5. Financial Markets and Financial Intermediary

5.1. Financial Markets

Last quarter data indicate that downside risks to the global economy persist. Ongoing concerns over sustainability of the sovereign debt in the Euro Area, in addition to these problems also appearing in major economies like Italy and Spain intensified the downside risks. Downgrades to some Euro Area countries as well as banks further added to these problems. Swap agreements to alleviate global risks were extended by major central banks, with their costs being reduced. Moreover, the ECB, in attempt to give support to the regional economy, introduced the 3-year long-term refinancing operations facility to Euro Area banks, and also continued with its bond purchasing program. Despite all the measures, global risk appetite hovered at historic-highs (Chart 5.1.1). Meanwhile, problems in the advanced economies also reflected adversely on the emerging economies in the last quarter of 2011, resulting in downward revisions to growth forecasts (Chart 5.1.2).



In the last quarter, risk perceptions regarding the emerging economies deteriorated further amid mounting problems in the Euro Area. On account of their high interaction with the European countries, risk premiums of the Eastern



European economies soared in particular (Chart 5.1.3). Similarly, Turkey's risk premium also increased (Chart 5.1.4).

The negative course of global risk perceptions was also influential on portfolio flows to emerging economies (Chart 5.1.5). Amid the persisting concerns over growth in emerging economies, capital outflows continued more heavily across the equity market in the last quarter of 2011. However, portfolio flows to emerging economies gained pace on account of the recently growing expectation that the low interest rate policy in advanced economies will be maintained for a while. As for Turkey, non-residents have recently invested notably in the GDBS market, mainly owing to the elevated market rates as well as the low course of implied volatility of exchange rates (Chart 5.1.6).



Monetary Policy Implementation

The excessive depreciation of the Turkish lira amid the deterioration in the global risk appetite, as well as the administered price adjustments led to higherthan anticipated increases in inflation in the last quarter. In order to prevent deterioration in medium-term inflation expectations and outlook, the CBRT has opted for a strong monetary tightening since October. Accordingly, the interest rate corridor was widened upwards by an O/N lending rate hike of 350 basis points (Chart 5.1.7). In addition, average funding rate was raised by lowering 1-week repo funding (Chart 5.1.8). Moreover, as of December 29, the CBRT has delivered additional tightening and temporarily decreased the amount of funding quoted on the policy rate, while also embarking on intra-day 1-week repo funding through the traditional auction method. Funding costs increased in these auctions as interest rates were determined by the market. Additionally, the non-sterilization of FX in sale auctions and direct interventions also supported the additional tightening (Box 5.1).



The CBRT, within the context of its new monetary policy and with a view to facilitate the liquidity management of the banks and also enable them to foresee their total funding costs, announces the minimum funding planned to be provided through the 1-week repo auctions. Moreover, in order to contain the adverse effects of the global economic developments and contribute to the more efficient allocation of the liquidity, in addition to 1-week repo auctions, the CBRT has started to hold 1-month repo auctions on every Friday, through the traditional method. Furthermore, in order to meet the liquidity demands of banks in a more permanent and flexible way, the CBRT reduced the required reserve ratios on the Turkish lira liabilities and enabled the banks to hold up to 40 percent of their reserves in FX from 20 percent. Moreover, to enhance flexibility of the banks' liquidity management, the CBRT enabled to hold up to 10 percent of the Turkish lira required reserves in gold. These measures narrowed the liquidity deficit in the market, while FX sales and interventions in the last quarter widened the liquidity deficit in the market. On balance, liquidity deficit posted a quarter-on-quarter decline in the last quarter (Chart 5.1.9). In addition, the Treasury's average account balance at the CBRT also declined in this period, contributing to the narrowing of the liquidity deficit.



Market Rates

In the last quarter of the year, CBRT's tight monetary policy caused a relatively higher increase in Turkey's market rate than other emerging economies (Chart 5.1.10). Moreover, the uptrend in the risk premium since November has also been influential on the soaring market rates (Chart 5.1.11).



