

Financial stability and macroprudential policy in Turkey

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Abstract

In the aftermath of the global financial crisis, the Central Bank of the Republic of Turkey (CBRT) designed and adopted a policy mix where reserve requirements, an asymmetric interest rate corridor and a reserve options mechanism (ROM) were used alongside the policy rate to reduce the negative effects of volatility in capital flows. This deployment of instruments helped to maintain the resilience of the Turkish financial system in the wake of external shocks. Authorities in Turkey have more recently implemented a coordinated policy mix of tight monetary policy along with accommodative macroprudential and fiscal policies to maintain price, financial and macroeconomic stability.

Keywords: Financial stability, macroprudential policy, monetary policy, Turkey

JEL classification: E58, E44, E61

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Introduction

In the aftermath of the global financial crisis, emerging market economies (EMEs) experienced a surge in capital inflows. In many EMEs, this put appreciation pressure on the domestic currency, encouraging excessively high credit growth by historical standards and leading to a deterioration in the current account balance and financial stability challenges. Hence, EME central banks have looked to macroprudential instruments to support financial stability.²

Turkey was no exception in this episode, as a strong Turkish lira coupled with rapid credit growth boosted imports. Export growth could not keep pace, due to the appreciation in the domestic currency and the sluggish European recovery. Past experience shows that direct curbs on capital inflows are only partially effective on this type of incoming capital and they are not really effective in stemming the volume of inflows. Therefore, to broaden its range of objectives and expand its policy instrument set, the Central Bank of the Republic of Turkey (CBRT) has adopted a policy mix since late 2010 that is designed to manage short-term and volatile capital flows.

After the global financial crisis, the CBRT followed a policy of lower policy rates and a wider interest rate corridor combined with higher reserves requirements on deposits to support price stability and financial stability. Recently, a coordinated policy mix has been adopted: the CBRT tightened monetary policy in pursue of its price stability objective while the regulatory and government authorities have taken comprehensive measures to support the credit channel. These concerted efforts have contributed to price, financial and macroeconomic stability.

Macroprudential objectives and frameworks

The primary objective of macroprudential policy is to maintain the stability of the financial system, so that the financial system can contribute sustainably to economic growth.³ The macroprudential authority can also specify intermediate goals to make macroprudential policy more operational, transparent and accountable.⁴

Turkey has set the primary and intermediate objectives of macroprudential policies as follows:

- *The primary objective* is to preserve and strengthen the stability of the financial system as a whole by bolstering its resilience and preventing potential systemic risks and mitigating current ones; and

² Fendođlu (2017) evaluates how macroprudential instruments have performed in major EMEs in containing excessive credit cycles.

³ See ESRB (2013) and also Borio (2003), Caruana (2010) and Hanson et al (2011) for further insights on the goals of macroprudential policy.

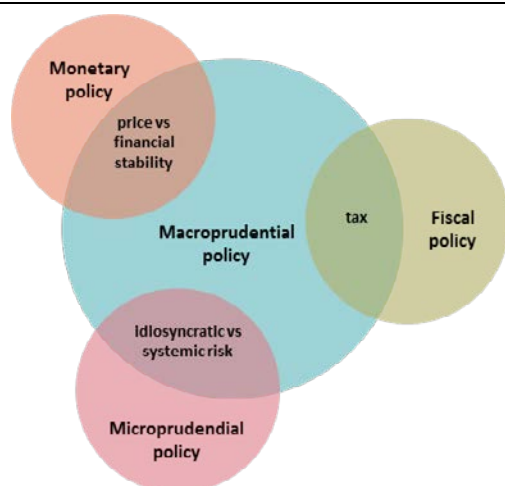
⁴ See ESRB (2013) and Schoenmaker and Wiertz (2011).

- *The intermediate objectives* are to contain excessive credit growth and improve the quality of current account deficit financing.⁵

Aside from macroprudential policy, monetary, fiscal and microprudential policies can also affect the financial system, and the linkages between macroprudential policy and other policies may create synergies or tensions (Graph 1). For example, in achieving its primary objective of price stability, monetary policy may have undesirable side effects on financial stability in the short run,⁶ or a favourable tax treatment may encourage over-indebtedness and make borrowers more vulnerable to potential shocks,⁷ or while strengthening individual institutions, some microprudential policies may increase the vulnerability of the financial system as a whole to systemic risks.⁸ Therefore, coordination across policies is vital if potential conflicts among different policy spheres are to be mitigated and optimal policy responses formulated.

