TÜRKİYE CUMHURİYET
MERKEZ BANKASI

MACROPRUDENTIAL POLICY: Historical Perspectives and Overview of Recent Policy Experiences

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Macroprudential Policy at Work:
Systemic Risk and Macroprudential Instruments
Annual Regional Seminar on Financial Stability Issues
Sinaia, Romania
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Financial Instability

- Expansionary monetary policy
- Lending booms
- Capital inflows
- Financial innovation or deregulation

Financial Stability and Policies

- Policies for financial stability
  - ✓ Micro-prudential regulation
  - ✓ Macro-prudential regulation
  - ✓ Consumer protection
  - ✓ Fiscal policy
  - ✓ Monetary policy
  - ✓ Communication Policy

The Macro-prudential Toolkit

	Restrictions related to borrower, instrument, or activity	Restrictions on financial sector balance sheet	Capital requirements, provisioning, surcharge	Taxation, levies	Other
Expansionary phase	Time varying limits on: -DTI, LTI, LTV -margins, hair-cuts -lending to sectors -credit growth	Time varying limits on: - Mismatches (FX, interest rate) - Reserve requirements	-Countercyclical cap. requirements, -leverage restrictions, -Dynamic provisioning	-Levy/tax on specific assets and/or liabilities	- Varying rules on mark-to- market -Changes to compensation, market discipline, governance
Contractionary phase: fire-sales, credit crunch	Adjustment to specific loan-loss provisioning, margins or hair-cuts (e.g., through the cycle, dynamic)	-Liquidity limits (e.g., Net Stable Funding Ratio, Liquidity Coverage Ratio)	-Countercyclical capital buffers, - Dynamic provisioning	Levy/tax (e.g., on non-core liabilities)	-Standardized products -OTC vs. on exchange - Safety net (Central Bank/Treasury liquidity, etc.)
Contagion, or shock propagation from SIFIs or networks	Varying restrictions on asset composition, activities (e.g., Volcker, Vickers)	-Institution-specific limits on (bilateral) financial exposures, other balance sheet measure	-Capital surcharges linked to systemic risk	-Tax/levy varying by externality (size, network)	-Institutional infrastructure (e.g., CCPs) -Resolution -Varying information,

The rationale of macro-prudential policies

- Market failures due to several externalities
- -> wedge between market interest rates and the equilibrium real interest rate
- Macro-prudential policies to reduce the wedge

Macro-prudential regulation

- Historically, macro-prudential regulation
  - ✓ Growth
  - ✓ Industrial policy
  - ✓ Price stability
  - ✓ Financial stability
- Today, macro-prudential policy
  - ✓ mostly banking regulation

Historical equivalents of Macroprudential Policy*

Bubbles	Macroprudential Policy
Real estate bubble in the U.S. (1920-26) No Crisis	▪ LTV ratio for real estate loans with maturity up to 5 years had to be less than 50%; ▪ Total real estate loans were limited to 25% of bank's capital; Somewhat weaker state regulation; also increase in real estate taxes
German Stock Price Bubble (1927)	▪ Addressing stock market lending by threatening to decrease or even deny bank access to rediscount facilities
US Stock Price Bubble (1929)	▪ No access to the discount window for banks granting loans on securities; ▪ Regionally to deny a request for splitting stocks to counter speculation
«Lost decade» 1985-2003 (Crisis, 1990)	▪ Quantitative restrictions in 1990 ▪ Central bank regulation instructing banks to restrict the growth rate of their real estate loans (must not exceed the growth rate of their total loans) ▪ Increase in taxes on capital gains from investments in land
Scandinavian crisis: Finland 1986-92 (Crisis, 1991)	▪ Strong statements ▪ Increase of special reserve requirement in accordance with the banks
Asian crisis: Thailand 1995-98 (Crisis 1997)	▪ Obligation of banks and finance companies to hold higher cash reserve requirements for short-term deposits owned by foreigners

Historical equivalents of Macroprudential Policy*

Bubbles	Macroprudential Policy
Real estate bubble in Australia 2002-04	▪ "Open mouth policy" (Bloxham et al., 2010) to raise public awareness, central bank's clarification of policy goals resulted in "verbal tightening" (forward-looking behavior of private sector due to change in expectations); ▪ higher capital requirements for nonstandard loans (e.g., home equity loans) and lenders' mortgage insurers after stress test; ▪ Securities and competition regulators (ASIC and ACCC) reinforced investigation of illegal activities by property marketers
Spanish housing bubble 1997-? (Crisis, 2007)	▪ Tightening of prudential regulation (regulatory capital and loan loss provisioning requirements for real estate exposures); ▪ Dynamic provisioning introduced in third quarter of 2000, modification at the beginning of 2005; ▪ Countercyclical capital buffers with positive real effects
Global Financial Crisis (2008-)	▪ Varied across countries

* Brunnnermeier and Schnabel (2015) «Bubbles and Central Banks: Historical Perspectives, CEPR

Historical equivalents of macro-prudential policy*

The origin of the term "macro-prudential" can be traced back to unpublished documents prepared in the late 1970s

– Minutes of a meeting of the Cooke Committee (the precursor of the present Basel Committee on Banking Supervision) and a document prepared by the Bank of England.

- During this period, the term generally denoted a systemic orientation of regulation and supervision linked to the macroeconomy (see Borio, 2009).

Public references to macro-prudential policy surfaced only in the 1980s.

- BIS (1986) discussed it as a policy aimed at supporting "the safety and soundness of the financial system as a whole, as well as payments mechanism".

