

# The Turkish Approach to Capital Flow Volatility

February 2013

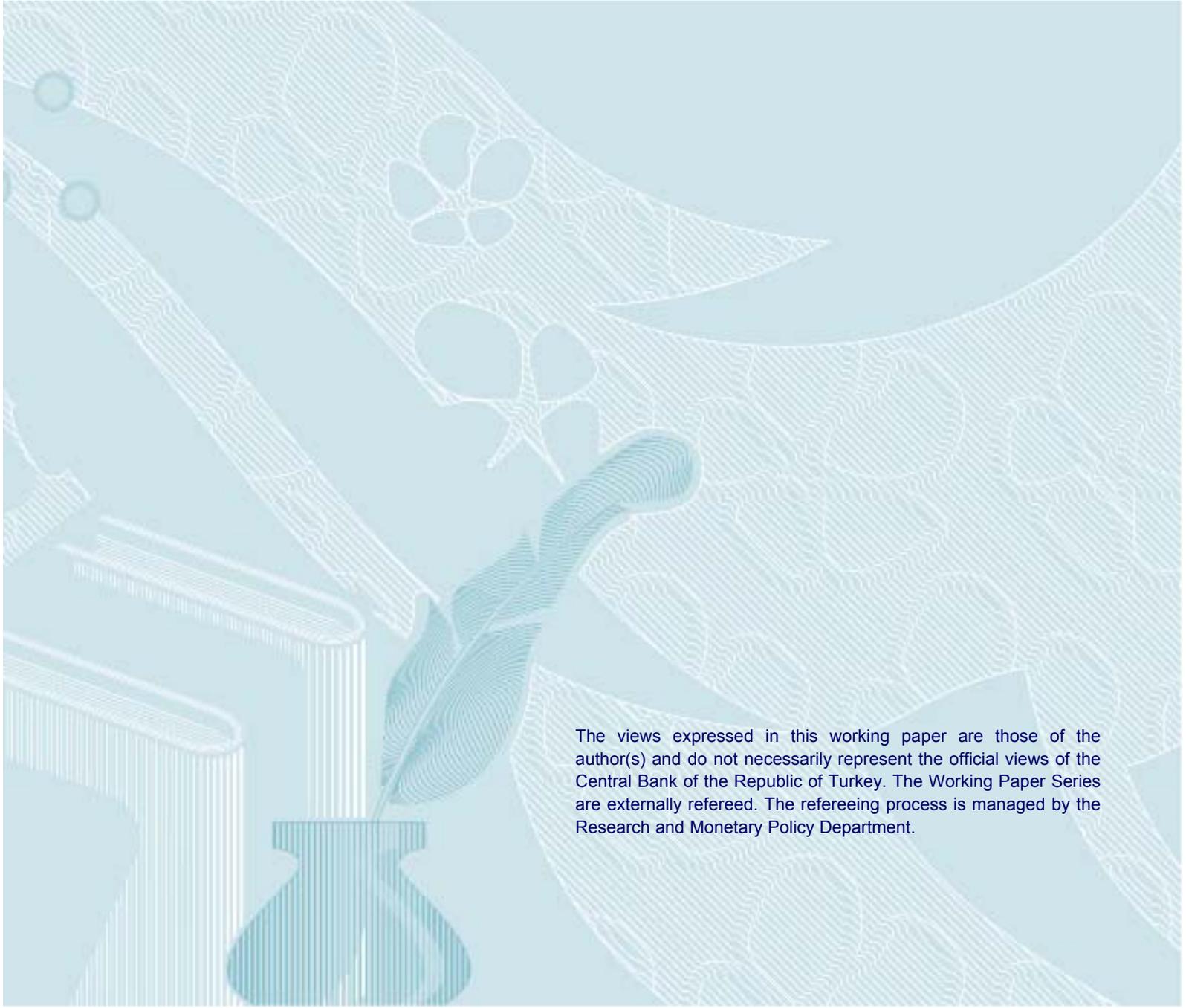
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# The Turkish Approach to Capital Flow Volatility

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## Abstract

The shock waves of the 2008-09 global financial crisis and the 2011-12 Eurozone debt crisis hit emerging markets from the trade, the finance and the expectations channels. We focus on the finance channel in this paper. We first discuss the challenges arising from capital flow volatility in emerging economies in general. We then focus on the Turkish approach and describe in detail the new policy mix implemented by the Central Bank of the Republic of Turkey during the 2008-2012 period and the results obtained. This approach differs from others in its emphasis on the use of macroprudential policy measures rather than capital flow measures for improving domestic financial stability in face of volatile capital flows.

Keywords: Capital flow volatility, macroprudential policy, capital flow measures

JEL Codes: E44, E52, E58

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<sup>‡</sup>We thank Joseph Stiglitz, Jonathan Ostry, Refet Gürkaynak, Hakan Kara and the participants of the IEA Roundtable on "Currency Inflows and Capital Account Management" held in İzmir, Turkey on November 1-2, 2012. The views expressed here belong to the authors only and do not represent those of the Central Bank of the Republic of Turkey or its staff.

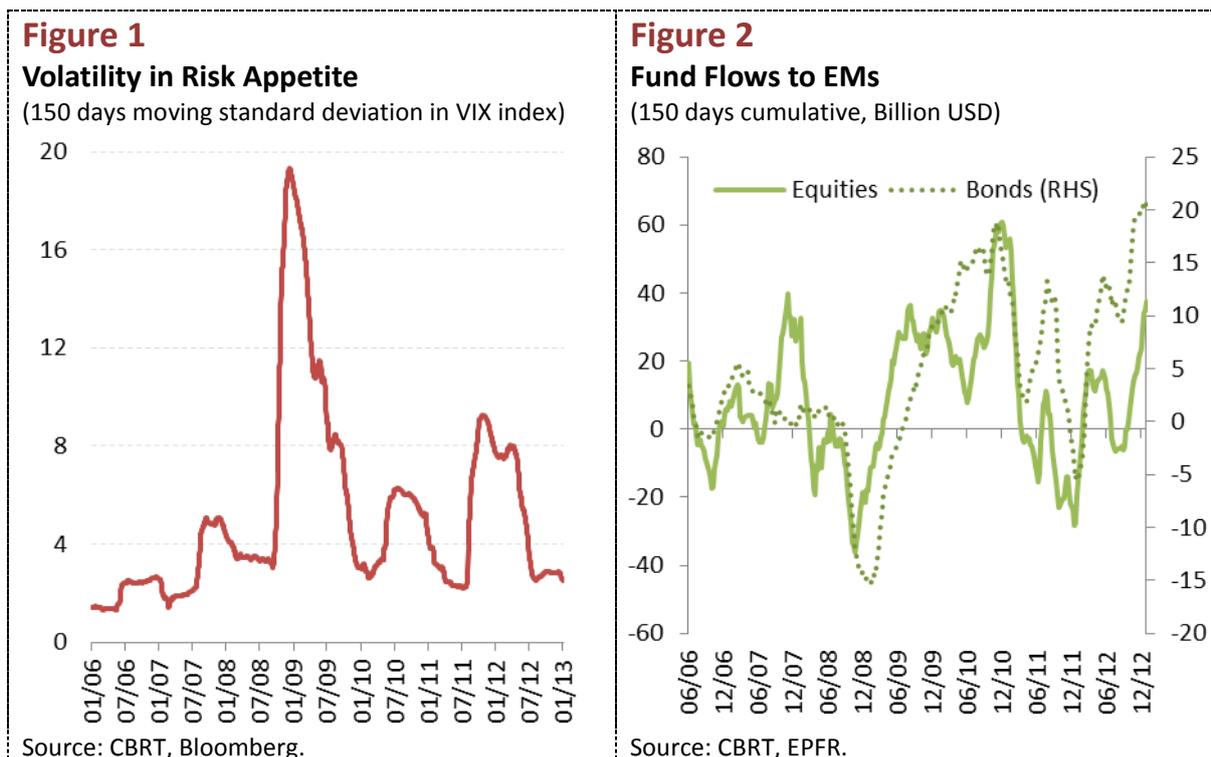
## 1 Introduction

The global financial crisis that intensified after the collapse of Lehman Brothers in 2008 is not over yet. Notwithstanding the rate cuts that brought policy rates close to the zero lower bound, major central banks have opted to implement radical balance sheet measures to lift up their economies from the demand side. The balance-sheet repair process and deleveraging still continues for firms and households even after four years from the crisis, and the recovery in economic activity is still far from the desired levels. Lately, the negative feedback loop between debt problems of sovereigns and their banking system fragilities do not make things easier for the policymakers in these economies<sup>1</sup>.