Interconnectedness among policies

Graph 1



Source: Modified from IMF (2013b, p 9).

Within this framework, the Financial Stability Committee (FSC) was established in June 2011 to ensure coordination, cooperation and exchange of information among member institutions and contribute to their efforts in strengthening financial stability and preventing systemic risks. The FSC is chaired by the Deputy Prime Minister responsible for Economic and Financial Affairs and comprises the heads of five leading institutions safeguarding financial stability (Graph 2): the CBRT, the Banking Regulation and Supervision Agency (BRSA), the Undersecretariat of Treasury (UT), the Capital Markets Board (CMB), and the Savings Deposit Insurance Fund (SDIF).

⁵ See Kara (2016a). In addition to these two intermediate objectives, “bolstering safety nets against external financial shocks” and “dampening the financial amplification mechanisms triggered by cross border flows” may be considered as the third and the fourth intermediate objectives, respectively, according to remarks by Kara (2015b).

⁶ See Vinals (2011), IMF (2013a,b) and Caruana (2014).

⁷ See IMF (2013b).

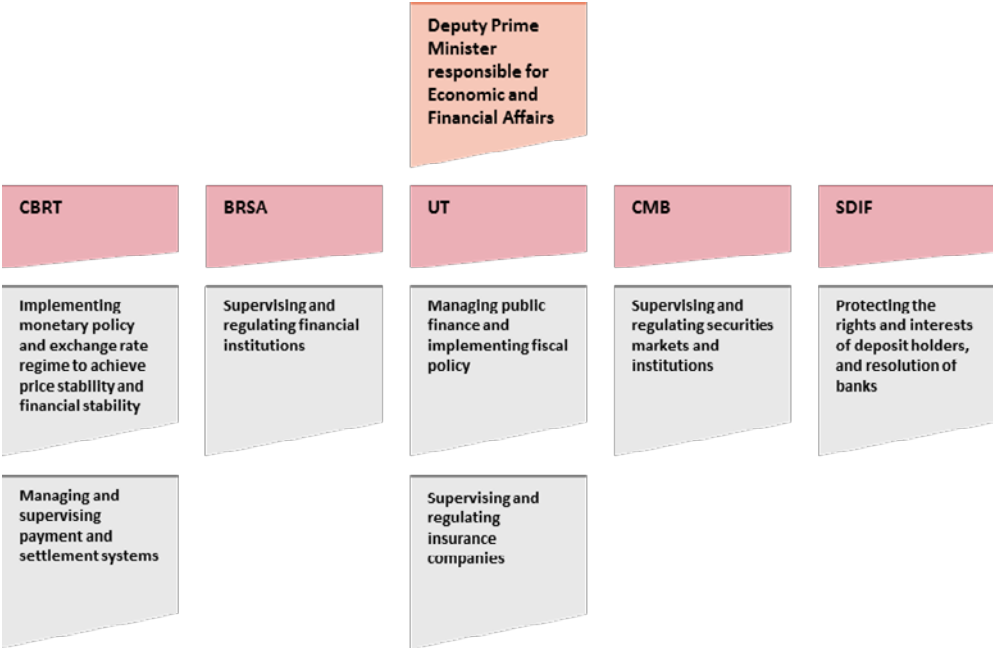
⁸ See Borio (2014).

The FSC’s main duties are to monitor and prevent systemic risks and to ensure the coordination of systemic risk management. These duties can be summarised as follows:

- to assess systemic risks and determine measures and policy proposals to moderate these risks;
- to warn the relevant institutions about systemic risks and supervise the implementation of policy proposals;
- to review systemic risk management plans developed by the relevant authorities;
- to ensure coordination of systemic risk management;
- to gather all data and information from public institutions with regard to their activities and carry out coordination of the policies and their implementations among institutions; and
- to make decisions related to other issues as authorised by legislation.