- George Blunden, the first chairman of the Basel Committee on Banking Supervision, highlighted in a speech how a systemic view could imply curbing banking practices that would appear to be prudent from an individual bank's perspective (Blunden, 1987).

In the early 2000s, the notion of a macro-prudential approach to regulation and supervision received new impetus,

- Particularly through an influential speech by Andrew Crockett, at the time General Manager of the BIS (Crockett, 2000).

* Clement P. «The term "macroprudential": origins and evolution», BIS, March 2010

Historical equivalents of macroprudential policy*

Outside central banking circle after the 1997 Asian financial crisis in 1998 the IMF stated that

"Effective bank supervision must be seen by banks as a continuous presence. This is mainly achieved through off-site monitoring, both micro- and macro-prudential in scope. […] Macro-prudential analysis is based on market intelligence and macroeconomic information, and focuses on developments in important asset markets, other financial intermediaries, and macroeconomic developments and potential imbalances"

Incorporated into the IMF surveillance function

The main policy follow-up included the development of better statistics to evaluate financial system vulnerabilities, so-called "macro-prudential indicators" (later renamed "financial soundness indicators")

These were subsequently integrated into the Financial Sector Assessment Programs (FSAPs), aimed at performing thorough assessments of such vulnerabilities.

The use of the term macroprudential became much more common in the current financial crisis.

* Clement P. «The term "macroprudential": origins and evolution», BIS, March 2010

The History of Cyclical Macro-prudential Policy in the U.S.*

- Controlling credit growth

Tools affecting demand for credit	Tools affecting supply of credit
✓Loan-to-value ratios	✓Lending rate ceilings
✓Margin requirements	✓Interest rate ceilings
✓Loan maturities	✓Reserve requirements
✓Tax policy and incentives	✓Capital requirements
	✓Portfolio restrictions ✓Supervisory pressure

Reserve requirement policy

- General credit control
  - ✓ RR on liabilities
- Selective credit control
  - ✓ Credit portfolio allocation - Consumer credit
  - ✓ Asset based RR
- Extended to money market funds

*Elliott, D. J., Feldberg, G. and Andreas Lehnert, A. (2013): "*The History of Cyclical Macroprudential Policy in the United States.*" Finance and Economics Discussion Series, Divisions of Research & Statistics and Monetary Affairs, Federal Reserve Board, Washington, D.C.

Number of Macro-prudential Actions by Decade in the U.S.

Decade	Tightening actions	Easing actions	Average annual growth (percent)	
			Consumer credit	Bank credit
1910s	1	3		
1920s	2	1		
1930s	7	13		
1940s	17	21		
1950s	31	42	12.1	5.3
1960s	14	24	9.0	7.9
1970s	16	33	10.5	10.6
1980s	3	15	9.0	8.8
1990s	0	2	6.9	6.0

The Credit Control Policy in the U.S.

- "Our experience with the administration of controls for a brief period in 1980 amply demonstrated the difficulties encountered in the application of credit controls…The ability of credit controls applied in this country to achieve their intended effects over any extended period is limited, and the costs to borrowers, lenders, and society as a whole from attempts to use controls to combat inflation or unemployment could become quite sizable."

Elliott, D. J., Feldberg, G. and Andreas Lehnert, A. (2013): "*The History of Cyclical Macroprudential Policy in the United States.*" Finance and Economics Discussion Series, Divisions of Research & Statistics and Monetary Affairs, Federal Reserve Board, Washington, D.C.

The Credit Control Policy in the U.S.

- Credit activity tends to shift to unregulated lenders;
- the administration of controls demands a substantial bureaucracy,
- rulemaking authority, and
- enforcement mechanisms

- Distortions in resource allocation and inefficiencies

The Elliott, Feldberg and Lehnert (2013) concludes:

- "Macro-prudential policies designed to tighten credit availability do have a notable effect, especially for tools such as underwriting standards, while macro-prudential policies designed to ease credit availability have little effect on debt outstanding."

- "The financial system has fundamentally changed over time."

Elliott, D. J., Feldberg, G. and Andreas Lehnert, A. (2013): "*The History of Cyclical Macroprudential Policy in the United States.*" Finance and Economics Discussion Series, Divisions of Research & Statistics and Monetary Affairs, Federal Reserve Board, Washington, D.C.

Historical equivalents of Macroprudential Policy- European Perspective*

The new macroprudential mandate is in part a return to the theory and practice of central banking during last century in Europe, when central bankers thought their role extended well beyond the narrow limits of monetary policy.

- Accordingly, macroprudential policies fall into three main categories
  - **Credit control instruments**: Rediscount ceilings & constraints on credit expansion
  - **Liquidity and reserve requirements**, regarding composition of bank assets
  - **Recommendations to banking sector**

* Kelber A. And Monnet E. «Macroprudential policy and quantitative instruments: a European historical perspective, 2014

Historical equivalents of Macroprudential Policy- European Perspective

1) Credit control instruments: Rediscount ceilings and constraints on credit expansion for preventing inflation and any financial bubbles

- **Rediscount Ceilings:**
  - Discretionary rediscount ceilings on certain specific financial products
- **Credit Ceilings:**
  - Direct limits on credit expansion: 1950s towards end of 1970s. The only country never to make use of it was Federal Republic of Germany.
- Special public finance policies to prevent bubbles without affecting the rest of the economy

* Kelber A. And Monnet E. «Macroprudential policy and quantitative instruments: a European historical perspective

Historical equivalents of Macroprudential Policy- European Perspective

2) Liquidity and reserve requirements, regarding composition of bank assets

- **Liquidity Ratios**
  - These policies were designed to channel resources towards specific sectors of the economy and encourage the issuance of medium and long term loans
  - In systems that were more dependent on capital markets than banks, it was harder to use
- **Reserve Requirements**
  - Since the 1950s Bundesbank had been using it extensively. Throughout the 1960s most of the European Community moved increasingly towards this instrument.