While advanced economies are facing problems of low domestic demand due to deleveraging, emerging economies have their own problems to deal with mainly as side effects of the former's difficulties. The shock wave of the global financial crisis as well as the Eurozone debt crisis hit emerging market shores in three channels (trade, finance and expectations channel) and we will focus on the finance channel for the scope of this paper. Quantitative easing, an unprecedented move from the central banks of the advanced economies in the face of the crisis, created abundant liquidity within the global financial system that looked for a higher yield in an environment with interest rates close to zero and emerging market assets were the answer to this search. However, risk sentiment have increased both in levels and volatility as advanced countries faltered in their attempts to get back to the pre-crisis levels due to the sovereign debt problems and the fragilities existing in the financial system (Figure 1). This resulted in the volatility of short-term capital flows to emerging economies (Figure 2). In this volatile financial environment, emerging countries

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<sup>1</sup> Brunnermeier (2012).



have started introducing new measures to tackle with the sudden capital shifts, which are known to have devastating effects and dubbed as “sudden stop” in the literature<sup>2</sup>.

The rest of the paper is structured as follows. Next section presents a brief review of the literature on capital flow liberalization. Section 3 describes the recently changing landscape of central banking both in advanced and emerging economies. After discussing the framework for emerging market policies against volatile short term capital flows in general, Section 4 focuses on the Turkish approach and detail the new policy mix that the CBRT implemented in order to contribute to the domestic financial stability while preserving price stability. Section 5 concludes the paper.

## 2 Literature Review

After the financial crises in the late 1990s, there has been a concern about the liberalization of capital flows as distinct from the liberalization of trade flows. Specifically,

<sup>2</sup> Calvo and Reinhart (2000).

the economic literature intensified the debate on the negative or positive impacts of short-term capital flows. There are two opposite views and many views in between<sup>3</sup>. Proponents of the first view support the idea that capital market liberalization leads to economic growth<sup>4</sup>. The opposite view argues that there is no correlation between openness of capital account and growth<sup>5</sup>. Stiglitz (2004) for example, argues that liberalization of capital flows has often led to increased economic instability. Others in between these two opposing views have argued that capital openness has benefits as well as costs and the benefits are largest when countries achieve a certain threshold level of institutional development<sup>6</sup>.

Capital flow liberalization has often been followed by financial crises as discussed in Demirgüç-Kunt and Detragiache (1998), Dell'Arricia et al. (2008) and Pinto and Ulatov (2010). Therefore, countries have started to implement capital flow measures (CFMs) in order to prevent the negative effects of the volatility of short-term capital flows. These measures can be in various forms, such as those imposed on inflows or outflows, on different maturities or on different types of flows. During the Asian crisis, Malaysia imposed CFMs and Kaplan and Rodrik (2001) claim that they had beneficial impacts. On the other hand, Dornbusch (2001) argues that they were imposed after the country already stabilized. De Gregorio, Edwards and Valdes (2000) claim that the capital flow measures imposed by Chile were effective in increasing the quality of the financing of debt from short-term towards longer term. In contrast, Forbes (2005) argues that short-term credit was penalized; hence, small and medium-sized firms, which typically find it harder to issue long-term bonds, faced much higher costs of capital.

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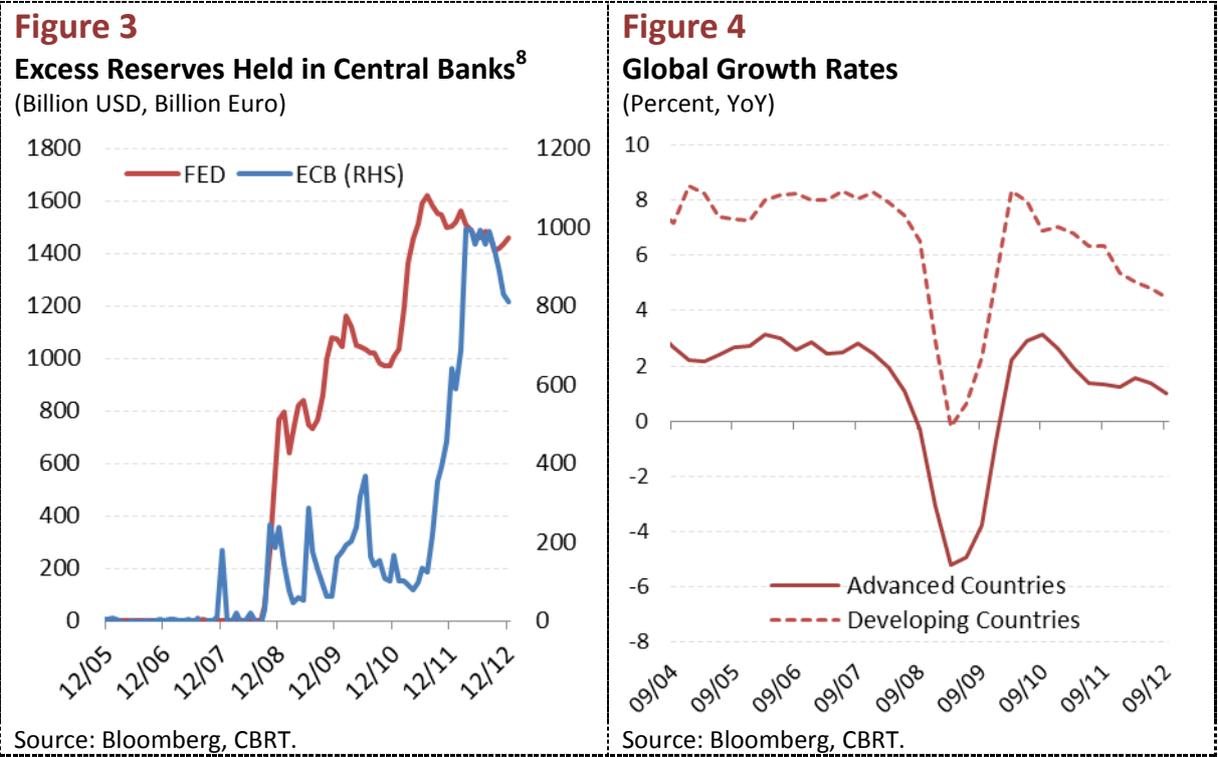
<sup>3</sup> See Eichengreen (2000) for a detailed survey.

<sup>4</sup> See Fischer (1998) and Summers (2000).

<sup>5</sup> Among others, see Bhagwati (1998) and Stiglitz (2000).

<sup>6</sup> Chinn and Ito (2006), Klein and Olivei (2006), Prasad and Rajan (2008).

