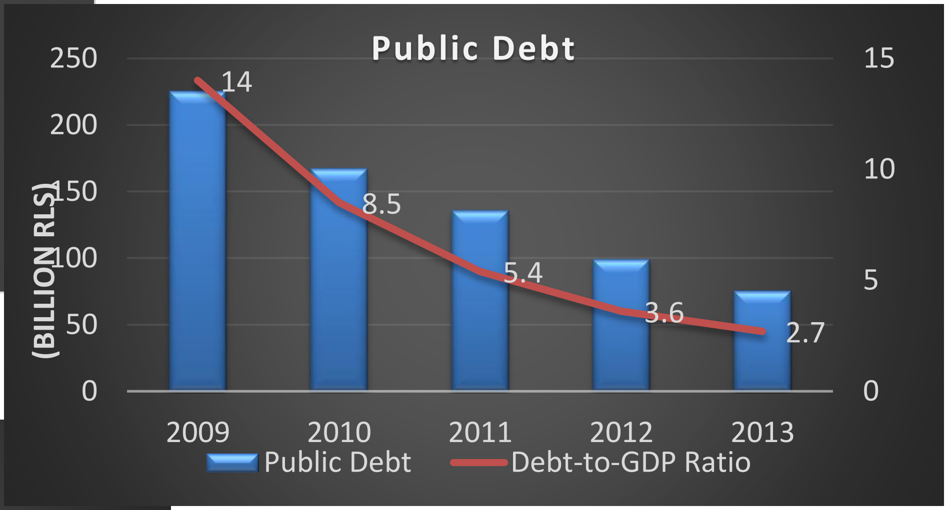

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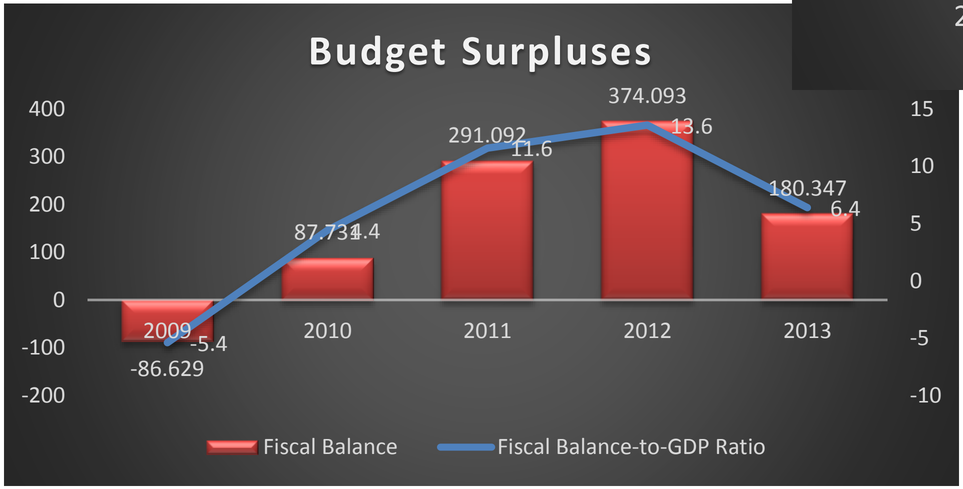

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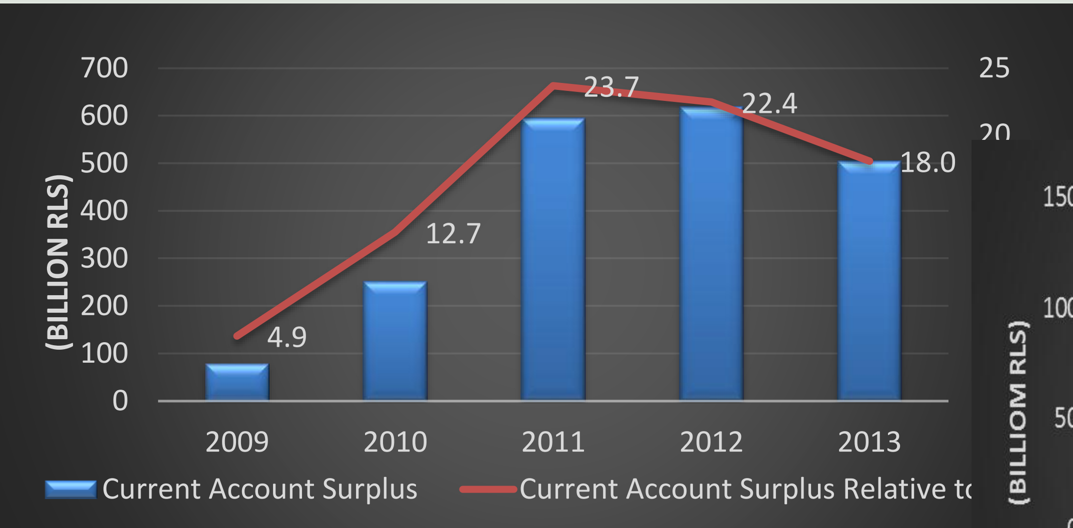
Systemic Risk Assessment: Global Interconnectedness