Historical equivalents of Macroprudential Policy- European Perspective

3) Recommendations to banking sector

- Central banks have also used their supervisory and lender of the last resort role
  - Examples:
    - Bank of England's habit of discussing liquidity and solvency ratios with banks since 1970s
    - National Credit Councils in France and Italy in postwar period
    - Recommendations from the Spanish and UK central banks after the Global Financial Crisis that banks should maintain adequate capital levels

German Case during 1970s

In response to large speculative capital inflows during the 1960s and early 1970s Germany imposed capital controls to preserve the foreign exchange value of the mark and credit controls to limit the credit extension of German banks (Hetzel, 2002)

- In November 1968, large inflows of foreign currency into Germany prompted Bundesbank to enact a "pseudo-revaluation" with a special tax on exports and tax allowance on imports (Hetzel, 2002)
- The Bundesbank imposed a non-interest-bearing reserve requirement of 100 % on FX deposits (Hetzel 2002).
- Firm control over the issue of DM obligations in external bond and international money markets (Neumann, 1986).
- A gentlemen's agreement between German Banks and Bundesbank in 1968 on limiting foreign issuance of DM bonds considering its adverse effects on relatively narrow german capital markets. Moreover, issuance of bonds other than fixed rate, such as floating rate, zero-coupon or bonds linked to FX and interest rate swaps were prohibited.

Macro-prudential Policies in Emerging Markets

These policies were imp*lemented against a backdrop of highly regulated and relatively closed national financial systems, where an excess supply of credit translated primarily into upwards inflationary* pressures rather than into a banking or financial crisis; where financial markets were neither as developed nor as open as they are today.

Several emerging market economies are currently in a comparable situation to that of Germany in the 1960s and early 1970s, in particular in terms of the state of development of their financial markets (Kelber A. And Monnet E, 2014).

The degree of openness and the complexity of the financial system are thus key factors in determining the choice of macroprudential instruments, which in turn explains why emerging and developed economies prefer to use different tools (Claessens *et al.*, 2013).

Recent Examples of Macroprudential Measures in EMEs

	Loan to Value Cap	Debt to Income Cap	Countercyclical Capital Requirements	Loan Loss Provision	Consumer Loan Measures	Credit Growth Limits
Brazil			+		+	
Chile	-					
Colombia	+	+	+	+		
Hungary	+	+	+/-	+	+	+/-
Korea	+/-	+/-	+	+		
Poland	+	+	+			
Romania	+	+	+/-	+	+	+/-
South Africa			+			
Thailand	+/-		+		+	
Turkey	+		+	+	+	+

Akinci, O., Olmstead-Rumsey, J., 2015. + indicates tightening, - indicates loosening

An Overview of the Recent Macro-prudential Policy Experiences

- International policy coordination and cooperation
  - ✓ Countercyclical capital buffer, TBTF, etc.
  - ✓ Capital flow management measures
  - ✓ Global governance: G20, FSB, etc.
- Regulation of financial imbalances and interconnectedness
  - ✓ Regional measures: EU macroeconomic imbalances procedure
  - ✓ Country-specific measures

An Overview of the Recent Macro-prudential Policy Experiences

- Macro-prudential measures in EMEs resemble those applied in AEs
  - ✓ Credit growth
  - ✓ External imbalances
  - ✓ Several measures
- Quantitative easing in AEs vs quantitative tightening in EMEs
  - Reserve requirement policy
- Monetary policy with a macro-prudential purpose
  - ✓ Romania, Turkey, Norway and others