For a long time IMF has been on the supportive side of the free capital flows and taken a stance against all types of capital controls. However, recently IMF reversed its opposition to capital controls as stated in the latest institutional view, “Capital flow liberalization carries risks, which are magnified when countries have yet to attain sufficient levels of financial and institutional development. In certain circumstances, capital flow management measures can be useful. They should not, however, substitute for warranted macroeconomic adjustment.”<sup>7</sup>



### 3 Post-Crisis Central Banking

Global financial crisis was a wake-up call for policymakers. Before the crisis, it was a near universal rule that prudential policy should be taken care of by regulatory and supervisory institutions at a micro level, while central banks should solely be responsible for

<sup>7</sup> IMF (2012).  
<sup>8</sup> ECB Excess Reserves = Current Account Holdings - Reserve Requirements + Deposit Facility + Fixed Term Deposits

the price stability. Guaranteeing the soundness of each individual institution was deemed sufficient for the well-functioning of the whole financial system. It was also argued that if each central bank keep-its-house-in-order, there would be an appropriate global monetary stance for the stability of the global financial system. These microprudential approaches to price stability and financial stability, which seemed to be working well for a while, laid the fragile foundations of the global financial system that was shaken with the collapse of Lehman Brothers<sup>9</sup>.

For the past couple of years, academicians and policymakers have been discussing possible solutions on how to incorporate financial stability in the implementation of monetary policy without diluting the price-stability objective of central banks. Bean (2009) argues that financial stability is best ensured through the newly established macroprudential frameworks and Brunnermeier et al. (2009) attributes this role to central banks with a macroprudential orientation. Goodhart (2010) stresses this point with “the years ahead will be a period of experimentation in central banking.” Even though there is yet to be any consensus on the tools of monetary policy in the post-crisis era, it is well accepted that using only short-term interest rates as a policy tool is not sufficient to maintain price stability and contribute to financial stability at the same time. In other words, the rate required to ensure price stability may not be the same rate that is needed to preserve financial stability. Hence, central banks have expanded their toolset to achieve both goals – when trying to spur the demand in advanced economies or to contain adverse effects of sudden reversal of capital flows in emerging markets.

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<sup>9</sup> Borio (2011).

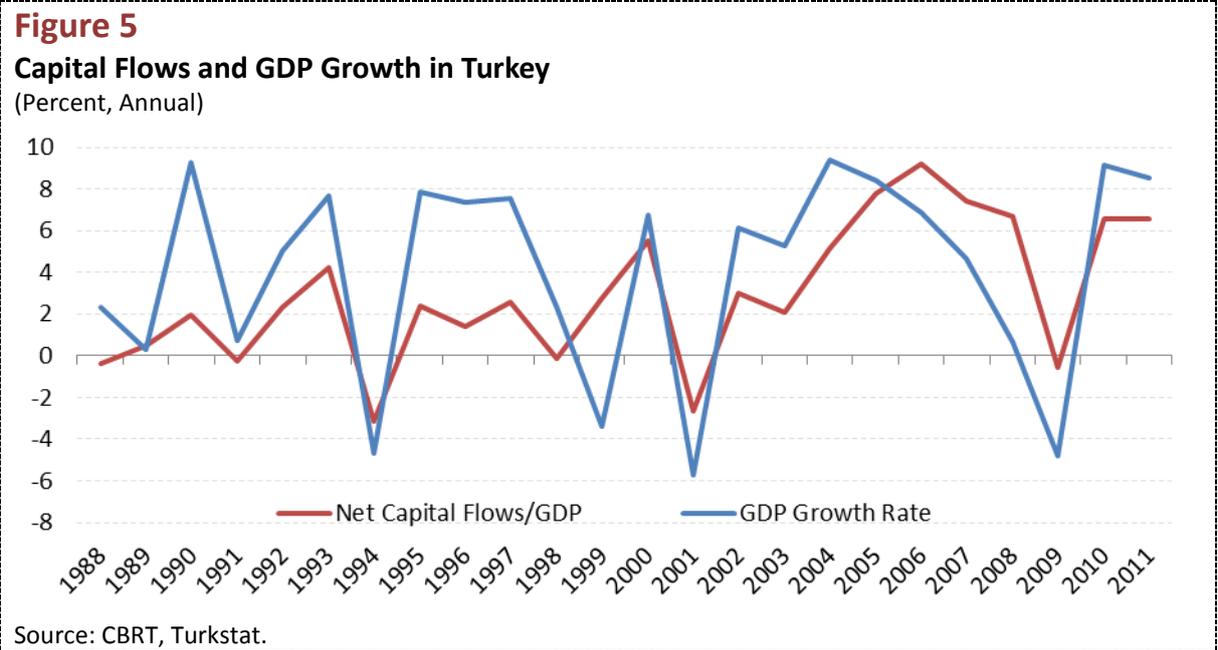
### **3.1 Advanced Economies**

After Lehman Brothers' collapse, central banks in developed economies started to aggressively cut interest rates, driving them close to zero. However, these reductions have not been enough to stimulate demand for goods and services so they started to use unconventional monetary policies such as large-scale asset purchases or long term funding. These new balance-sheet policies have been repeated as deemed necessary since the policy rates had reached the zero lower bound long before (Figure 3). However, critics voiced their concerns about this accommodative stance stating that it will be very difficult to use exit strategies after a long horizon with low rates. Adrian and Shin (2010) shows that low interest rates may encourage excessive risk-taking and create further fragilities within the system.

### **3.2 Emerging Markets**

While advanced economies try to introduce and use unconventional policies to spur domestic demand, emerging markets face a different type of challenge in the post-crisis episode. It is no doubt that most emerging markets have withstood the global turmoil better than the advanced economies and decoupling was apparent (Figure 4). Fiscal discipline, low public and private debt and resilience of their banking systems made emerging market economies an attractive choice for the abundant liquidity created by the central banks of advanced economies and capital flows to EMs flourished. However, these excessive capital flows posed significant challenges for the EM policymakers. First and foremost, they made credit more accessible due to low cost of funding that led to rapid credit growth. Coupled with the weak external demand from advanced economies and the significant appreciation in EM currencies, current account imbalances soared. These factors all combined raised

fears of a sudden stop and related future problems for emerging economies, and hence necessitated action on the policymakers' side.



Extraordinary times demand extraordinary measures. When dealing with the adverse consequences of capital flow volatility, taking this principle to heart, EMs utilized various novel policy measures in addition to conventional macroeconomic policies in order to sustain financial stability, correct macro imbalances and prevent any possible asset price bubbles. The appropriate policy mix for addressing these risks depends on a variety of country-specific considerations, including macroeconomic and financial stability, the level of financial development, and the institutional infrastructure. However, these policies are broadly seen in two categories: capital flow measures and macroprudential measures.

In its Code of Liberalization of Capital Movements, the Organization for Economic Cooperation and Development (2011) classifies measures under the name of capital controls if they discriminate between residents and nonresidents. Capital flow measures, as described by the IMF (2012), are price-based or administrative measures designed to contain

the scale or affect the composition of capital flows. According to IMF institutional view, introducing CFMs can be useful for supporting macroeconomic policy adjustment and safeguarding financial stability in certain circumstances. To give an example, during the global financial storm, Brazil used Tax on Financial Transactions (IOF) to curb excessive short-term and speculative capital inflows and lengthen flow composition<sup>10</sup>; at first, IOF for nonresidents' portfolio investment in fixed income instruments was increased from 0% to 2%, and later it was raised to 6%. Magud, Reinhart, and Rogoff (2011) suggest that countries that maintain capital controls on inflows seem to be able to change the composition of flows towards longer term flows and have a more independent monetary policy. However, Ostry et al. (2011) stresses that capital controls, due to their discriminatory nature, must be utilized only after other macroeconomic and macroprudential tools are exhausted regardless of whether imposed for macroeconomic or financial stability concerns. Even then, they may not be sufficient to achieve external adjustment or significantly influence capital flows<sup>11</sup>. This is in part due to their effectiveness diminishing over time owing to the incentives to circumvent the restrictions<sup>12</sup>.

Since capital flow measures are, in general, hard to implement and rather easy to circumvent, macroprudential measures (MPMs) have come to spotlight as more effective alternative policy tools for EM policymakers. They are designed to contain the buildup of systemic financial risks and maintain financial stability through counter-cyclical measures. Some commonly implemented MPMs are countercyclical provisioning and loan-to-value restrictions, capital and liquidity surcharges on the banking system, outright caps on credit growth, higher and maturity based reserve requirements, and countercyclical capital buffers.

