



Macroprudential Tools

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Preliminary remark

- ❑ Measuring the effect of macroprudential tools
 - ❑ Can be done in reduced-form models (VAR)

- ❑ Optimizing the macroprudential rule
 - ❑ Should be done in structural models (DSGE)



Paper #1: Summary

- Consequences of the normalization of (US) monetary policy on macroeconomic variables in MENA region
 - Analyze the role of
 - Exchange-rate management
 - Macroprudential policy
 - Floating exchange rate
 - Main results:
 - Macroprudential policy reduces contraction in real GDP and investment
 - and reduces exchange rate, which reduces imported inflation



Paper #1

- ❑ Normalization of US monetary policy: large impact on MENA countries because large amount of dollar-denominated debt
- ❑ Analysis of macroprudential policy based on a small open economy DSGE model
 - ❑ Difficulty: small sample
 - ❑ Calibration based on a cross-section of MENA countries

Paper #1: Macroprudential policy rule

$$i_t = i_t^* + E_t[\Delta e_{t+1}] + \varsigma b_t^* + \xi_{\Delta b^*} (b_t^* - b_{t-1}^*)$$

- ❑ Like a tax on capital flow
- ❑ Logic: less capital lows
 - ➔ lower depreciation of exchange rate
 - ➔ less pronounced recession
- ❑ Questions:
 - ❑ How is $\xi_{\Delta b^*}$ calibrated?
 - ❑ Is it possible to optimize on its value?

Paper #1: Monetary policy rule

$$i_t = \rho_i i_{t-1} + (1 - \rho_i)(\phi_\pi \pi_t + \phi_y y_t + \phi_{\Delta e} \Delta e_t) + z_t$$

- $\phi_{\Delta e} = 0$: No intervention (floating exchange rate)
- $\phi_{\Delta e} \rightarrow \infty$: Fixed exchange rate



Paper #1: Suggestions

- Additional details on calibration
 - Differences across countries
 - Estimation of some parameters

- Additional details on the 2 exercises
 - Parametrization of macroprudential policy rule
 - Parametrization of monetary policy rule



Paper #2: Summary

- ❑ Reserve requirements are used as a macroprudential tool to implement a countercyclical capital ratio
 - RR are an implicit tax on banks: control the spread between deposit rate and lending rate
 - ↗ lending rate: reduce borrowing by domestic sector
 - ↘ deposit rate: reduce deposits from foreign investors
 - ↗ RR: reduce credit without attracting capital flows
 - Objective: Evaluate costs/benefits of use of RR as a macroprudential policy tool

Paper #2: Cost of using RR

- Impulse response analysis in a VAR
 - ↗ RR reduces funds available for new loans
 - ↗ spread between deposit and lending rates and ↘ credits
 - ↗ invt in foreign countries and ↘ invt in domestic economy
 - ↘ real exchange rate and capital outflows
 - ↗ Monetary policy rate
 - ↘ credits and growth
 - ↗ real exchange rate and capital inflows
 - RR countercyclical when credit boom is fueled by capital inflows



Paper #2: Benefits of using RR

- Good time: ↗ RR → lower leverage of borrowers
- Bad time: ↘ RR → more liquidity for banks

$$\textit{Benefit} = -\Delta\textit{probability} \times \textit{Credit Loss}$$

- ↗ RR_{t-8} and ↘ RR_{t-1} : ↘ Probability of distress
- In emerging economies, RR index has a countercyclical behavior



Paper #2: Interpretation

- Is the regulator able to anticipate the distress and lower RR in $t-1$?
- What about \Downarrow RR in t (instead of $t-1$)? Does it reduce the probability of distress? Does it increase costs?



Macroprudential Policy

Policies

	Goal	Intermediate goal	Typical instrument
Monetary policy	Price stability	Short-term rates	Policy rate
Microprudential policy	Safety of individual banks	Reduce credit of individual institutions	Capital ratio Leverage ratio
Macroprudential policy	Stability of financial system Reduce systemic risk	Reduce credit growth and procyclicality of credit	Countercyclical capital ratio