The Turkish Case…

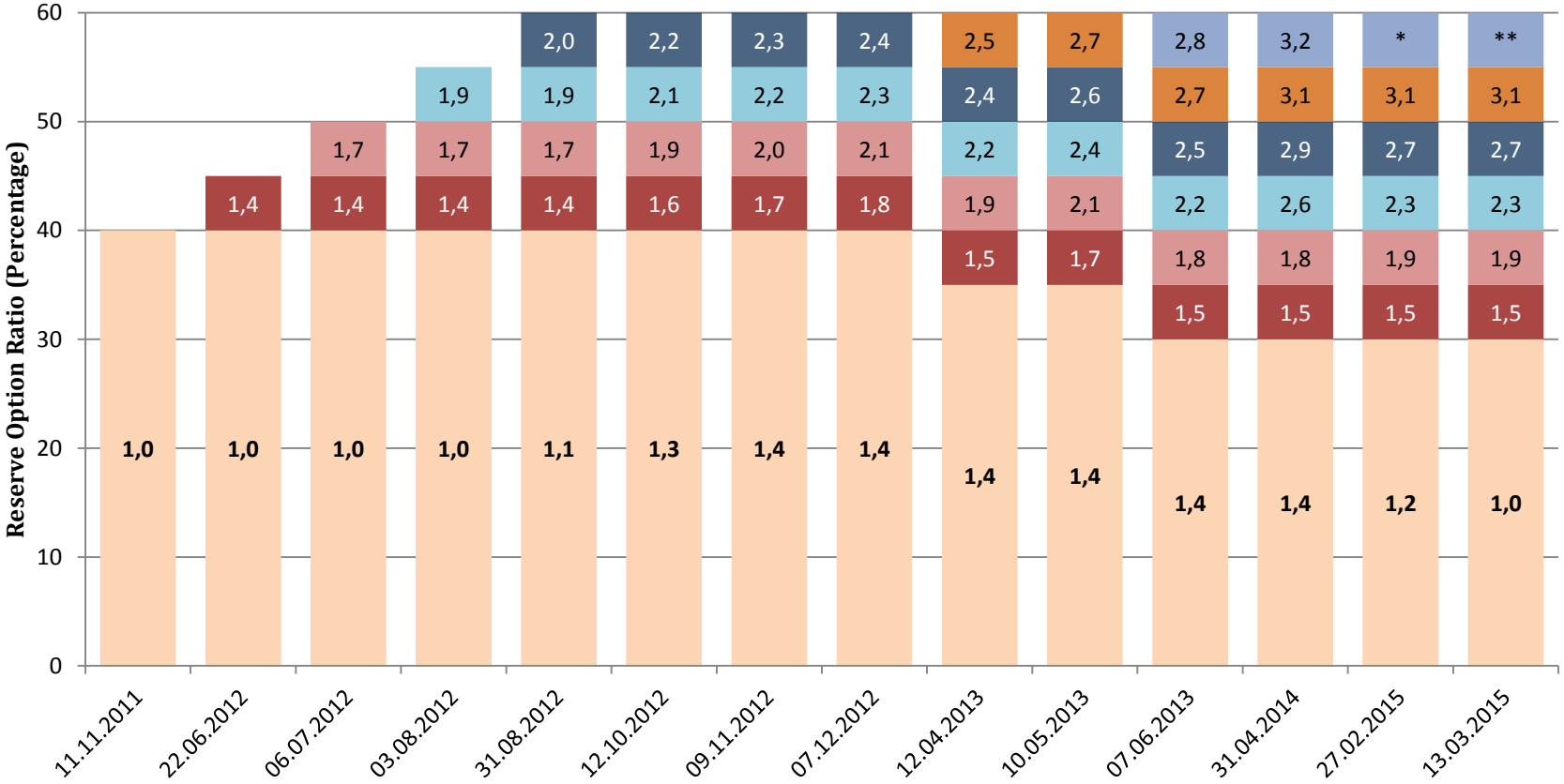
- Financial stability committee in 2011
  - ✓ Tripartite system
- Banking authority
  - ✓ Levy on consumer loans, loan-to-value restrictions, differentiating risk weights on consumer loans, general provisioning requirements
- Extensive use of monetary policy
  - ✓ Interest rate policy, flexible corridor policy, reserves policy, liquidity policies of TL and FX

....Extensive Use of Required Reserves

- Maturity - Based Reserve Requirements
- Currency - Based Reserve Requirements
- Leverage - Based Reserve Requirements
- Reserve Options Mechanism

...Reserve Option Facility...