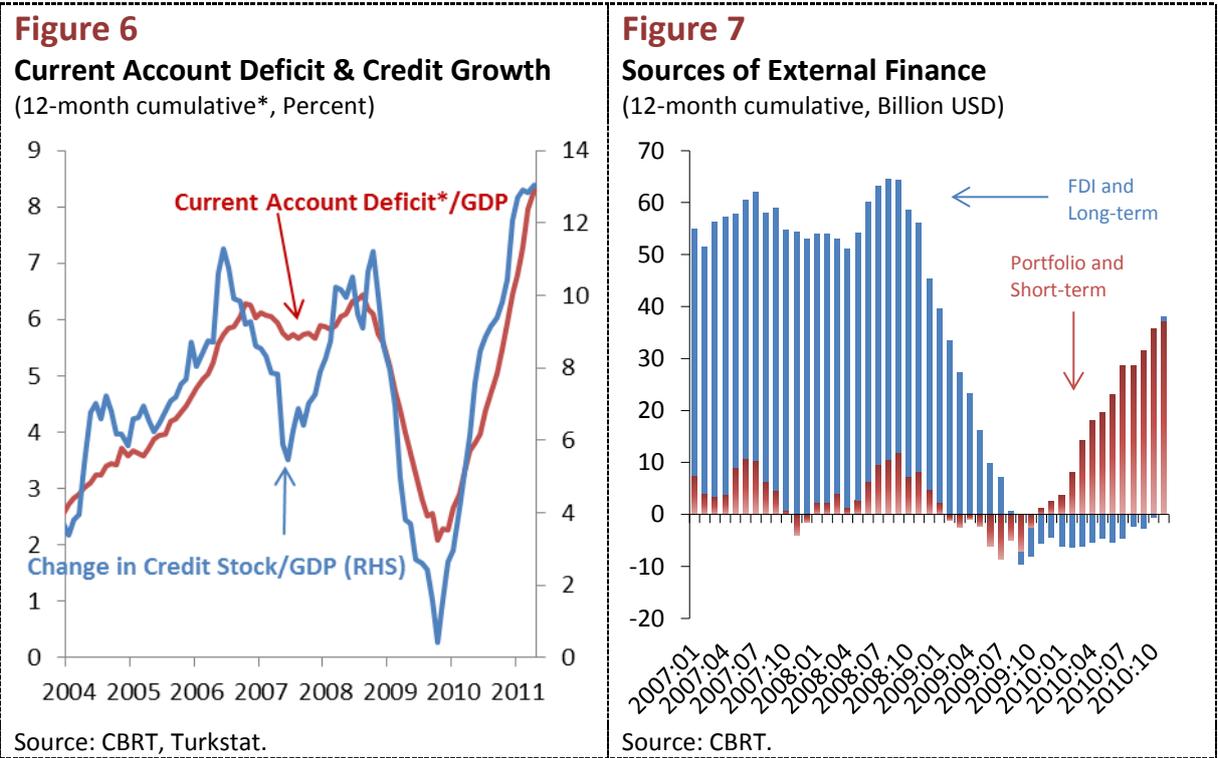
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<sup>10</sup> Pereira da Silva and Harris (2012).

<sup>11</sup> IMF (2012).

<sup>12</sup> Ostry et al. (2010).

Since November 2010, instead of capital flow measures, Turkey has been using a mix of MPMs along with varying the degree of monetary policy predictability in face of the volatile short term capital flows and has successfully curbed the domestic credit growth, avoided the overvaluation pressure on its currency and the divergence between foreign and domestic demand. The details of the new policy mix of the Central Bank of the Republic of Turkey (CBRT) are described in the following section.

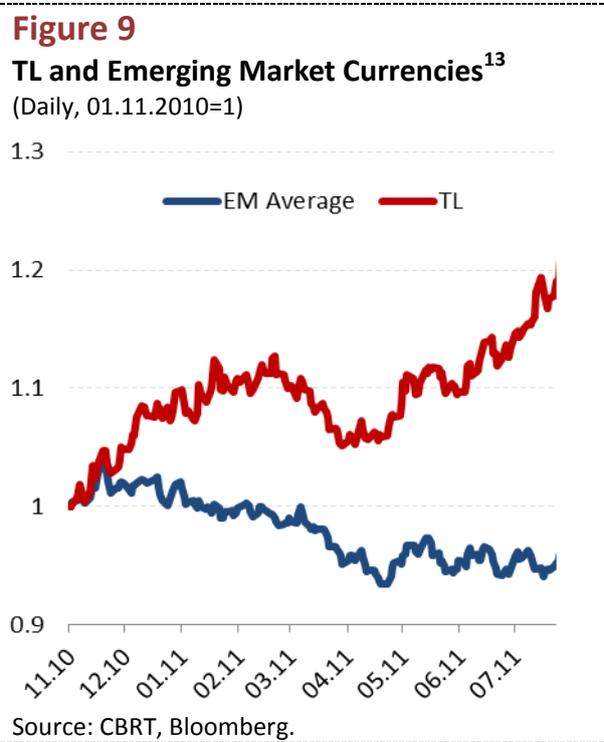
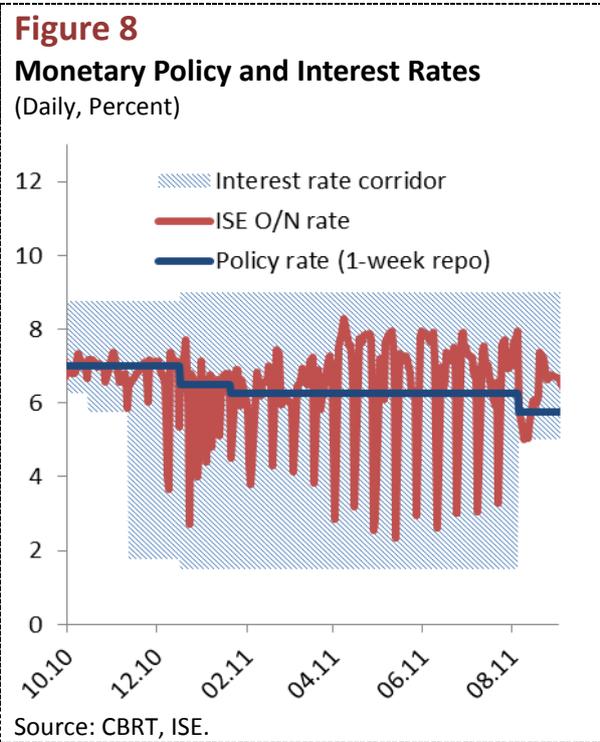


#### 4 The New Policy Mix in Turkey

Similar to other emerging market economies, real output growth rates and cross border capital flows are closely linked in Turkey. During rapid inflows economic growth picks up whereas periods of sudden outflows lead to sudden economic downturns (Figure 5). Recent phase of expansionary monetary policies of advanced economies had significant implications for the Turkish economy as the availability of ample and low-cost short-term

foreign financing led to a rapid credit growth, an undue appreciation pressure on domestic currency and a resulting deterioration in the current account (Figure 6). The appreciation in the Turkish lira and the increase in domestic consumption accelerated import growth but weak foreign demand in the aftermath of the crisis had led to a limited increase in export growth. Consequently, the deterioration in current account balance and the increasing share of short-term capital flows that finances the deficit increased the sensitivity of the Turkish economy to sudden changes in global risk appetite (Figure 7).