Policy rate expectations remained broadly unchanged in the interreporting period (Chart 5.1.12). Despite the tight monetary policy stance in this period, the limited change in expectations for 1-week repo rates indicates anticipations for a continued use of the interest rate corridor by the CBRT as an active policy tool. Meanwhile, amid the rising inflation, inflation compensation posted a notable increase across short-term maturities compared to October (Chart 5.1.13). However, following the CBRT's recent tightening, inflation compensation recorded a significant decline across long-term maturities.





* Horizontal axis shows the expected policy rate, while the vertical axis shows the Kernel estimate. CBRT's Survey of Expectations, second survey period results. Source: CBRT.



Market rates increased across all maturities due to the tight monetary policy in the last quarter, with short-term rates posting higher increases (Chart 5.1.14). Consequently, the spread between long and short-term rates turned negative (Chart 5.1.15). The downward slope of the yield curve points to the tight monetary policy stance.



The upward course of the market rates also reflected on real interest rates in the last quarter of the year (Chart 5.1.16). The real rates in Turkey remained higher compared to other emerging economies in this period (Chart 5.1.17).



Deposit rates increased across all maturities amid the CBTR's tight monetary policy stance (Chart 5.1.18). Meanwhile, the loan-deposit rate spread widened as the tight monetary policy was more influential on loan rates (Chart 5.1.19).



Exchange Rate and Reserves

Following the CBRT's O/N lending rate hike, the Turkish lira performed relatively stronger than the currencies of other emerging economies (Chart 5.1.20). Given the uncertainties in the global markets, the Turkish lira moved independently from the economic fundamentals, thus warranting the CBRT to inject substantial amount of foreign currency through FX sale auctions (Chart 5.1.21). Accordingly, in order to contribute to the stability in domestic FX markets, the CBRT started to announce on every business day, the total maximum amount of foreign exchange that can be sold via auctions within the two subsequent business days. Moreover, the CBRT intervened the market through outright FX sales in an effort to counter exceptional speculative behavior against exchange rates on the loss of market depth. Meanwhile, given the improving current account balance dynamics following the decisions taken at the MPC meeting on January 24 as well as the abrupt changes in global conditions, the regular FX sale auctions were suspended as intra-day FX sale auctions proved relatively more efficient and better-suited to meet the objectives of the monetary policy than the regular auctions.



In the last quarter of the year, the CBRT provided the market with an FX liquidity of nearly USD 10.5 billion through FX sales and direct intervention. The lowering of FX required reserve ratios caused FX reserves to decline, while enabling banks to hold up to 40 percent of the Turkish lira required reserves in foreign currencies and up to 10 percent in gold besides the facilitation of the use of rediscount credits led to a rise in FX reserves. On balance, FX reserves posted a limited decline despite substantial sales and interventions (Chart 5.1.21).

Besides FX sale auctions, the CBRT resumed intermediation activities at the Foreign Exchange Deposit Markets of the CBRT Foreign Exchange and Banknotes Markets in order to enhance flexibility of the FX liquidity in the interbank market. Moreover, in order to meet the demand for FX liquidity by the banking system, the maturity of the FX deposits to be lent by the CBRT was extended from 1 week to 1 month within the borrowing limits introduced to the banks. Amid the adopted measures by the CBRT, the implied volatility of the Turkish lira remained well below the other emerging market currencies, both in the short and long term (Charts 5.1.22 and 5.1.23).



Monetary Indicators

Domestic and external economic climate continued to weigh on monetary indicators amid the ongoing volatility in the financial markets. In fact, balance sheet decomposition of M3, the broad measure of money supply, points that the surge in Claims on Private Sector, which mostly consist of bank loans extended to non-financial private individuals and institutions, has recently paused. Meanwhile, the negative contribution of Claims on Public Sector to M3 growth continues. Net External Assets continue to fall mainly owing to the halt of the increase in commercial banks' external borrowing. Lastly, the negative contribution of the item Other, i.e. the monetary sector's non-deposit resources, to the M3 growth decreased amid the year-on-year decline in capital and reserves (Chart 5.1.24).