Reserve Option Coefficients

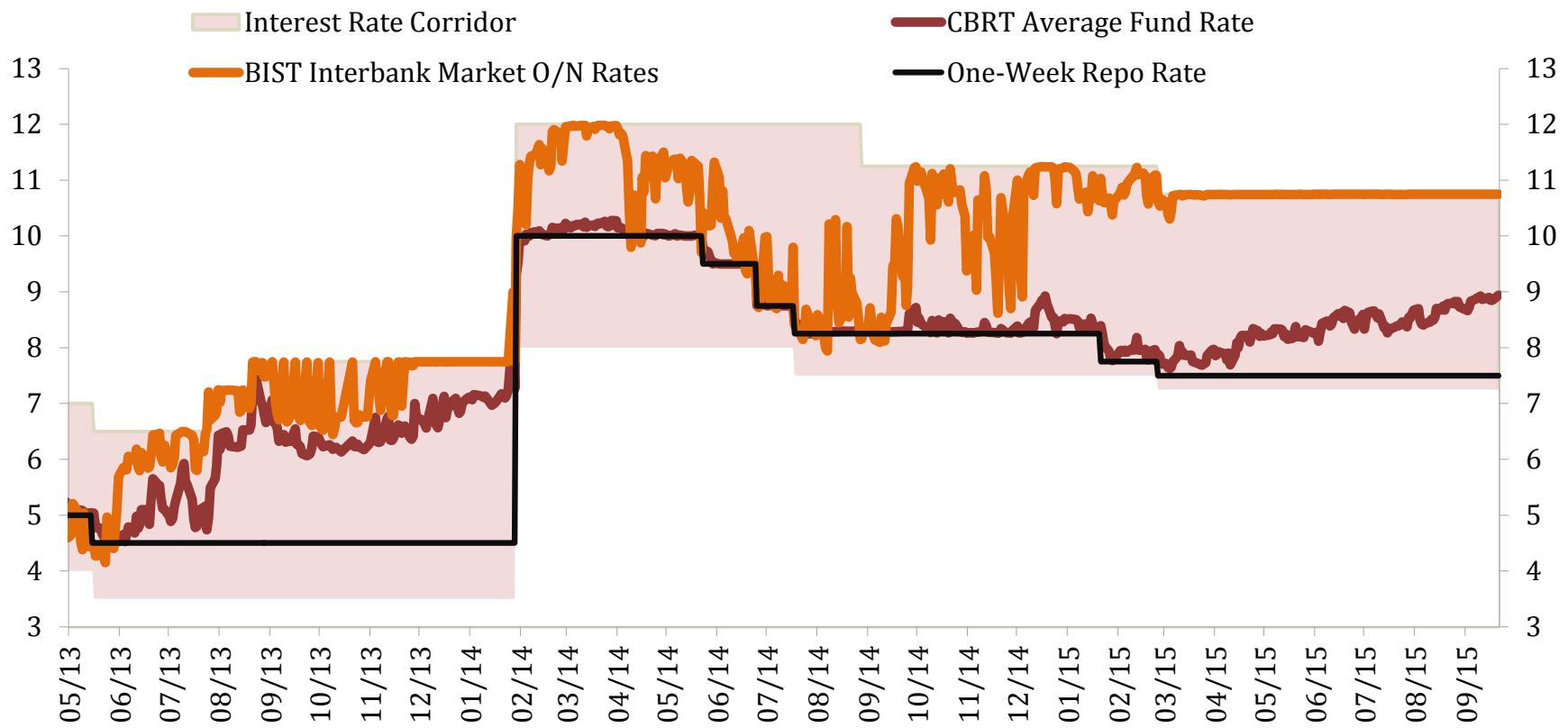


*ROC increases by 0.8 percent for the first tranche above 55 percent.
** ROC increases by 0.8 percent for the first tranche above 55 percent and by 0.2 percent for each tranche above 55 percent.
Source: CBRT.

...Interest Rate Corridor Policy...

Interest Rate Corridor

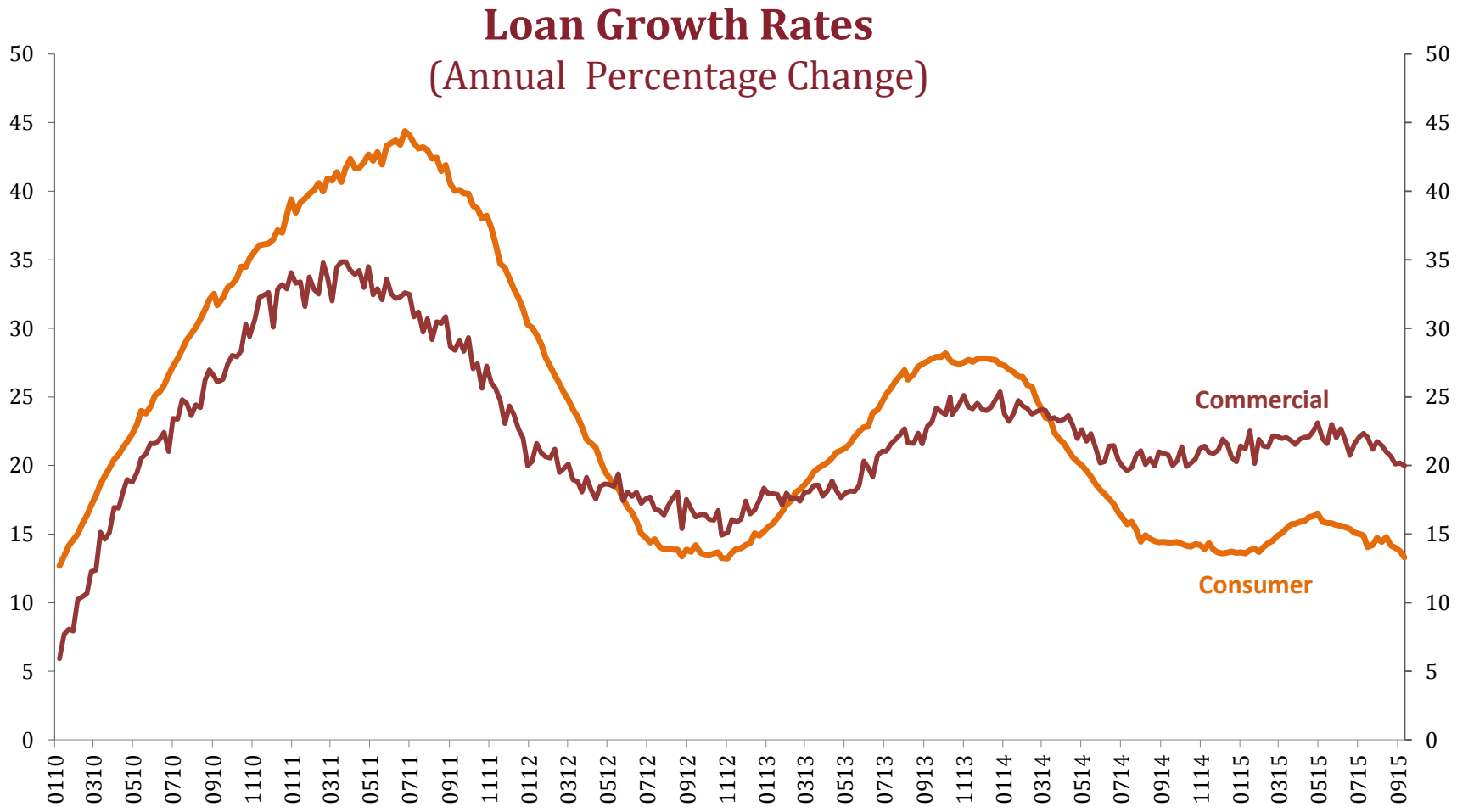
(Percent)



Source: CBRT

Last Observation: September 21, 2015.

Commercial loans grow at a faster pace than consumer loans, contributing to price stability, financial stability and the rebalancing process.