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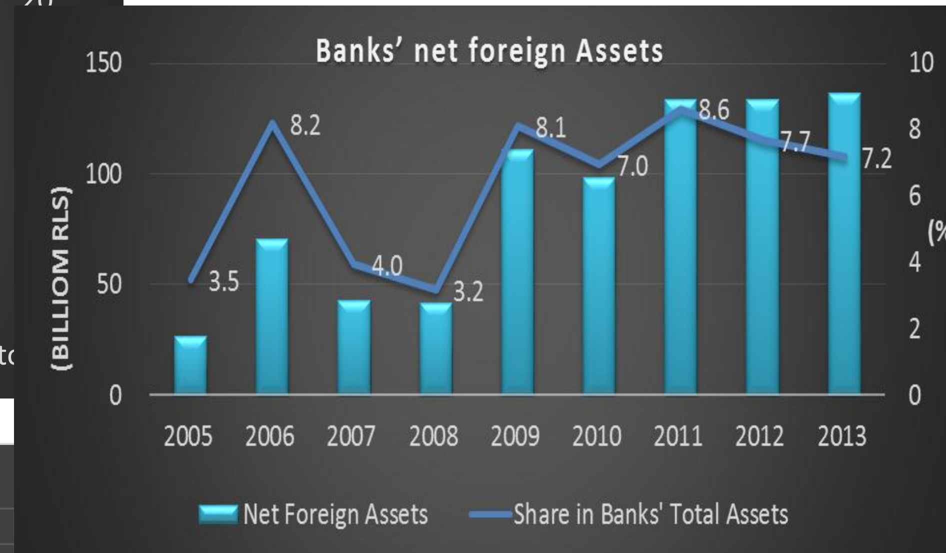

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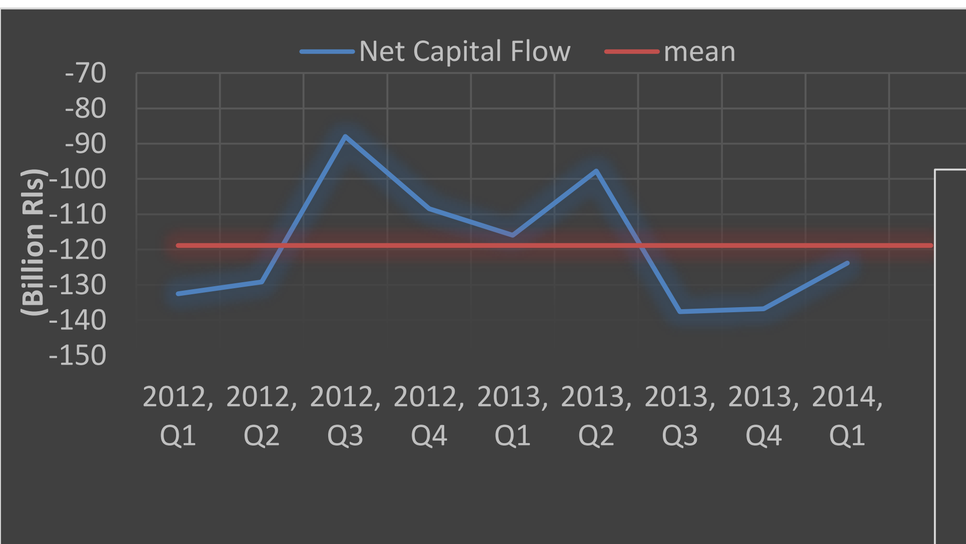