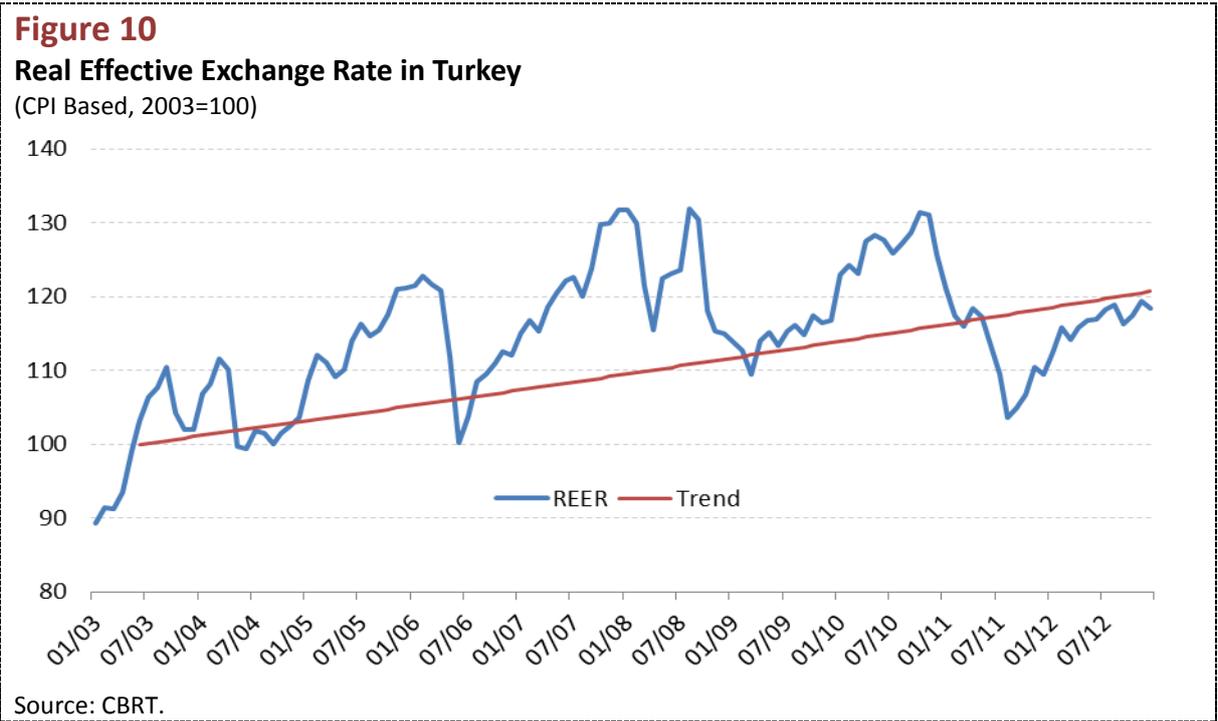
Conditions laid above had necessitated a new approach and a new policy mix<sup>14</sup>. While maintaining price stability as the primary objective, contributing to financial stability was recognized as a supportive objective in monetary policy. In addition to the policy rate, complementary instruments such as reserve requirements, interest rate corridor and liquidity management were also utilized. CBRT started actively using the new policy



<sup>13</sup> EM Average: Brazil, Chile, Colombia, Czech Republic, Hungary, India, Indonesia, Israel, Malaysia, Mexico, Philippines, Poland, Romania, South Africa, South Korea and Thailand.

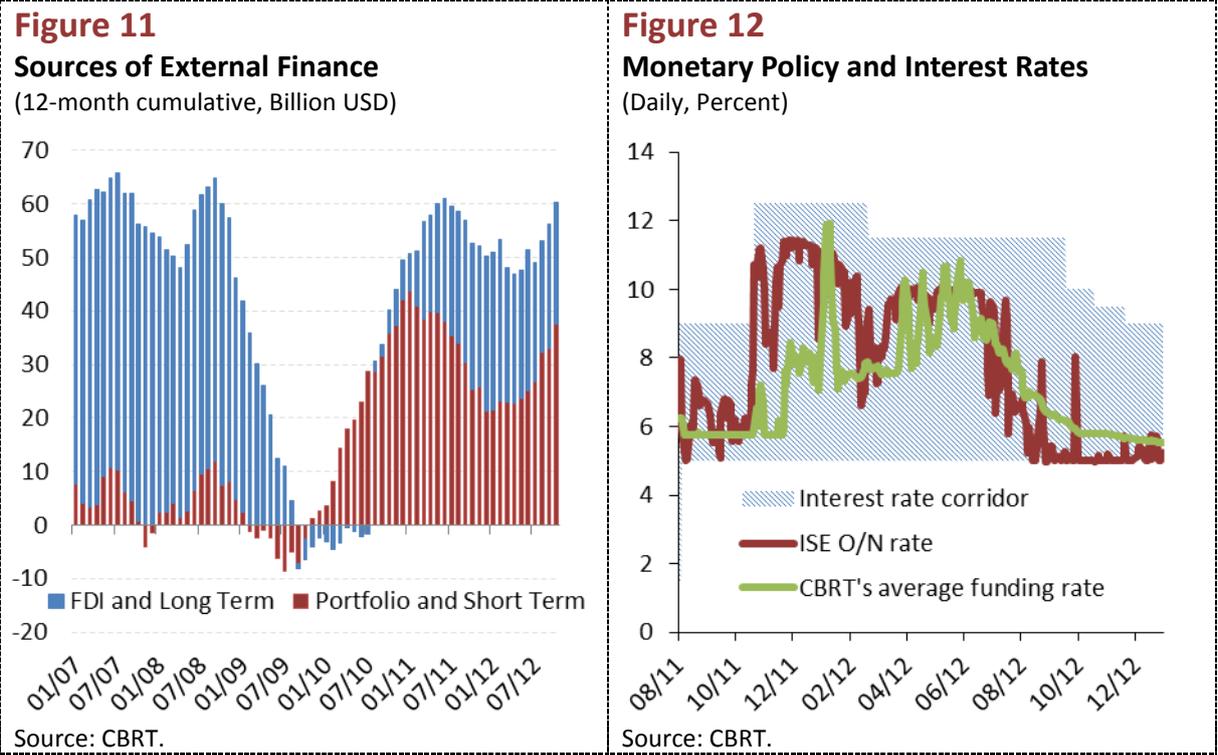
<sup>14</sup> See Başçı and Kara (2011) for details of the policy mix.

instruments during the period between November 2010 and August 2011, when strong global risk appetite drove short-term capital flows to emerging markets. During this period, CBRT aimed to lengthen the maturity of inflows and prevent excessive appreciation of the Turkish lira. Moreover, CBRT targeted a more controlled domestic demand and domestic credit growth in order to rebalance the widening current account deficit.