Owing to the slowdown in economic activity, the rate of increase in the seasonally adjusted money in circulation continued to decline in the last quarter of the year (Chart 5.1.25). Amid the adopted measures, the slowdown in the economic activity, the ongoing problems in the Euro Area and the soaring interest rates increased the opportunity cost of holding cash, thus resulting in a deceleration in the growth of the money in circulation.



5.2. Financial Intermediation and Loans

The notable slowdown in loans extended to the real sector by domestic banks in the third quarter, continued into the last quarter of the year, mainly on the account of the policy measures adopted by the CBRT and the BRSA (Chart 5.2.1). In addition, the deceleration of the economic activity in the last quarter also put a cap on the loan demand. The mounting uncertainties in the Euro Area in the last quarter are believed to have an adverse effect on the loan supply. Consequently, real sector loans posted a 24.7 percent year-on-year increase by end-2011, and recorded an annualized growth by 14.4 percent in the last quarter (Chart 5.2.1).



The real sector has been a net creditor and net debtor against nonresident institutions and organizations in the third quarter and by the first two months of the last quarter, respectively (Chart 5.2.2).



The downward course of real sector loans extended by domestic banks was driven by the developments in both business and consumer loans. Annualized data for the last quarter suggest that the growth rate of consumer loans and business loans went down to 14 percent and 14.6 percent, respectively (Chart 5.2.3). Comparison of the last quarter of 2011 with the preceding years indicates that loan growth rates signify a notable slowdown (Chart 5.2.4).



Business loan growth lost pace in both TL and FX-denominated loans (Charts 5.2.5 and 5.2.6). Growth in FX-denominated loans, a majority of which is long-term and mostly used for financing investment spending, assumed a downtrend as of the end of the first quarter amid the gradual slowdown in investment spending beside the developments in exchange rates. FX-denominated business loans declined further over the last quarter of the year on the account of demand-side factors as well as the uncertainties regarding the access to external resources.



An analysis of the business loans by scale reveal that growth rates of large scale enterprises lagged notably behind SME in the first two months of the last quarter (Chart 5.2.7). Results of the Business Tendency Survey for the previous quarter suggest that the relative weakening in the growth of large scale enterprises are caused by the banks' preferences. The survey indicates that the banking sector anticipated a relatively higher tightening in lending conditions for large scale enterprises than SME, resulting in more SME loans with higher profit margins in order to raise profits within the implicit limits introduced to loan growth for 2012.



In the last quarter of the year, besides the demand-side factors, the decline in the business loan growth rate was driven also by the tight monetary policy stance of the CBRT adopted as of October 20. The rapid increase in the cost of average funding from the interbank money markets as well as the CBRT on this date was simultaneously reflected on to the loan rates and the spread between loan and deposit rates (Chart 5.2.8). FX-denominated business loan rate and the spread between FX loan and FX deposit rates increased likewise (Chart 5.2.9). The rise in the money market rates caused widening of the spread between loan and deposit rates in both FX and TL, suggesting that liquidity policies are influential not only on costs, but also on the lending behavior of the banks.



The strong downward course of the consumer loan growth as of the end of the second quarter amid the BRSA's decisions continued into the last quarter in tandem with the tight monetary policy implemented by the CBRT. Accordingly, consumer loan growth went down to 15 percent in annualized terms by the end of the quarter. Given the higher interest rate elasticity of housing loans compared to other consumer loans, housing loan growth recorded the most notable decline in the last quarter across all consumer loans (Chart 5.2.10). The growth of other consumer loans, the major component of the consumer loans in 2011, continued to fall steadily in the third and fourth quarters (Chart 5.2.10). Meanwhile, automobile loans making up less than 10 percent of the overall consumer loans moved in tandem with the consumer loans in the start of the last quarter, while posting a notable increase in December partly on the seasonal effects.