Members of the FSC and their main responsibilities

Graph 2



Source: CBRT.

Each institution in the FSC employs policy instruments in accordance with its main responsibilities under the coordination of the FSC.⁹ The FSC meets on an as-needed basis. Over the past five years, the FSC has met 33 times, most recently on

⁹ The macroprudential instruments used in Turkey have mainly targeted the banking sector. Other sectors are affected by macroprudential measures via the banking sector. For example, the macroprudential instruments on consumer loans (risk weights, provisioning and maturity restrictions) are used to limit the rapid growth of consumer loans and the build-up of vulnerabilities in the household sector. Credit card restrictions are imposed with a similar intention.

2 August 2017. In these meetings, the topics of discussion have included the national and global economic outlook, including the effects of international markets and country-specific developments in the domestic markets; the compliance of the banking and insurance sectors with Basel and other international standards; and savings and investment proposals to develop the financial sector and strengthen financial stability.

To support the FSC, a Systemic Risk Assessment Group (SRAG) was formed in October 2012 to work on more specific and technical issues, identify the threats to financial stability and warn the FSC about them. The SRAG consists of deputies of the FSC member institutions and works on stress tests to quantify how a financial shock can affect financial stability. A heat map framework is used to show risk accumulation (in financial institutions, financial markets and real economy) with an integrated systemic perspective.

The Financial Sector Commission, established in 2006, also helps facilitate the coordination and cooperation among the related authorities and institutions. This commission comprises a broader set of financial sector representatives, including the BRSA, the Ministry of Finance, the UT, the CBRT, the CMB, the SDIF, the Competition Board, the Ministry of Development, Borsa İstanbul and the Banks Association of Turkey and Participation Banks Association of Turkey. The Commission ensures an exchange of information, as well as cooperation and coordination among institutions, and proposes joint policies and expresses views regarding the matters that relate to the future of the financial sector, with a view to establishing and maintaining confidence and stability as well as the development of the financial markets. The Financial Sector Commission convenes at least twice every year and briefs the Council of Ministers on the outcomes of its meetings.

Implementation of macroprudential frameworks: Strategy, actions and tactics

Before the establishment of the FSC in mid-2011, the CBRT had already taken important steps towards ensuring financial stability and implementing macroprudential policy in the wake of the global financial crisis. At the end of 2010, the CBRT designed a policy mix based on a multiple-objectives and multiple-instruments framework to limit the potentially undesirable effects of capital flows on the exchange rate and loans. The perspective of the CBRT on financial stability is summarised in Table 1.

The CBRT's perspective on financial stability

Table 1

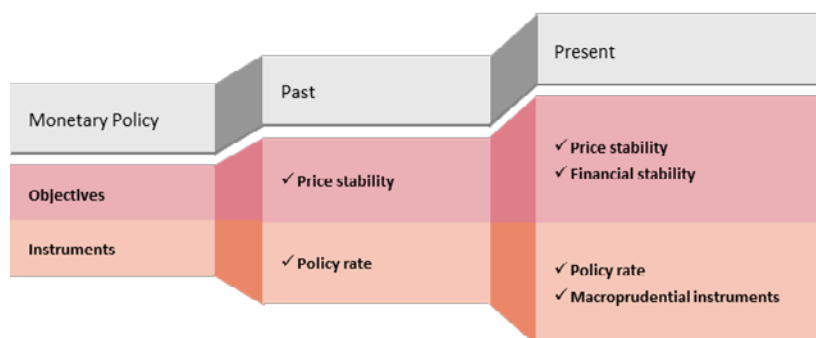
Describe as	the existence of a sound and efficiently functioning financial system
Consider as	an important constituent of its primary objective of achieving price stability
Approach from	a macro perspective unlike other institutions in charge of supervision and regulation
Attaches importance to	<ul style="list-style-type: none"> ✓ identifying structural and macroeconomic developments that could pose a systemic threat to financial stability and taking measures against them in cooperation with relevant authorities when it deems necessary; ✓ monitoring the soundness of the financial system as a whole; and ✓ following international financial developments and evaluating these developments with regard to their potential impact on the Turkish economy.