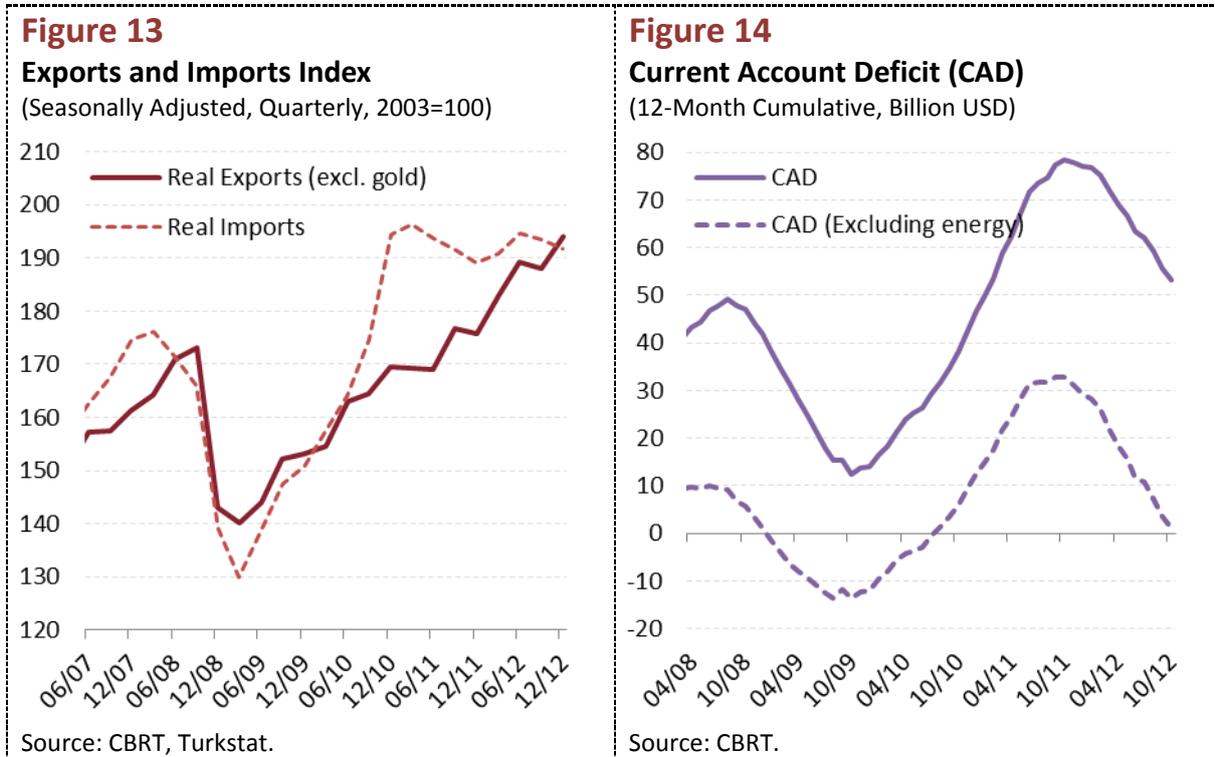
In November 2010, CBRT decreased overnight borrowing rate from 5.75 to 1.75 while keeping the lending rate at 8.75 and policy rate at 7.00. In December 2010, the interest rate corridor was widened further and the difference between lending and borrowing rate became 750 basis points. During this period, the overnight interest rates were allowed to materialize significantly below the policy rate occasionally so that short term carry trade was discouraged by reducing the return to risk ratio (Figure 8). Also, in the same period, reserve requirement ratios were increased to prevent excessive credit growth and to control domestic demand. After November 2010, the behavior of the Turkish lira against the U.S. dollar was clearly differentiated relative to the currencies of other developing countries.

While currencies of other emerging countries continued to appreciate (Figure 9), the overvaluation of the Turkish lira was corrected to a large extent by the policies implemented (Figure 10). Furthermore, the share of long-term capital flows began to pick-up during this period (Figure 11).



In the period between August 2011 and June 2012, sovereign debt problems in some Eurozone countries led to an escalation of global risk aversion, thus resulting in capital outflows from developing countries. CBRT responded with the tools of new policy mix in the opposite direction than the period of rapid inflows. As a result of the deterioration in global risk appetite, CBRT narrowed the interest rate corridor by increasing the lower limit of the corridor from 1.50 to 5.00 in August 2011. In October 2011, in order to prevent the adverse effects of excessive currency weakening on medium-term inflation expectations, the interest rate corridor widened upwards this time, and the difference between upper and lower limit of the corridor rose to 750 basis points (Figure 12). In addition, Turkish lira reserve

requirements were cut in order to reduce the burden of liquidity requirements on the banking sector.

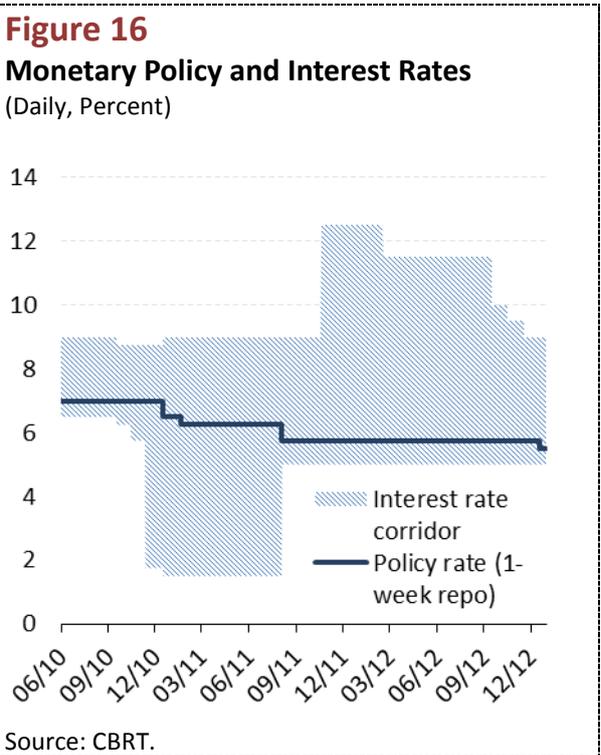
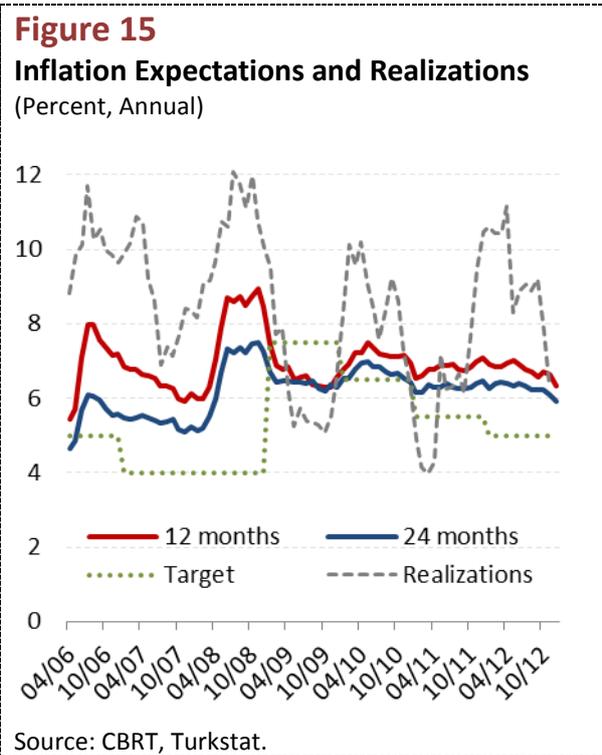


As an important pillar of the new policy mix, overnight interest rates were adjusted via day to day liquidity policy in response to the course of economic and financial developments without changing the weekly repo rates, i.e. the main policy rate (Başçı, 2012). Accordingly, CBRT kept a tightening bias and indeed occasionally resorted to episodes of additional monetary tightening (AMT)<sup>15</sup> in order to prevent undesired exchange rate movements from deteriorating the inflation outlook via pass-through and expectations. On the days of AMT, the Bank reduced or even cut the funding supplied at the policy rate. Instead, market was funded via market price based auctions, and hence, overnight rates settled at or close to the upper bound of the interest rate corridor. Akçelik et al. (2012) show that additional

<sup>15</sup> AMT was conducted on six different occasions, each one lasting from minimum 3 days to maximum 8 days. These days are the following; 29.12.11-09.01.12, 23.03.12-29.03.12, 12.04.12-17.04.12, 04.05.12-11.05.12, 18.05.12-25.05.12 and 31.05.12-04.06.12.

