

# Monetary Policy in the Post Crisis Period: The Turkish Perspective

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# Outline

- 1. Motivation of the New Policy Framework
- 2. New Instruments
  - Interest Rate Corridor
  - Reserve Option Mechanism
- 3. Evidence
- 4. Conclusion



# Why do we need unconventional policies? (UP)

Different motivations for the advanced and emerging economies

- Advanced economies conduct UP because a single interest rate framework is not enough to provide the desired stimulus
- Emerging economies conduct UP mainly as a response to UP of advanced economies





Equity and Bond Flows to Developing Economies (13-week moving average, billion US dollars)



Source: EPFR.

Last Observation: April 3, 2013.



## **Capital Flows: Turkey vs. Developing Countries**

(Billion US dollars) 13-week moving average



Source: EPFR, CBRT.

Last Observation: 05 April 2013.



## **Capital Flows and Credit in Turkey**



Source: CBRT.



Net credit use is annual change in total credit stock. Capital flows are 12-month cumulative.

## **Credit and Real Exchange Rate Cycles**

#### (HP filtered, standardized)



Source: CBRT.



# **Capital Flows and GDP Growth in Turkey**



Source: CBRT



# **Amplifying Role of Cross Border Capital Flows**





# **Searching for a new framework**

# MAIN GOAL:

Design a new framework to

- Alleviate the impact of volatility in capital flows on the domestic economy
- Reduce the sensitivity of credit and exchange rate cycles to capital flows
- Break the vicious circle by weakening the amplifying channels,
- > without hampering price stability objective.



# **The New Policy Framework**



# **Policy Framework**

	Old Approach	New Approach
Objectives	Price Stability	Price Stability Financial Stability
Policy Tools	Policy Rate	Structural Tools Cyclical Tools



### **Structural Tools**

#### Maturity Based Reserve Requirements

#### Leverage Based Reserve Requirements

#### Reserve Options Mechanism



#### **Cyclical Tools**

#### Policy Rate

#### Interest Rate Corridor

#### TL Liquidity Management

#### FX Liquidity Management



## **Transmission Mechanism**





# **Exchange Rate, Credit and Financial Stability**

Gourinchas and Obstfeld (2012):

- Two factors emerge as the most robust and significant predictors of financial crises:
  - rapid increase in leverage
  - sharp real appreciation of the currency.

Schularick and Taylor (2012)

Role of leverage (credit growth) in financial vulnerability



# **Credit and Current Account**

#### Net Credit Use and Current Account Deficit



Source: CBRT.



Net credit use is annual change in total credit stock. Current account is in annual terms.

# **Exchange Rate, Credit and Price Stability**

- Reducing the volatility of FX also helps price stability given the still-high exchange rate pass-through in Turkey
- Smoothing credit cycles help to dampen demand volatility and thus the fluctuations in the output gap



# **Financial and Price Stability**

Smoothing credit and exchange rate cycles

- not only supports financial stability by dampening the leverage cycles
- but also helps price stability given the high exchange rate pass-through in Turkey.
- > Moreover, implies a more balanced growth path.



### **New Instruments**



# **Practical Implementation of the New Framework**

Developing new instruments to weaken the impact of capital flows on credit and exchange rates.

#### Two novel instruments:

- Asymmetric Interest Rate Corridor (ARC)
- Reserve Options Mechanism (ROM)



## **Asymmetric Interest Rate Corridor**



#### **Typical Operational Framework Under IT Framework**





#### **Operational Framework Under Conventional IT (Simplified)**





# **Capital Outflows (Risk off)**

**CBT Lending Rate** 



CBT Policy Rate (One Week Repo Rate)

**CBT Borrowing Rate** 



# **Capital Inflows (Risk on)**





#### **Implementation of the Corridor**





## **Reserve Requirement Policy**

#### **TL Reserve Requirements**

#### **FX Reserve Requirements**





# **Reserve Options Mechanism (ROM)**



#### **Definition of ROM**

- ROM is a mechanism that provides the banks the option to hold a certain fraction of their TL RRs in FX and/or gold
- To what extent the banks will use ROM will depend on the relative cost of using the facility
- The CBRT can alter this cost by changing Reserve Option Coefficients (ROC)
- > The cost will also depend on relative price of FX vs TL funding



# **Reserve Options Mechanism (ROM)**

#### **Reserve Option Coefficients for FX**

#### **Reserve Option Coefficients for Gold**



As of April 19, 2013

Source: CBRT.



## **Threshold ROC**

For each bank, there is a "threshold ROC" ( $ROC^{tr}$ ) that makes the bank indifferent between using and not using the facility.

This level will depend on the relative cost of FX and TL funding:

$$ROC^{tr} = \frac{r_t^{TL}}{r_t^{FX} * \frac{E(e_{t+1})}{e_t}}$$

where,

 $r_t^{TL}$ : cost of TL funding,  $r_t^{FX}$ : cost of FX funding

 $e_t$ : spot exchange rate at the beginning of the maintenance period  $E(e_{t+1})$ : expected exchange rate for the end of the maint. period.



### **Reserve Option Mechanism: Automatic Stabilizer**



Effective Utilization Ratio

Upper Limit for Reserve Option Ratio



#### **Benefits of ROM**

- Automatic stabilizer: dampens the impact of capital flow volatility on domestic macroeconomic variables
- Weakens the adverse feedback loop between capital flows, exchange rate, and bank lending
- Market friendly and efficient mechanism



# An illustration of the interaction between, capital flows, credit, and exchange rate: The role of ROM



# **Amplifying Role of Cross Border Capital Flows**





#### Exchange Rate is a function of credit (C) and risk premium (rp)





#### At the same time capital inflow is a function of exchange rate





#### Suppose initially the economy is at high exchange rate low credit state





#### A sudden improvement in the risk appetite...





#### May start a chain reaction...





#### And shift the economy to a low exchange rate high credit state





#### Yet, the final impact would be more limited with ROM





# Have new instruments weakened the impact of capital flows to domestic macroeconomic variables?



## **Current Account and Capital Flows**

#### Current Account Deficit and Net Capital Inflows (12 Month Cumulative, Billion USD)



Source: CBRT.



Last Observation: February 2013.

# Volatility of the Turkish lira and other EM currencies against USD (30 days moving average)



\* Countries with current account deficits are Brazil, Chile, Columbia, Czech Republic, Hungary, Indonesia, Mexico, Poland, Romania, South Africa, and Turkey.



#### Curtosis of the Implied Distribution of Turkish lira and other EM Currencies against USD (30 days moving average)



\* The shaded area denotes the maximum and minimum of the Kurtosis of FX expectations for 10 emerging economies with current account deficits. Source: Değerli and Fendoğlu (2013)



## **Inflation Expectations**



Source: CBRT.

Last Observation: April 2013.





New policy framework has been effective in reducing macro financial risks in Turkey without hampering inflation objective.





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