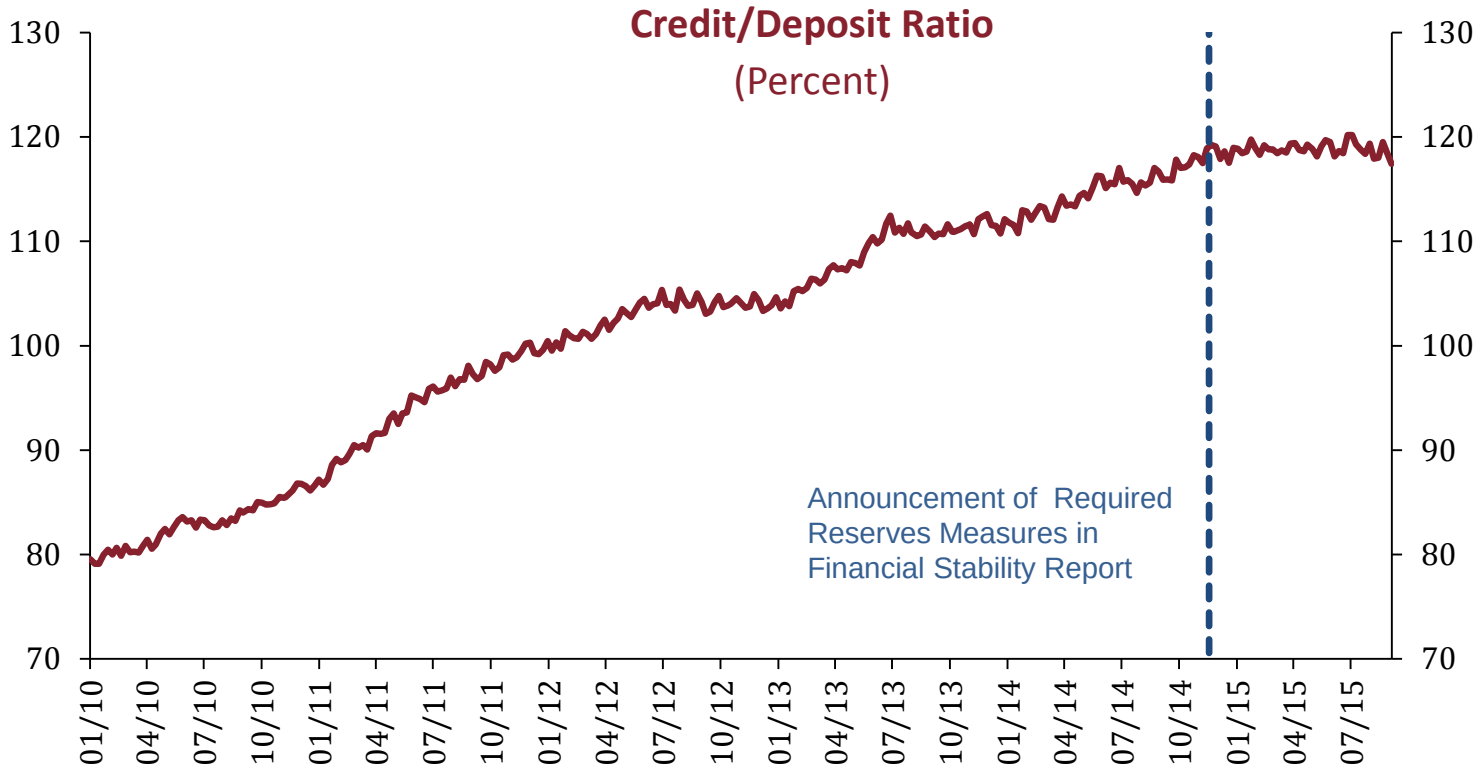


Source: CBRT

Last Observation: September 11, 2015.
Inclusive of loans extended by all types of banks (deposit banks, Participation banks, and development/investment banks). FX adjusted.

Measures to Support Financial Stability: Supporting Turkish Lira Core Liabilities

- The remuneration rate of Turkish lira required reserves may be revised to reduce the intermediation cost of banking sector and to support core liabilities.