Consumer loan rates surged rapidly after BRSA's measures in June 2011 on the consumer loans other than housing and automobile loans. Afterwards, consumer loan rates remained flat until the CBRT's decision on the upward widening of the interest rate corridor, and saw a rapid increase after the widening (Chart 5.2.11). Compared with cross currency swap rates with similar maturities, consumer loan rates posted a higher increase. This indicates that, similar to business loans, tight monetary policy is also influential on the lending behavior of the banks for consumer loans.

In sum, annual loan growth rate decreased to favorable levels in terms of macroeconomic and financial stability by the end of 2011. Despite the increasing role of demand-side factors, especially in the business loans, the last quarter developments were more heavily driven by supply-side factors amid the tight monetary stance and the weakening external financing conditions. Demand-side factors are envisioned to have more significant effects on the deceleration of loans should the economic slowdown persist, and the loan supply will depend on the changes in external financing conditions besides policy measures.

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Box 5.1

The Liquidity Management in the Recent Period and Its Consequences

In order to contain macro financial risks that emerge as a reflection of global imbalances, the CBRT improved its inflation targeting regime over the last year and designed a new monetary policy strategy. As a result, while price stability was maintained as the primary objective, financial stability was observed as a supportive objective. Accordingly, the CBRT utilized the interest rate corridor, the spread between O/N borrowing and lending rates, as an efficient monetary policy tool within its liquidity management strategy. This Box first outlines the basic operational framework of the CBRT's liquidity management, followed by the effects of the liquidity management on financial markets.

1. Operational Framework

The CBRT funds the money markets through 1-week and 1-month repo auctions, O/N repo facility and the late liquidity window. Within the liquidity management framework, CBRT's main funding instrument is the 1-week repo auctions offered to banks against collateral. Normally, the market is funded by the quantity auction method, under which, the CBRT announces the amount of the auction at 10 a.m. every day. Banks extend their bids up to 20 percent of the auction amount and all banks can borrow through the auction in proportion to its own bid to the total amount of bids, in case the amount of the auctions is the 1-week repo rate, the CBRT's main policy rate. Under exceptional circumstances, the CBRT can also hold 1-week repo auctions by the traditional method, according to which, interest rates are determined by market conditions. In addition, the CBRT can also offer funding through repo auctions with longer maturities in order to enhance banks' liquidity projections for the long term, if deemed necessary.

Besides repo auctions, the CBRT can offer funding to primary dealers and other banks also through O/N repo facility and the late liquidity window. Accordingly, primary dealers may borrow through O/N repo transactions within the limits set by the interest rate. Moreover, all banks may borrow O/N from the interbank money market, within the limits set by the CBRT lending rate. Furthermore, banks may borrow without any limits through the late liquidity window against collateral. In addition to the money markets within itself, the CBRT also conducts transactions at the ISE money markets. Depending on the need for liquidity, the CBRT undertakes transactions at the ISE, quoted at the upper limit of the interest rate corridor, thus preventing the market rates to fall outside the corridor. The CBRT's repo transactions in this market are conducted against collateral, without being subject to any limit as far as the quantity is concerned.

I he banks availing themselves of the liquidity facilities at the CBRT can present collaterals in the form of GDBS, CBRT liquidity bills, exchange rate and banknotes deposits, bills and bonds issued by foreign states and their treasuries alongside the eurobonds issued by the Treasury. However, the securities accepted as collaterals are subject to discounts at varying ratios. The total value of the discounted collaterals needs to meet the funds provided by the repo and the payment on interest. CBRT's funding to banks are not subject to reserve requirement.

2. Effects of the Liquidity Management on Financial Markets

Active use of the interest rate corridor alongside the liquidity management enhances flexibility, and also enables the CBRT to act promptly to uncertainties in the global economy by taking effective policy measures. With an effective liquidity management, the CBRT determines the amount of liquidity to be met through the policy rate and other facilities, thus ensuring the O/N rate to settle at desired levels. Accordingly, in times of strong capital flows, the interest rate corridor is widened downwards to prevent short-term speculative movements and to limit loan growth on the back of ample liquidity. Conversely, during periods of slower capital flow and heightened exchange rate volatility, interest rate corridor is widened upwards.