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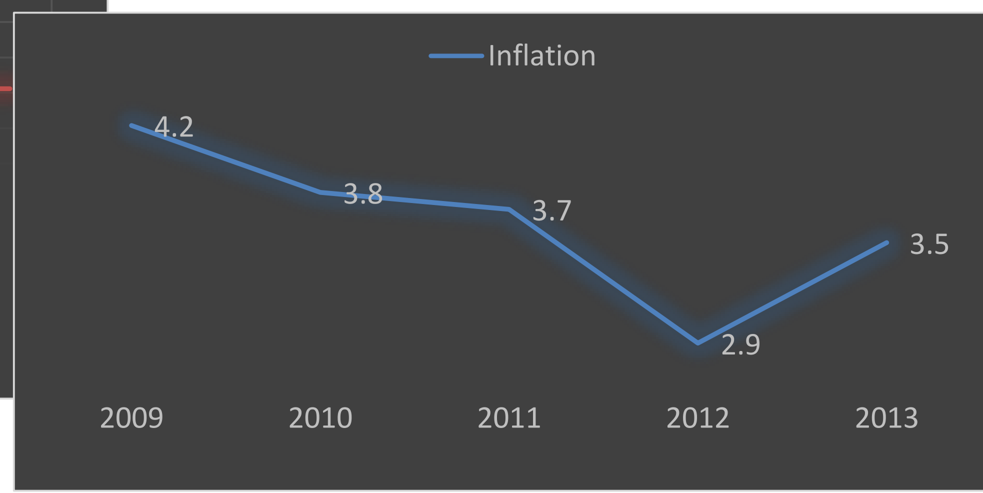
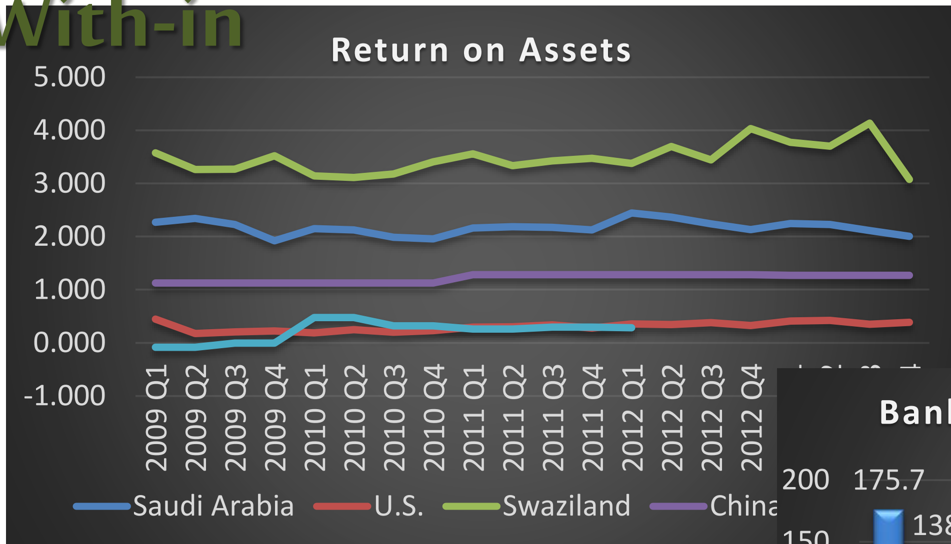
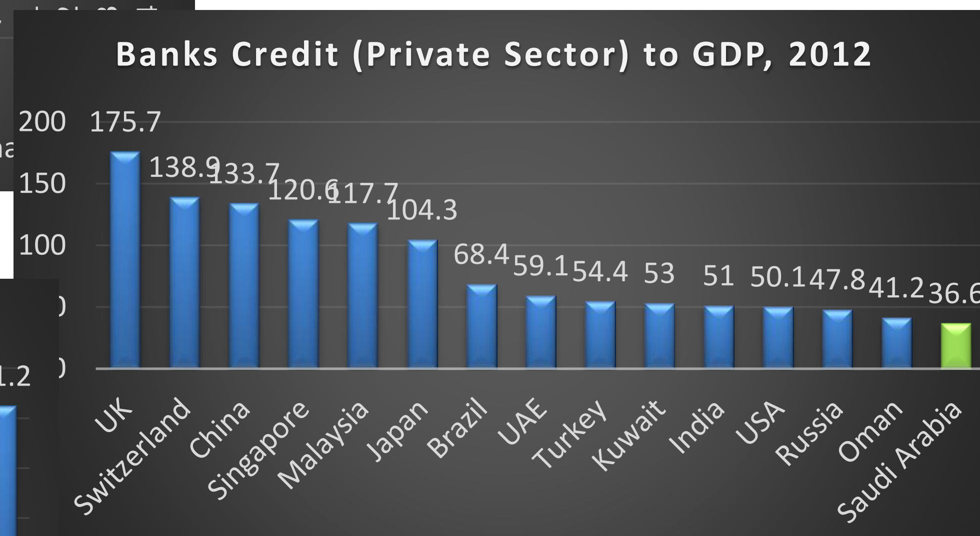