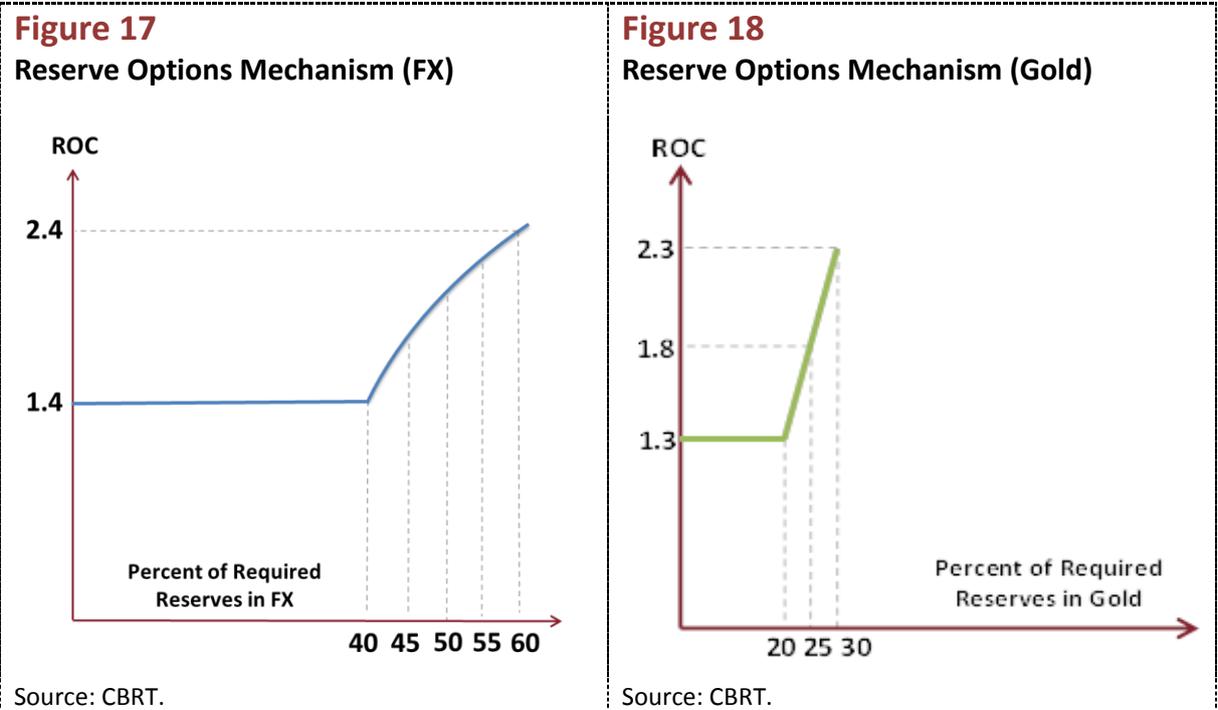
monetary tightening had a significant role in reducing the excessive volatility in the exchange rates.

As a result of the stability measures taken in Euro area, global risk appetite has started to improve and capital flows to emerging markets has accelerated since June 2012. After these measures, risk perception towards Turkish economy has improved, also thanks to better-than-expected outturns in inflation and the current account deficit. Accordingly, in the second half of 2012 CBRT reduced its average funding rate gradually, and subsequently the secondary market overnight interest rates fell significantly as well (Figure 12). There have been clearer signs of a more robust rebalancing process on the current account due to strong exports and lower import demand (Figures 13 and 14). In addition, the disinflationary impact of domestic demand has become more significant and inflation has started to decline (Figure 15). Thanks to the positive inflation outlook and to support financial stability, CBRT started to narrow the interest rate corridor by decreasing the upper bound of the corridor



since September 2012 (Figure 16).

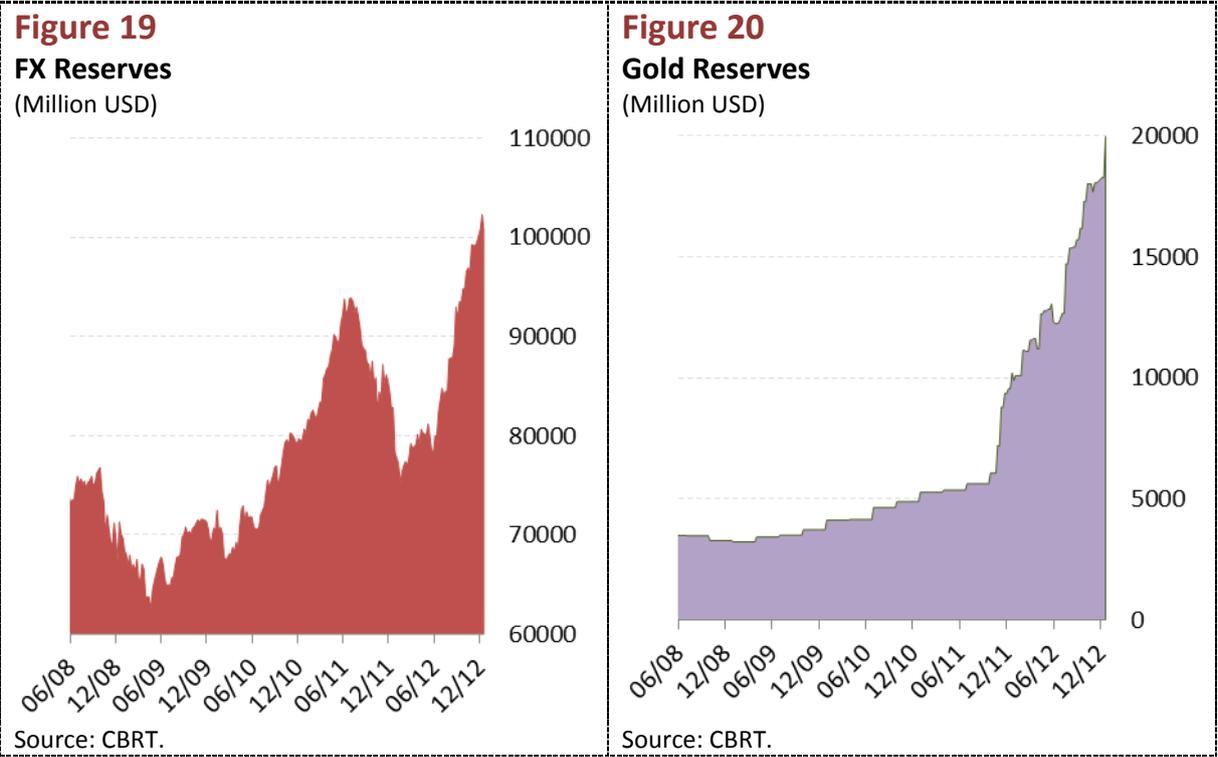
In the meantime, CBRT has added a new policy tool called the Reserve Options Mechanism (ROM). ROM gives an option to Turkish banks to hold FX or gold reserves at the Central Bank instead of their Turkish lira required reserves. Up to 60% of TL required reserves can be held in FX and up to 30% can be held in gold. Furthermore, in this mechanism, the amount of FX or gold to be held per unit of TL requirements, i.e. reserve option coefficients (ROC), is an increasing function of the usage of this facility (Figures 17 and 18). ROM not only provides Turkish lira liquidity to banks in a more permanent way and lowers their funding costs, but also supports the CBRT’s gross foreign exchange and gold reserves (Figures 19 and 20). This new mechanism increased the flexibility of Turkish monetary policy by working as an automatic stabilizer in face of volatile short-term capital flows<sup>16</sup>. Oduncu et al. (2013) show the effectiveness of ROM on decreasing the volatility of



<sup>16</sup> See Alper et al. (2012) and Küçükşaraç and Özel (2012) for details of ROM.

Turkish lira empirically.