Source: CBRT.

Within this perspective, the CBRT augmented its inflation targeting policy regime by adding financial stability as a supplementary objective and developed additional policy instruments.¹⁰ The monetary policy stance, therefore, is reflected not only in the current level and the expected path of the short-term policy rate, but also in other policy instruments such as the interest rate corridor, reserve requirements and macroprudential policies. The policy framework is depicted in Graph 3.

Monetary policy framework

Graph 3

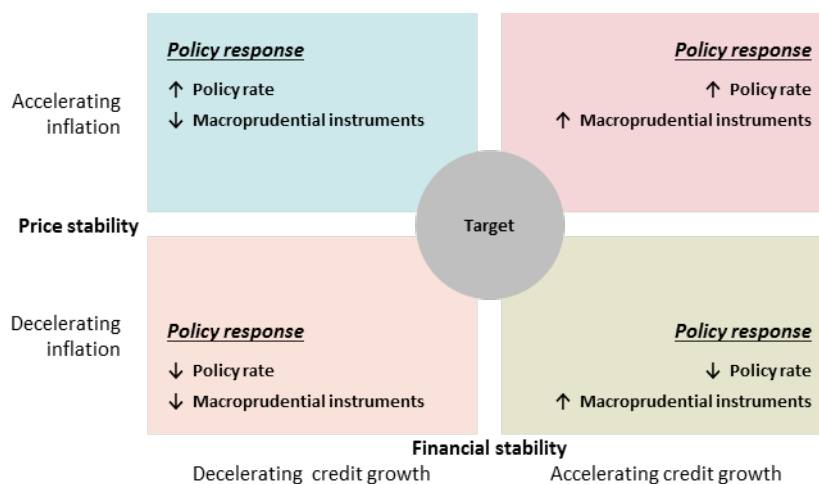


Source: Modified from Kara (2016a, p 127).

Under this policy framework, Graph 4 illustrates how the CBRT sets monetary and macroprudential instruments to support price and financial stability:

- Tighten the conventional monetary policy (eg by raising the policy rate) when inflation rises or its outlook deteriorates.
- Use broad-based or sector-specific macroprudential instruments in the tightening direction when financial stability risks rise (as reflected by, eg, rapid credit growth and deterioration in the current account balance).

¹⁰ For an overview on the policy mix adopted by the CBRT after 2010, Kara (2012).



Source: Modified from CBRT (2010).

Given the advantages and disadvantages of rules and discretion in macroprudential policy listed in Table 2, the CBRT has adopted a mainly rule-based approach with some degree of constrained discretion to preserve some room for manoeuvre in adjusting policies and taking additional measures while maintaining transparency, predictability and accountability.¹¹

Rules versus discretion in implementing macroprudential policies

Table 2

	Rules	Discretion
Advantages	<ul style="list-style-type: none"> ✓ transparent, lower risk of inaction ✓ provide pre-commitment ✓ provide regulatory certainty 	<ul style="list-style-type: none"> ✓ adaptable and flexible ✓ takes into account different types of risk and structural change
Disadvantages	<ul style="list-style-type: none"> ✓ not dynamic and flexible ✓ susceptible to circumvention 	<ul style="list-style-type: none"> ✓ less transparent ✓ limited regulatory predictability ✓ subject to forbearance in favour of wrongdoers

Source: This table is based on remarks by Çetinkaya (2013).

Under this regime, the CBRT has deployed three instruments to support financial stability: (i) differentiated reserve requirements implementation based on currency, maturity, and leverage; (ii) an asymmetric interest rate corridor; and (iii) a reserve options mechanism.

¹¹ According to the remarks by Çetinkaya (2013), a rule-based approach with constrained discretion at certain phases of the cycle seems to be the best approach in conducting macroprudential policies.