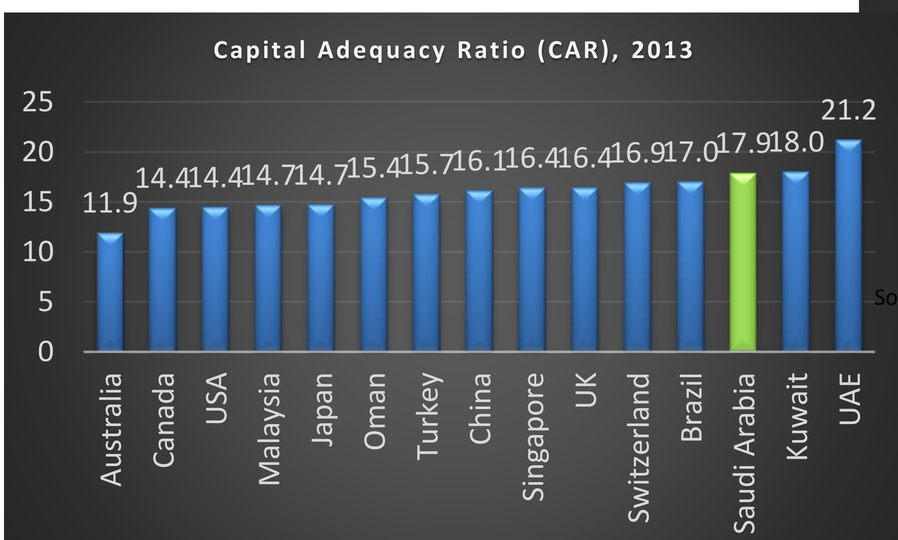
Source: SAMA

Systemic Risk Assessment: The System from With-in



Source: IMF





Source: World Bank

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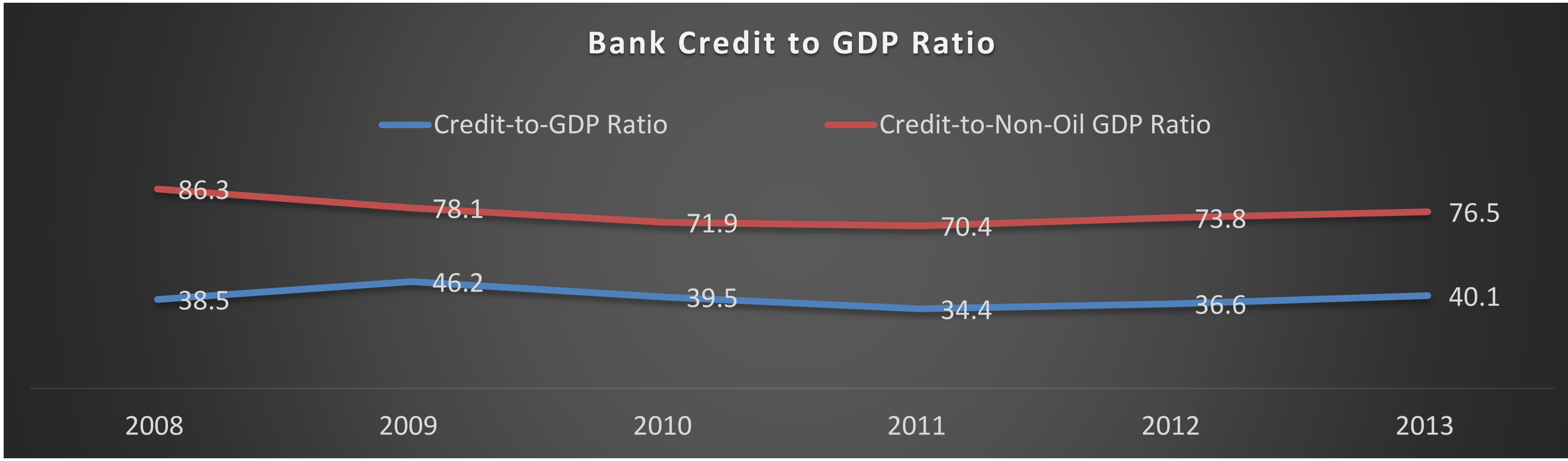