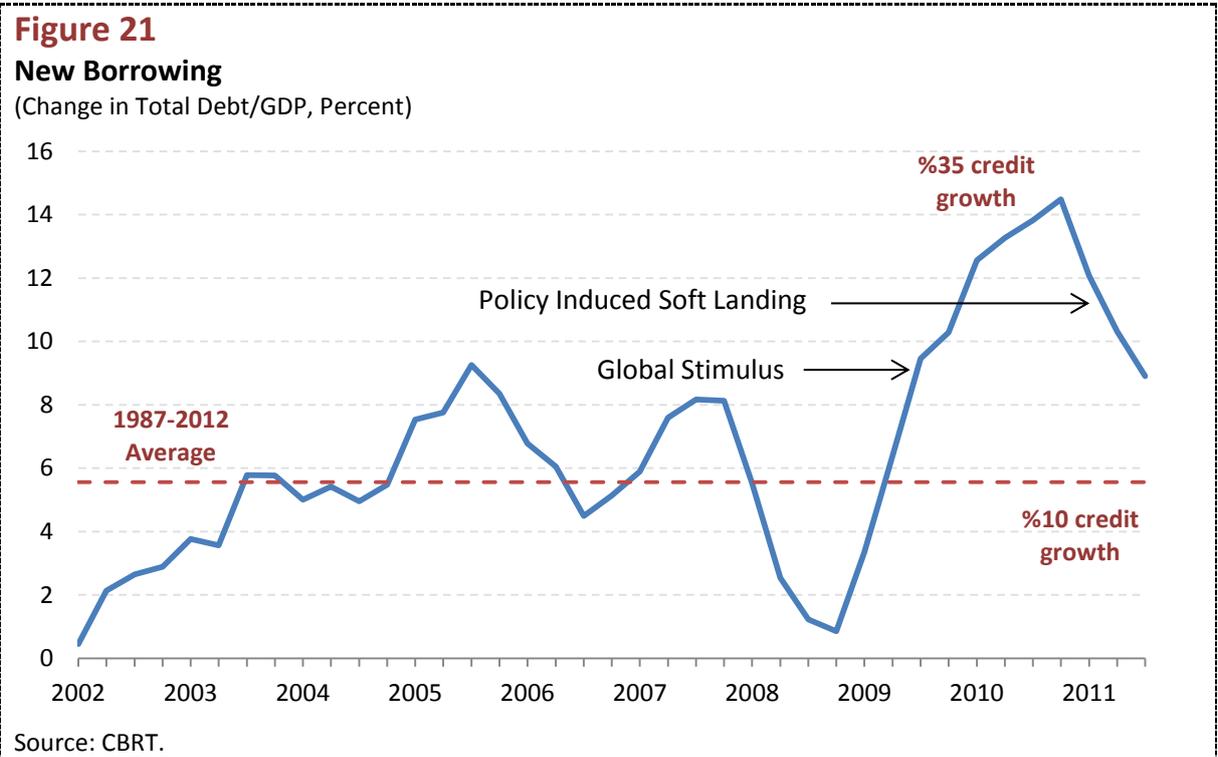
In summary, macroeconomic indicators show that policies pursued were successful in delivering the intended results. With the implementation of the new policy mix, the rebalancing between the domestic and external demand became evident, the quality of financing the current account deficit improved in terms of maturity, the credit growth slowed down to desired levels (Figure 21), the volatility of TL with respect to other emerging economies fell visibly (Figures 22 and 23), and the inflation expectations have been anchored throughout this period at levels slightly above the target of 5 percent.



## 5 Conclusion

After the global financial crisis, it was well understood by both academicians and policy makers that price stability is not sufficient for maintaining macroeconomic stability by itself and that financial stability is integral to the well-functioning of the domestic and global

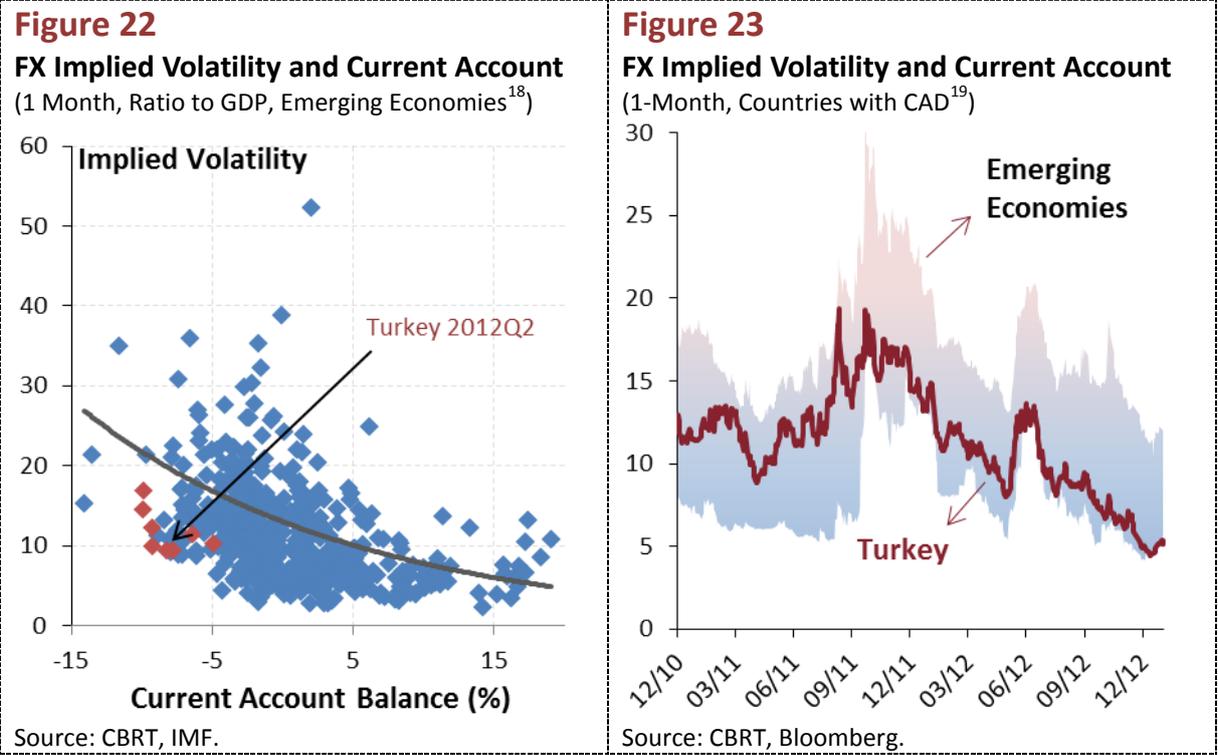
financial markets. How to incorporate financial stability in the monetary policy frameworks without diluting the price-stability objective has become a significant question for all central banks.



The Central Bank of the Republic of Turkey adopted a new monetary policy framework since November 2010 in order to offer a country-specific solution to this question. In the new framework, reserve requirements, weekly repo rates, the interest rate corridor, the funding strategy and other macro prudential tools are jointly used as complementary tools for credit, interest rate and liquidity management<sup>17</sup>. In utilizing these tools, expectations, credit growth and exchange rate are monitored as key indicators related to price stability and financial stability. Moreover, Reserve Options Mechanism, which is the option to hold FX or gold reserves instead of Turkish Lira required reserves of Turkish banks, was introduced during the same period. Here, the aim is to increase the resilience of the financial system

<sup>17</sup> For liquidity management of central banks, see Goodhart (2009).

against external shocks through increasing international reserves of the banking system held within the Central Bank and to provide more flexibility to monetary policy by allowing the separate management of domestic liquidity and foreign liquidity.



Flexible monetary policy has proven its merits globally. This has recently been recognized by the IMF Managing Director Christine Lagarde, “...flexible monetary is key to overcoming the debt crisis, once and for all<sup>20</sup>”. In the discussions of post-crisis central banking, Turkey’s experience with a newly introduced set of policy instruments has the potential to serve as a useful example for both economists and policymakers in dealing with capital flow volatility.

<sup>18</sup> Red markers indicate data on Turkey from 2010Q2 to 2012Q2. Emerging Economies: Argentina, Brazil, Chile, Colombia, Czech Rep., Hungary, India, Indonesia, Malaysia, Mexico, Peru, Philippines, Romania, Russia, S. Africa, Taiwan, Thailand and Turkey.

<sup>19</sup> Countries with a current account deficit: Poland, Brazil, Chile, South Africa, Indonesia, Columbia, Mexico, Czech Rep., Romania and Turkey.

<sup>20</sup> Lagarde (2012).

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