Reserve requirements

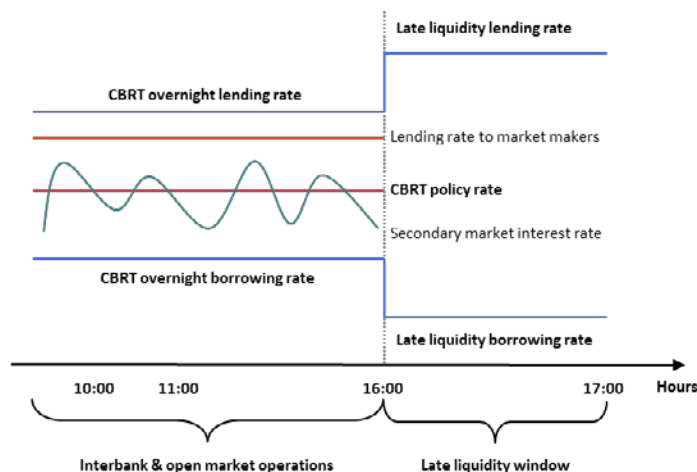
The CBRT has made active use of reserve requirements as a macroprudential instrument since the end of 2010. A key motivation was to smooth the credit cycle and increase the maturity of liabilities. Starting from late 2014, the CBRT has intensively used reserve requirements to encourage banks to fund themselves with core liabilities rather than non-core liabilities, and with long-term rather than short-term liabilities. The CBRT raised the reserve requirements ratio on short-term, non-core liabilities significantly and adjusted the remuneration rates for reserve requirements to tilt banks' incentives towards having a higher share of core liabilities.¹² With these arrangements, the share of non-core short-term liabilities in total liabilities dropped significantly and the rising trend of the credit-to-deposit ratio started to reverse in 2015.¹³

Asymmetric interest rate corridor¹⁴

At the end of 2010, the CBRT started operating an asymmetric interest rate corridor – the differential between the overnight lending and borrowing rates charged by the CBRT on its operations – as a macroprudential instrument. The motivation was to smooth out the adverse effects of capital flow volatility. This framework allowed short-term interest rates to temporarily deviate from the policy rate in both directions if deemed necessary (Graph 5).

Asymmetric interest rate corridor

Graph 5



Source: CBRT

The interest rate corridor can be widened downwards to discourage short-term speculative capital inflows, relieve the appreciation pressure on the domestic currency and contain excessive credit growth when capital inflows surge. The corridor can be

¹² Remuneration based on core liabilities has been abolished starting from 1 January 2017, as the remuneration rate will be the same for all institutions.

¹³ See Kara (2016a).

¹⁴ For detailed description and thorough analyses, see Kara (2012, 2015a), Binici et al (2013).

widened upwards, if need be, to reduce depreciation pressure on the domestic currency during capital flow reversals. The CBRT has actively used the width and asymmetry of the interest rate corridor. For example, following the Fed's second round of quantitative easing, the CBRT lowered the floor of corridor to discourage short-term capital inflows at the end of 2010. It then opted for a higher ceiling from late 2011 through 2012 to prevent a reversal in capital flows as the euro area sovereign debt problems intensified, lowering the ceiling gradually after mid-2012 on dissipating tail risks in the euro area.

Reserve options mechanism¹⁵

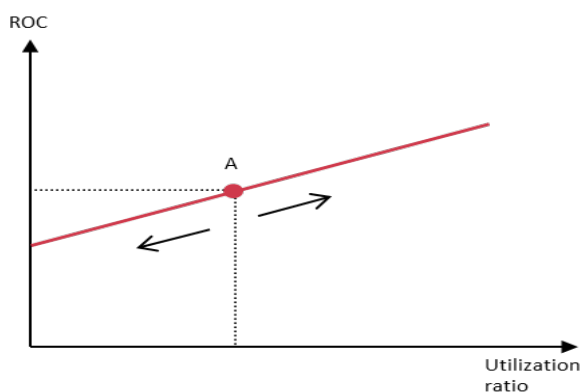
At the end of 2011, the CBRT also deployed the reserve options mechanism (ROM), a novel macroprudential instrument that allows banks to voluntarily hold a certain portion of their mandatory reserve requirements for Turkish lira liabilities in a foreign currency, specifically in US dollars and euros,¹⁶ or gold.¹⁷ The purpose was to offset the adverse impact of excessive volatility in capital flows on macroeconomic and financial stability. The amount of foreign exchange or gold that banks must hold to meet one unit of domestic currency reserve requirements is called the reserve options coefficient (ROC). The level of ROC is a significant parameter for utilization ratio of ROM¹⁸. The idea behind the ROC mechanism is that it should act as a market-friendly automatic stabiliser (Graph 6). During periods of strong capital inflows, point "A" shifts to the right along the line because relatively low borrowing costs in foreign currency prompt banks to keep a higher portion of their reserve requirements in foreign currency. When capital flows reverse, banks need to convert foreign currency-denominated requirements into domestic currency due to relatively higher borrowing costs in foreign currency, and thus point "A" shifts to the left of the diagram. In sum, the ROM can mitigate exchange rate volatility supported by market forces, reducing the need to intervene in the foreign exchange market.