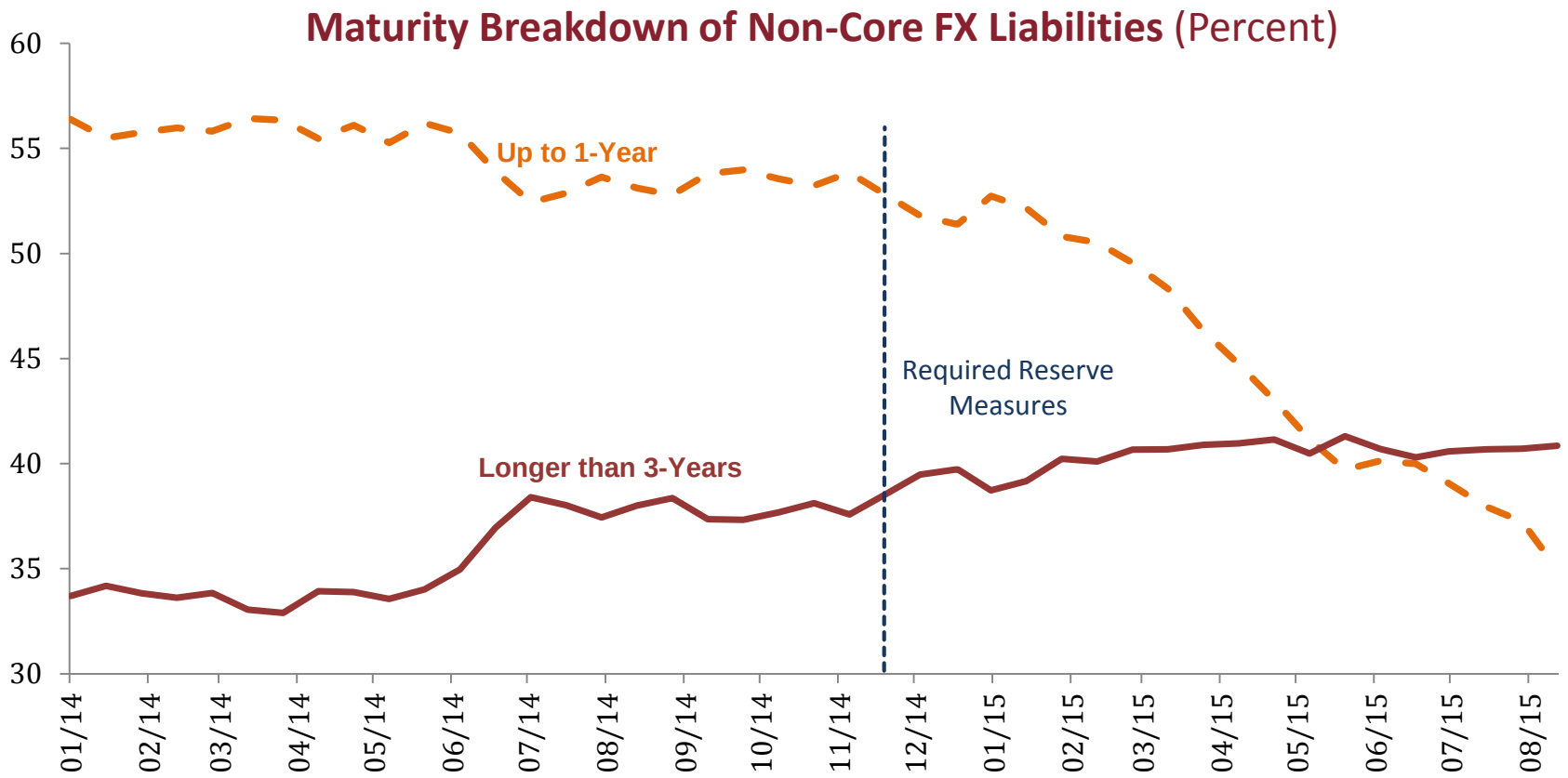


Source: BRSA

Last Observation: September 11, 2015.

Measures to Support Financial Stability: Lengthening the Maturity of Noncore FX Liabilities

- FX required reserve ratios for newly issued FX noncore liabilities of the banks will be adjusted to encourage further maturity extension (before and during).



Source: CBRT

Last Observation: August 28, 2015.

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“Thank you!”

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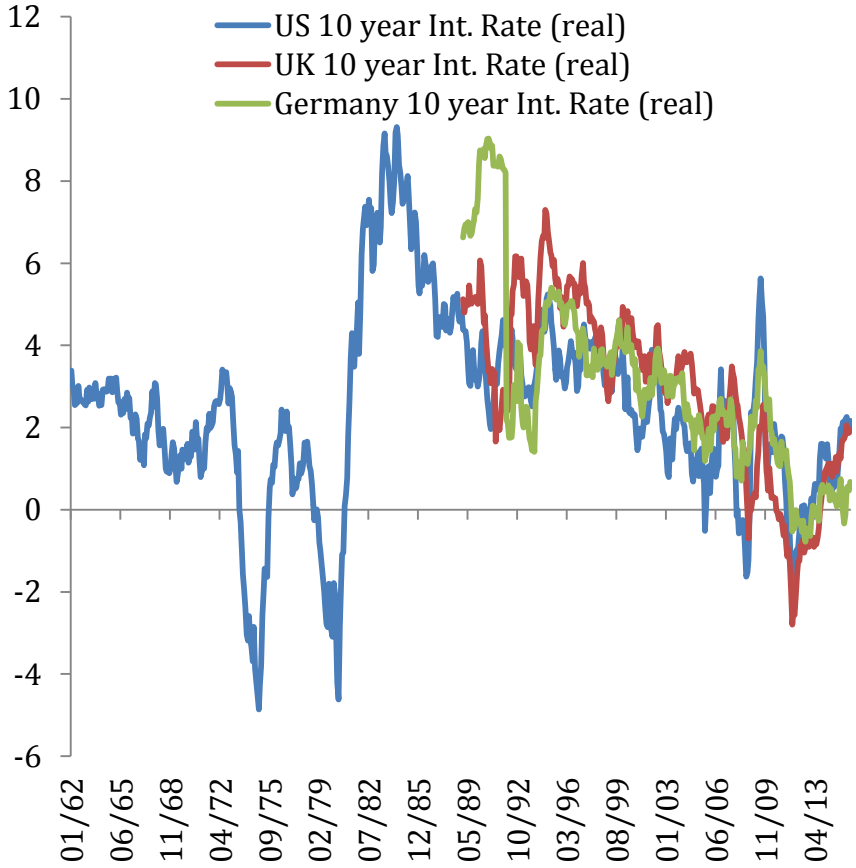
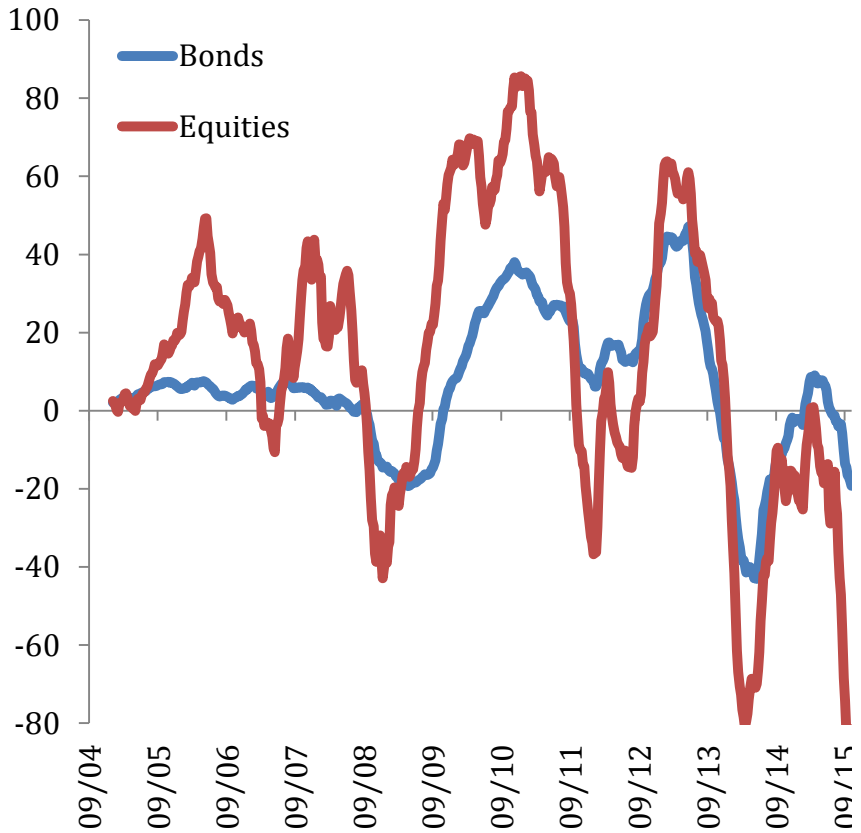
...Portfolio flows to EMEs...