Macroprudential Policy

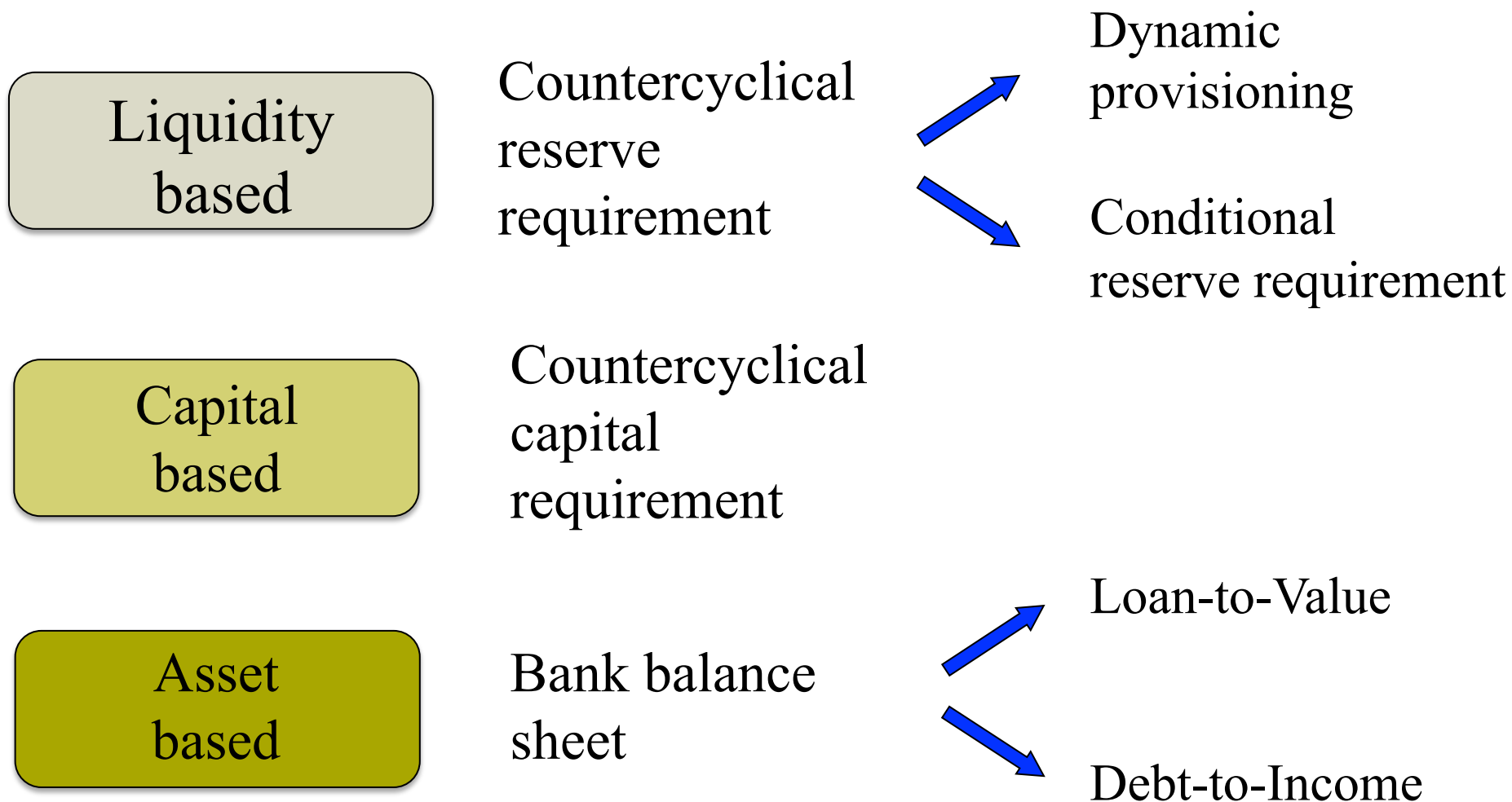
□ Main goals:

- Stability of financial system
- Reduce systemic risk

□ Intermediate goals: control 2 main sources of financial instability

- Control of credit supply
 - Reduce credit growth
 - Reduce procyclicality of credit
- Control prices of nonfinancial assets (avoid bubbles)
 - House prices
 - Assets as collateral for loans

Instruments



Type of data

Cross-country regression

Heterogeneity in macroprudential rules

Macro model (DSGE)

Counterfactual simulation of macroprudential policies



Rule of capital ratio that depends on output or credit growth

Micro data (Panel)

Regression at bank level or credit level



Credit growth depends on macroprudential tools