¹⁵ The concept of ROM is elaborated in Küçüksaraç and Özel (2012).

¹⁶ Foreign currencies that can be maintained against Turkish lira reserve requirements have been restricted to the US dollar since the maintenance period of 15 August 2014.

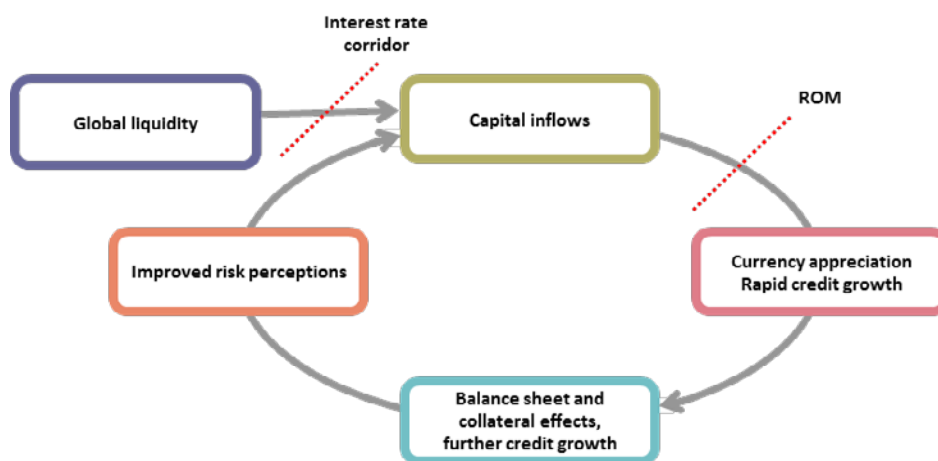
¹⁷ On 3 October 2016, to bring out residents' gold savings and increase foreign exchange reserves, a new separate tranche of 5% for wrought or scrap gold collected by banks from residents was introduced, in addition to the existing facility of 30%, allowing reserve requirements to be maintained as "standard gold" within the context of the ROM.

¹⁸ Küçüksaraç and Özel (2012).



Source: CBRT.

The CBRT used its asymmetric interest rate corridor and the ROM to mitigate the amplification effects of capital flows.¹⁹ Currency appreciation due to capital inflows strengthens the balance sheets of firms and raises the value of collateral. In the process, improved risk perceptions stimulate further capital inflows. Therefore, the CBRT used its interest rate corridor to deal with volatility in capital inflows and the ROM to diminish the effect of capital flows on domestic macroeconomic variables (Graph 7).



Source: Modified from Kara (2016a,b).

Policy measures are calibrated based on scenario analysis, and the CBRT has relied on the liquidity provided to the market or liquidity absorbed from the market, which is an important indicator for calibration. The effectiveness of macroprudential

¹⁹ See Kara (2013, 2015a,b).

instruments used by the CBRT has also been evaluated by several studies, which are categorised into three groups (Table 3): (i) studies based on an analytical framework; (ii) studies based on indicators, simple analysis or descriptive statistics; and (iii) studies based on empirical research or calibration. Generally, these studies indicate that macroprudential instruments employed by the CBRT have contributed to the resilience of Turkey's financial system.