Upward widening of the interest rate corridor can also be used to eliminate temporary factors effective on the inflation outlook. For example, an additional monetary tightening was delivered as of December 29, 2011 and the amount of 1-week funding quoted at the policy rate was reduced, thus resulting in an immediately higher cost of funding for banks (Chart 1). The raising average interest rates on CBRT's funds were mainly caused by the use of traditional repo auctions besides O/N borrowing facilities (Chart 2).



The CBRT permits the O/N rates to float within the interest rate corridor, thus causing interest rate risk for banks by creating an uncertainty about funding cost (Chart 3). This may reduce banks' appetite for lending, and result in lower loan supply by banks wishing to limit their interest rate risk. Moreover, in the face of mounting uncertainty regarding funding costs, banks raised their deposit rates in order to create a more permanent source of funding. Given the relatively longer maturity of business loans than deposits, business loans are more sensitive to uncertainty on funding cost, thus causing loan rates to post a higher increase than deposit rates in this period, and resulting in the spread between loan and deposit rates to widen (Chart 4).



Under specific circumstances, the implemented liquidity management may also be influential through banking sector liquidity risk. Banks need to possess collaterals in order to conduct repo transactions at the organized money markets. The CBRT provides banks with the required liquidity against collaterals. However, banks may be subject to liquidity risk under the absence of securities to present as collaterals. Yet, GDBS and eurobonds, major collaterals for repo transactions, remain high in proportion to repo funding, thus indicating that the banking sector is currently not exposed to liquidity risk due to insufficiency of collaterals (Chart 5).

Amid the tight policy stance, the implemented monetary policy is more influential on short-term rates. In other words, long-term interest rates increase slightly less than short-term rates, resulting in downward sloping yield curve. The downward slope of the yield curve indicates the expectation that the implemented monetary tightening will control inflation and monetary policy will return neutral as temporary factors distorting the inflation outlook vanish (Chart 6).



To sum up, the interest rate corridor as well as the backing liquidity management strategy are flexible policy tools designed by the CBRT against global uncertainties. Using these tools, the CBRT can control the short-term market rates as well as the marginal cost of the liquidity provided to banks, and thus, may limit the exchange rate volatility and the loan growth. In the period ahead, the CBRT will continue to actively use the interest rate corridor in addition to liquidity management, and give the required policy responses. 5.2

Box Changing Role of the Monetary Policy in the Aftermath of the Global Crisis

This Box discusses the recent debates on monetary policy and financial stability in the economic literature, and accordingly, evaluates the latest monetary policy implementations of the CBRT. Prior to the global crisis, monetary policies addressing only price stability were commonly adopted; whereas, after the crisis, the need for monetary policy to also observe financial and macroeconomic stability has been a widely accepted view. Focusing solely on the price stability and setting inflation targets for the relatively short term may impede central banks to observe other risks that accumulated in the system. Hence, alternative monetary policy approaches were brought into consideration. Meanwhile, there has been a growing consensus that the macroprudential policy implementations by institutions other than central banks may not suffice to ensure stability in the financial system (Trichet, 2009; Bloxham et al., 2010; Ünsal, 2011), thereby signifying the role of central banks in controlling macro financial risks.