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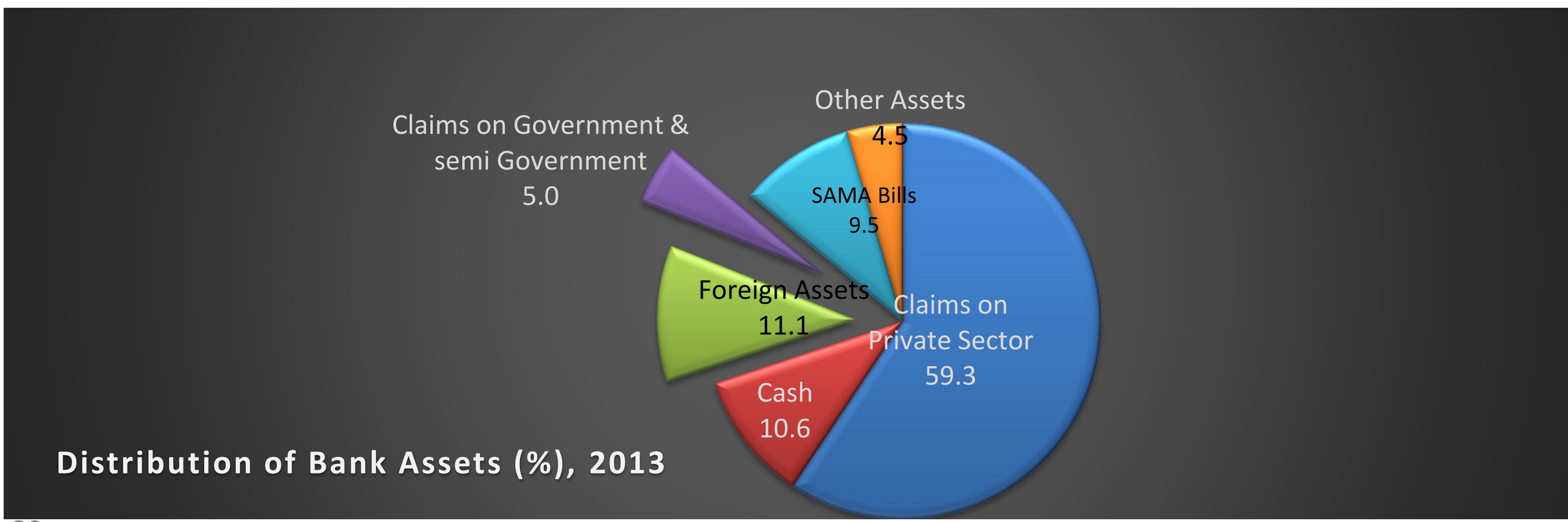