Some studies on the effectiveness of macroprudential instruments used by the CBRT

Table 3

Studies	Main findings
<i>Studies based on analytical framework</i>	
Kara (2015a)	As well as the CBRT's short-term interest rates within the interest rate corridor, the composition of the central bank liquidity provision is an important component of the monetary policy stance.
<i>Studies based on indicators, simple or descriptive analysis</i>	
Küçüksaraç and Özel (2012)	The breakeven reserve options coefficients depend on the cost of foreign currency funds, Turkish lira swap rates, Libor and reserve requirement ratio for foreign currency and are highly sensitive to changes in external borrowing spreads.
Kara (2016a)	Macroprudential policies have improved external balances, weakened financial amplification channels and contained the sensitivity of Turkish economy to excessive volatility in capital flows.
<i>Studies based on empirical research and calibration</i>	
Binici (2013)	By using an asymmetric interest corridor policy together with an active liquidity management strategy, the CBRT can influence the spread between lending and deposit rates and therefore help to smooth business cycle fluctuations.
Küçük et al (2016)	Several factors, which are directly or closely related to the liquidity policy of the CBRT, have influenced the spread between the Borsa İstanbul overnight repo interest rate and the CBRT average funding rate.
Aslaner et al (2015)	The systematic strategy of increasing short-term interest rates during capital outflows using the flexible interest rate corridor may disrupt the automatic stabilising characteristics of the ROM since the higher funding cost in the domestic currency induces banks to hold more reserves in foreign currency.
Binici et al (2016)	The CBRT average funding rate and interbank overnight market rates, which are not officially announced as policy rates but determined indirectly by the CBRT, have been taken into account in pricing loans and deposits.

Source: CBRT.

Another key institution in implementing macroprudential policy is the BRSA, which contributed to the containment of rapid credit growth and household debt. The BRSA took a set of measures in two steps in 2011 and late 2013–early 2014 for consumer loans to increase savings by reversing the upward trend in consumer loans and channel savings into more productive investments. To support these objectives, the CBRT integrated financing companies into the reserve requirement system in 2013. This measure specifically targets consumer lending. Macroprudential instruments and measures for consumer lending are reported together with their transmission channels in Table 4.²⁰

²⁰ CBRT (2014) assesses the effectiveness of these measures taken by the BRSA.

Macroprudential regulations on consumer lending and transmission channels

Table 4

Instruments	Measures	Transmission channels
Credit limits and restrictions	<i>For credit cards</i>	
	Increasing minimum payment ratios for credit cards	Reduces unpaid portion of the period debt; raises payment rates by altering the payment habits of credit card users; reduces household indebtedness.
	Restricting credit card limits based on income level	Limits credit supply; ensures households borrow in proportion to their income; alleviates the default risk of consumers, and thus NPLs at banks.
	Disallow credit card usage for specific sectors	Limits credit supply; reduces the indebtedness of households; constrains borrower default risk, and thus NPLs at banks.
	Limiting the instalment period of credit card debt ¹	Restricts credit demand; reduces household indebtedness; encourages use of credit cards as a means of payment instead of a means of credit.
	<i>For consumer loans</i>	
	Maturity restriction for consumer loans except housing loans ¹	Restricts credit demand; reduces household indebtedness; increases the default risk of consumers who do not reduce their credit demand but have higher monthly instalment payments than their payment capacity, and thus NPLs at banks (effect is expected to be limited).
	Loan-to-value ratio for housing and vehicle loans ¹	Reduces the amount of loanable funds; reduces credit demand directly and asset prices indirectly; alleviates the default risk of consumers, and thus NPLs at banks.
Capital adequacy	Increase in risk weights for credit cards and consumer loans ²	Reduces capital adequacy ratios and credit supply, if banks are willing to compensate for this reduction.
General provisions	Incremental general provision ratios for consumer loans ³	Reduces net profit of banks, increases Tier 2 capital, so does not affect total capital adequacy ratio, but reduces Tier 1 capital ratio and core capital ratio. If banks are willing to compensate for the decrease in ratios, assuming that they do not cut the dividends and do not add capital, they may reduce risk-weighted assets, so that the quantity channel affects credit supply, and may increase loan rates. Eventually, the price channel affects credit demand.
Reserve requirements	Inclusion of financing companies in the reserve requirement system	Leads to a reduction in loanable funds via the quantity channel and increase in credit interest rates via the price channel; slows growth in vehicle loans by financing companies.