A major end result of the global crisis is the failure of the thesis that financial markets in advanced economies always reach equilibrium without any intervention. If left unregulated and unsupervised, a financial system detached from economic fundamentals may prove to be a significant source of instability, not only for the financial sector, but also for the economy in general. As opposed to the long-held view that central banks should only intervene the markets during the crisis periods, the recently held view asserts the need for central banks to keep the markets alert against enormous shocks by their policy implementations at normal times. Extraordinarily robust credit growth, high asset prices, low risk premium and low volatility may alarm against excessive risk-taking behavior (Borio and Drehmann, 2009). Even though interventions to counter financial system fragilities are challenging in such times, they are still necessary. In fact, intervening the financial markets only during the crisis periods may even exacerbate the crises (Farhi and Tirole, 2009; Diamond and Rajan, 2009). Rapid growth and asset bubbles seem to be beneficial for everyone until they can no longer be sustained. For example, policymakers may gain high popularity on account of the positive outlook portrayed by low-income families with easy access to loans, soaring consumption spending in the overall economy or high profitability of the financial system (Corbo, 2009).

However, in order to base economic growth on sound fundamentals in such times, policymakers should ensure to keep leverage ratios at reasonable levels and support the robust functioning of the financial system as a whole. In fact, policy interventions, which may even prevent crises if not minimizing their effects, are termed as "leaning against the wind" in the economic literature.

Global Crisis and Policy Tools

Following the global crisis, central banks commonly used alternative tools to policy rates.¹ One of the major reasons for the tool diversification by the central banks is the consensus on the need for monetary policy to also observe financial stability. Central banks addressing financial stability alongside price stability should jointly use multiple policy tools given the fact that policies for maintaining price stability may occasionally conflict with the policies to attain financial stability. For example, a positive supply shock increases asset prices, while causing the prices of goods and services to decline, thus disabling a central bank to simultaneously fulfill both objectives by only using one tool. A policy rate hike may also prove to be ineffective on restricting credit growth in an open economy with firms providing low-cost external financing. Moreover, policy rate hikes as a response to high leverage ratios in specific sectors may cause fluctuations in the overall economic activity (Ünsal, 2011). Besides, while monetary policy transmission mechanism functions efficiently through the asset prices channel at normal times, soaring risk premium in times of heightened uncertainty may hinder the effectiveness of the policy rate hike on credit growth and asset prices (Kohn, 2008; Bank of England, 2009).

Another reason for the tool diversification by central banks in the post-crisis period is the flexibility offered by the non-policy rate tools. In the recent years with extraordinarily heightened uncertainties about global economic developments, it is vital for the monetary policy to have sufficient flexibility. Therefore, in addition to the diversity of tools, flexibility of these tools has also gained significance recently (Galati and Mossner, 2011). The fact that the financial markets are instantaneously influenced by domestic and external developments, requires the adoption of tools that can quickly be adjusted to various conditions. Likewise, policy measures taken in response to temporary economic conditions (for example, an exchange

¹ Table 1 presents the list of tools to be used for attaining financial stability.

rate movement detached from economic fundamentals leading to a temporary increase in inflation and distortion in inflation expectations) should also be temporary. Less frequent changes to policy rates restrict the ability of the central banks to promptly respond to the changing conditions in the economy and the financial markets. Therefore, resorting to alternative tools is important for designing prompt and flexible policies in response to frequently changing conditions. In fact, many central banks opted for tool diversity in the post-crisis period, adopting a more flexible policy approach. Alternative policy tools tailored to meet specific needs of different country groups are depicted in Table 2. Accordingly, while major central banks mostly prefer monetary easing through security purchases, emerging economies effectively use required reserves, interest rate corridor and exchange rate interventions.

The required set of data to be monitored for understanding the monetary stance also expanded amid the diversity of tools (Borio, 2011). Prior to the crisis, policy rate was largely considered to be sufficient to represent the monetary policy stance in economies with a price stability objective. However, amid observing financial stability and the adoption of multiple tools, central banks also started to refer to financial indicators besides policy rates.

Monetary Policy in Turkey in the Post-Crisis Period

Following the global crisis, the CBRT, like many other central banks, started to observe financial stability besides its primary objective of price stability. Thus, in order to control macro financial risks due to global imbalances, the CBRT designed a new monetary policy framework by improving its inflation targeting regime. Accordingly, in order to provide tool diversity and policy flexibility, the CBRT started to use a policy mix of 1-week repo auction rates, the interest rate corridor between O/N borrowing and lending rates, as well as the required reserve ratios.