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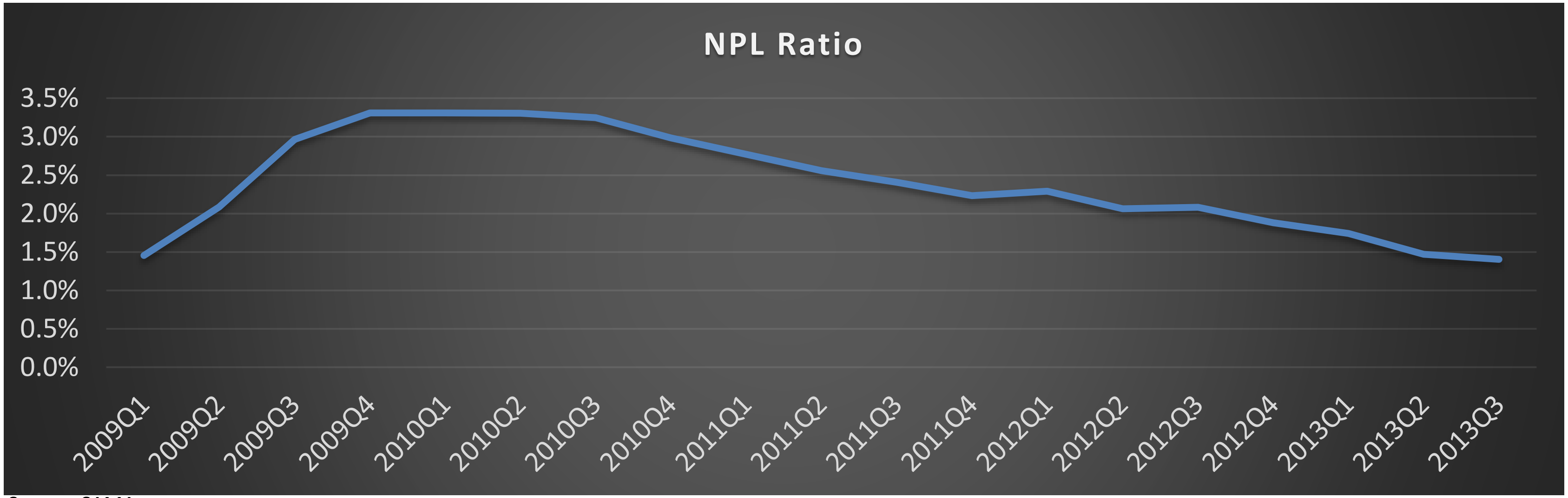