¹ It was slightly loosened on 27 September 2016. ² It was abolished at the end of March 2016 due to full compliance with Basel standards. ³ It was abolished on 27 September 2016.

Source: CBRT (2014, p 60).

Along with a tighter monetary policy stance, measures in Table 4 above have helped restrain rapid loan growth and thus to slow the growth in household indebtedness. The annual growth rate of consumer loans dropped from 45% in mid-

2011 to less than 15% in 2015, while commercial loan growth, which is not strictly targeted, remained relatively more robust.²¹

Recently, Turkey has adopted a policy mix that combines tight monetary policy with accommodative macroprudential and fiscal policies. Focusing on inflation and foreign exchange developments, the CBRT has tightened liquidity supply and implemented a new swap facility. In doing so, the CBRT has contained volatility and excessive depreciation of the domestic currency in the foreign exchange market. As part of this coordinated policy mix, other authorities have taken a series of measures to support the credit channel and economic activity. The BRSA has contributed by releasing some of the buffers accumulated in recent years. The government has launched a stimulus package to contain a possible adverse feedback loop between economic activity and loan supply. Thanks to the room provided by the fiscal discipline of recent years, the fiscal position is sound with low gross financing needs and a moderate debt-to-GDP ratio.

Communication

As a strong component of the central bank tool set, communication can increase transparency, accountability and predictability of monetary policy decisions and it can also help to manage market expectations. Communication plays an important role in strengthening the effectiveness of macroprudential policies and enhancing the resilience of financial stability since such policies, and their aims, need to be well understood by all market participants.

The CBRT pays particular attention to effective communication to enhance public understanding of how macroprudential policy works. To this end, the CBRT uses a range of communication tools, including the Inflation Report, the Financial Stability Report (FSR), speeches, interviews, press releases and meetings to foster transparency and accountability.²² The most important communication channel regarding macroprudential policy is the FSR, by which the CBRT publishes its assessment of the main risks and vulnerabilities in the financial system.²³

The CBRT uses direct communication by speeches and press releases. Taking into account the diversity of the target groups, the CBRT has recently revised its communication strategy and introduced new arrangements for meetings.²⁴ Meetings

²¹ See Kara (2016a).

²² For the effects of communication on financial stability by means of the FSR and other written report, and through speeches and interviews, statements and press conferences, minutes and voting records, see Knütter et al (2011) and Born et al (2014).

²³ The first issue of FSR was released in August 2005. From 2006 onwards, it has been published on a semiannual basis in the spring and fall. FSR includes four main chapters. The first chapter provides a detailed analysis of international and domestic developments that presumably affect domestic financial stability. The second and the third chapters are dedicated to developments in the non-financial and financial sectors, respectively. The last chapter is devoted to special topics that discuss the latest research by the CBRT staff on financial stability issues.

²⁴ Recently, the communication strategy of the CBRT has been revised, recategorising meetings as follows: (i) technical meetings with investors and analysts; (ii) regular meetings with foreign investors; (iii) meetings with chambers of industry and commerce and other corporate sector representatives;

with real and financial sector representatives and the media are seen as important venues for the CBRT in explaining its macroprudential measures and managing expectations. The CBRT also uses social media to raise public awareness about macroprudential measures. Working papers, research notes in economics, booklets, conferences and workshops are also major components of the CBRT's communication strategy.

Conclusion

Following the global financial crisis, expansionary monetary policies in advanced economies have led to rapid and excessive credit growth and weakening current account balances in EMEs. In order to preserve financial stability, many EME central banks have adopted new policy frameworks and intensively employed macroprudential instruments. In this regard, the CBRT incorporated financial stability into its inflation targeting framework at the end of 2010, redesigning policy instruments and their deployment to support price and financial stability. This policy mix has helped maintain the resilience of the Turkish financial system against external shocks. Recently, Turkey has adopted a policy mix of tight monetary policy along with accommodative macroprudential and fiscal policies. This combination of policies has helped to strengthen price, financial and macroeconomic stability.

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