Monetary easing in advanced economies led to strong capital flows to emerging economies as of the first quarter of 2009, also including Turkey. Accordingly, financial stability was jeopardized by the imbalances in domestic and external demand and the surge in credit volume besides the deterioration in the financing quality. Against these developments, towards the end-2010, the CBRT widened the interest rate corridor downwards in order to limit short-term capital flows by reducing the risk-adjusted TL returns through increasing volatility in the short-term rates, and increased the required reserve ratios in order to slow down credit growth. Mounting concerns as of August 2011 over global growth and the Euro Area sovereign debt problem led to increased risk aversion, causing the volatility of the risk appetite to climb up to historic-highs. Countering the possible serious reflections of the deepened European debt crisis on Turkey necessitated a reversal in the use of policy tools since early August. Firstly, interest rate corridor was narrowed by raising O/N borrowing rates and TL required reserve ratios were adjusted to meet the liquidity demand of the banking system. Moreover, a series of liquidity measures were taken in order to alleviate fluctuations in the FX markets. Policy rates were also lowered, albeit slightly, in order to prevent the risk of recession in the domestic economy due to mounting global uncertainties.

With a view to prevent deterioration in the medium-term inflation expectations and outlook amid the faster-than-anticipated rise in inflation, the interest rate corridor was widened upwards by significantly raising the borrowing rates in October. Accordingly, market funding was adjusted to allow O/N money market rates to settle above the policy rate. Meanwhile, required reserve ratios were reduced slightly in order to prevent an unfavorable tightening in liquidity conditions due to rising O/N rates.

In sum, the CBRT has significantly changed its monetary policy strategy as of late 2010, amid heavier responsibility imposed to central banks after the global crisis. Giving more weight to financial stability, the new monetary policy was tailored to meet the specific challenges of the new era. The need for diversity of tools and the importance of flexibility in monetary policy implementations came to the forefront. Thus, the recent policy decisions taken by the CBRT should be evaluated against this widely spreading new policy approach.

Table 1			
Various Tools Used	d For Price and Financial Stability		
	Target	ТооІ	
Macro and Microprudential Policies	Stability of financial institutions and the system	Leverage ratio, quality and quantity of capital, capital adequacy ratios varying by business cycles	
	Price stability	Policy rate, repo transactions	
Monetary Policy	Effective liquidity management	Collateral policies, interest on required reserves, interest rate corridor	
	Containing financial imbalances	Required reserves, reserves policy	
Public Finance	Domestic demand management	Taxes, automatic balancing, countercyclical discretionary public spending	
	Public surplus at good times	Measures to reduce public debt, taxes on the financial system	
Capital Controls	Reducing the foreign exchange rate risk	Limiting the foreign exchange position, control of the foreign exchange assets	
Source: Galati and N	Mossner (2011).		

Table 2					
Non-Interest Policy	Tools Used by the	Central Banks			
	Balance Sheet and Liquidity Measures	Required Reserve Ratios	Interest Rate Corridor	Measures on Foreign Exchange Rate and Reserves	Other
U.S.A.					√1
Euro Area	\checkmark	\checkmark	\checkmark		√1
U.K.	\checkmark				$\sqrt{1}$
Japan	\checkmark				$\sqrt{1}$
Switzerland	\checkmark				$\sqrt{1}$
Canada	\checkmark				$\sqrt{1}$
Philippines		\checkmark			
Hungary			\checkmark		$\sqrt{2}$
Poland		\checkmark			
Czech Republic	\checkmark				
Russia		\checkmark			
Brazil		\checkmark			
Peru		\checkmark			
Colombia		\checkmark			
China		\checkmark			$\sqrt{3}$
Indonesia		\checkmark	\checkmark	\checkmark	
India		\checkmark	\checkmark		√3
South Korea					

2 Measures on Forint-denominated mortgage markets.

3 Measures on loan security ratio.

Source: Relevant central bank websites.

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