Long Term Interest Rates in AEs
(%)



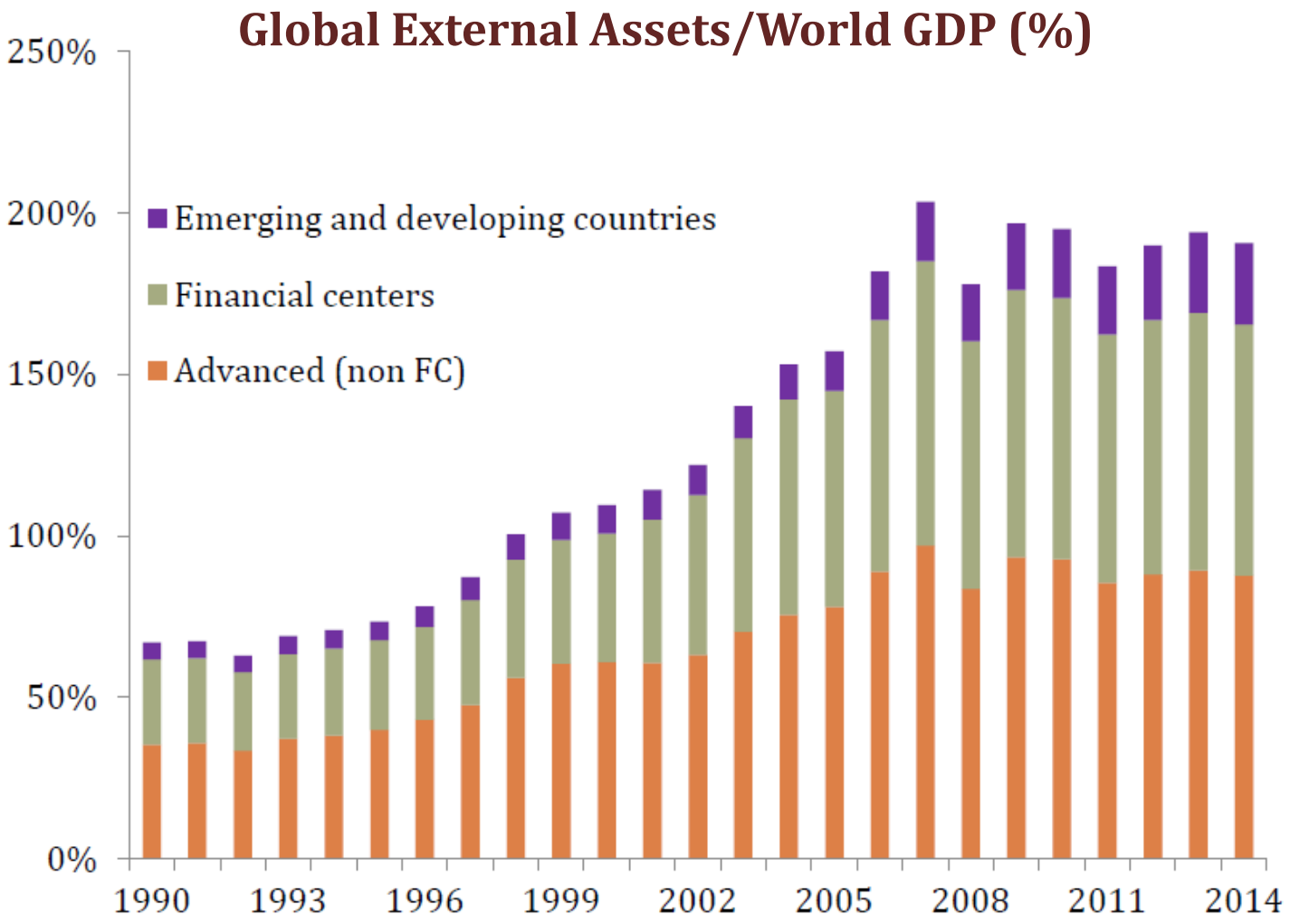
Source: EPFR, Bloomberg

Weekly Flows to EMEs
(52-week m.a., billion USD)



Last Observation: September 2015

Growth in cross-border positions stalled, AEs and financial centers still dominate



Source: Milesi-Feretti (2015), «Global Capital Flows and External Positions»