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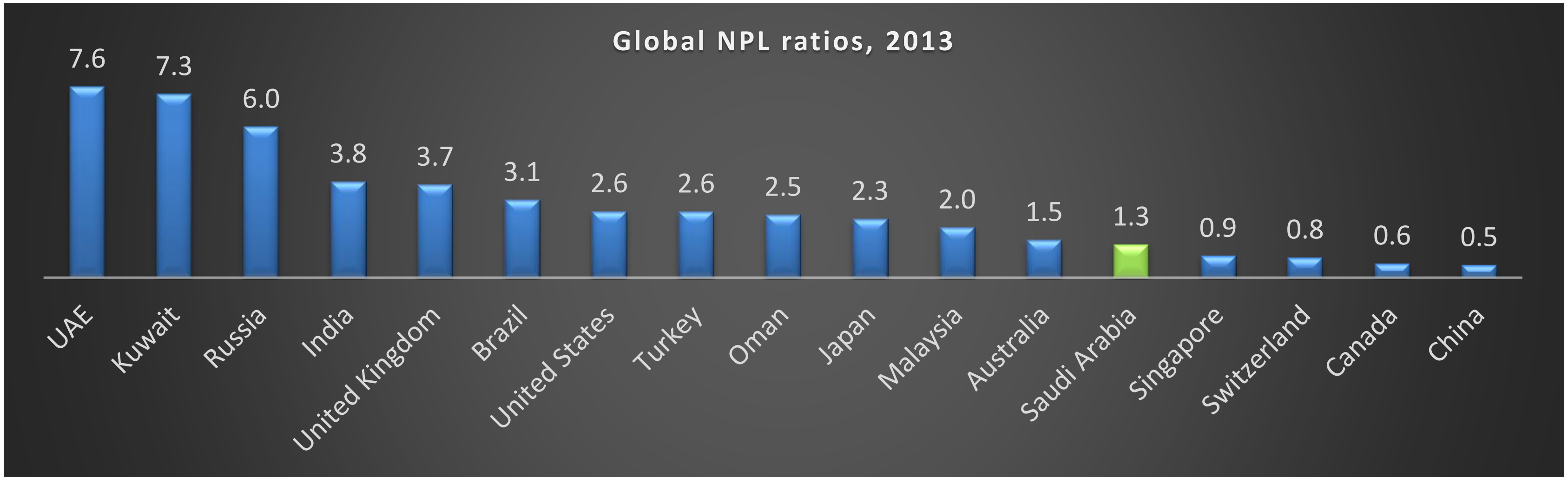
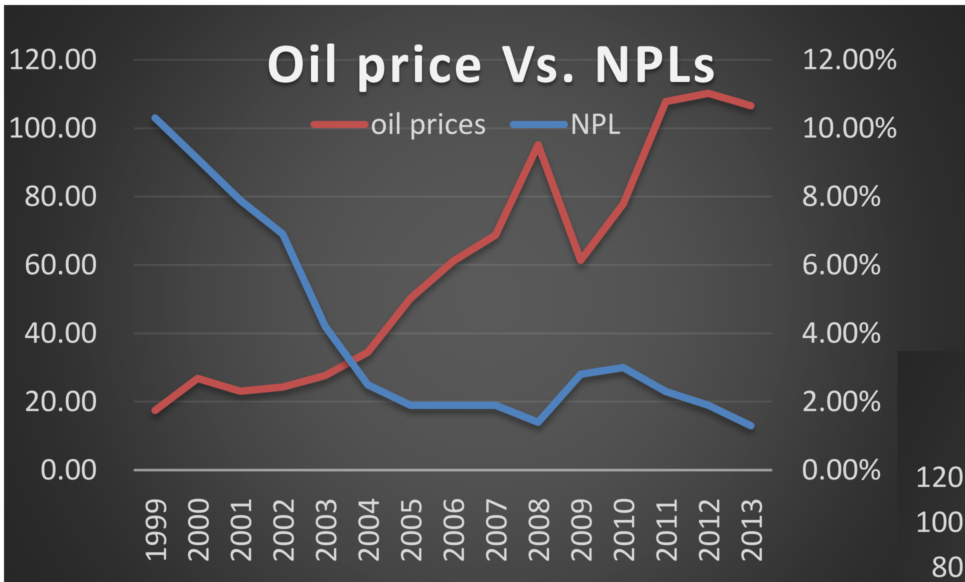


Source: World Bank

So … where is the risk?

1. Oil Market Volatility



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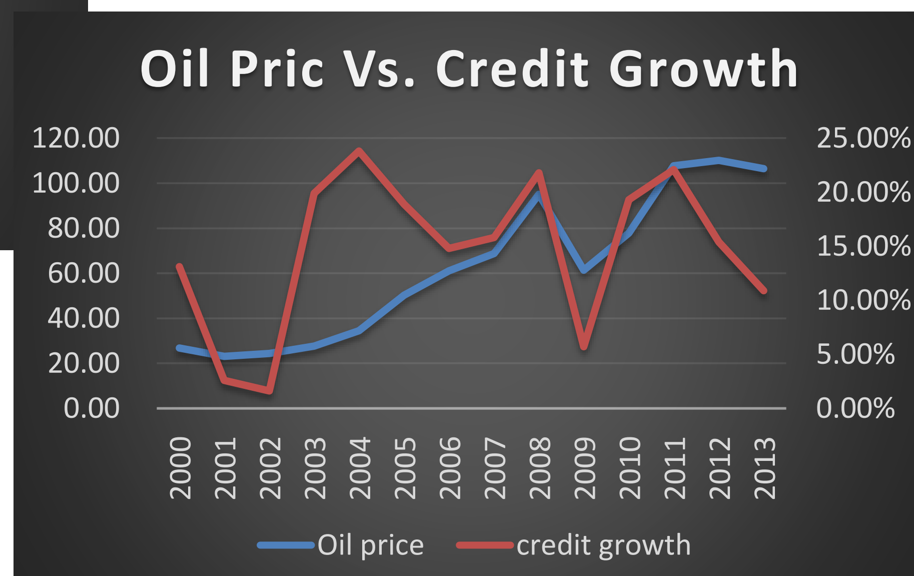
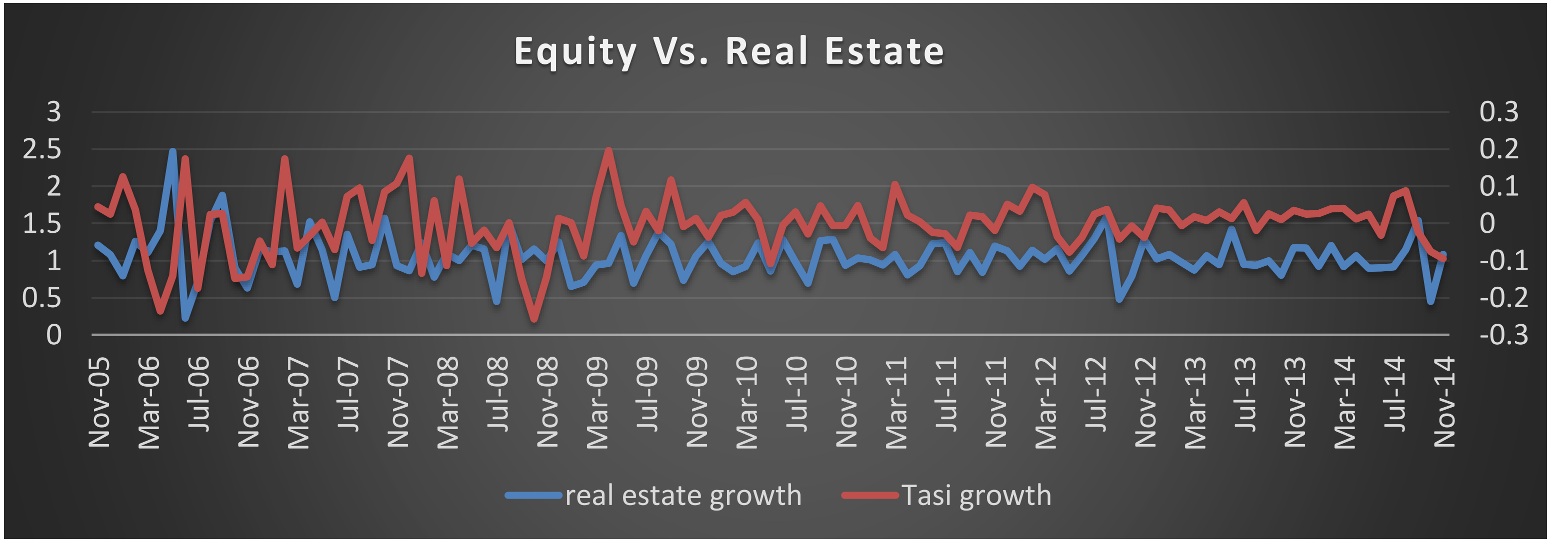


Source: SAMA

2. The capital market

- ❑ Excessive risk taking due to record low interest rates
  - → Too much leveraging in the equity market
  - →A chance for Asset Price Bubble
- ❑ Sectoral Correlation



Source: SAMA

Issues & Challenges

Designing a Practical MP policy (1)

- Selecting the appropriate tools
  - Many or few instruments?
  - Sector or Institution specific (or both)
  - Price or Quantity based tools (or both)
- Addressing country-specific factors
  - What sectors are most important:
    - Housing market is more important in advanced economies → LTV is more effective
    - Capital flow is more important in emerging economies
  - What macro variables are relevant for financial stability
- Addressing pro-cyclicality
  - The use of counter-cyclical tools
  - Use of dynamic, time-varying MP regulation
  - Understanding economic Vs. financial cycles

Designing a Practical MP Policy (2)

- Closing regulatory gaps
  - Limiting the size of shadow banking
  - Boundary issues (avoid conflicting with some institutions' objectives such as SCIs)
- Closing data gaps:
  - Good collaboration between institutions and regulators
  - Clear definitions of terms and ratios
- Good MP institutional/governance framework
  - Clarity in regulatory scope, roles, and responsibilities
  - Understanding of policy interactions

Challenges

1. Stability or Efficiency:
   - MP measures may restrict growth and developments (or may not !!!)
   - Are we over-reacting to the GFC? Is it really the time for more regulation?
2. MP Governance
   - Who is in charge of MP
   - How can ensure coordination between different regulatory authorities
3. Calibration & Modeling difficulties
   - Hard to quantify the impact of MP policy as crises are rare events
   - Data gaps – a need for granular, high frequency, and market based data

References

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