

# Turkey's experience with macroprudential policy<sup>1</sup>

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## 1. Introduction

The global financial crisis have led to a reassessment of macroeconomic policy formulation across the globe. As a consequence, countries have expanded their policy toolkits with macroprudential policies in recent years to deal with macro financial risks.<sup>3</sup> The heightened volatility in capital flows during the post-crisis period has led to significant challenges especially for emerging economies by worsening policy trade-offs. Such an environment made additional tools of macroeconomic and financial policy more valuable.<sup>4</sup>

Against this backdrop, Turkey has taken a number of steps towards building an institutional setup for implementing explicit macroprudential policies since 2011. To this end, the Central Bank of the Republic of Turkey (CBRT) modified the inflation targeting framework by incorporating financial stability as a supplementary objective. Moreover, a formal Financial Stability Committee (FSC) was founded to respond to macro-financial risks in a more systematic and coordinated fashion.

This study conducts a broad evaluation of the macroprudential policy implementation in Turkey during this process and draws some policy implications. We first highlight the central role of the capital flow volatility and the associated tradeoffs in designing the macroprudential policy framework. Next, we describe policy implementation and outcomes. Our analysis suggests that macroprudential policies have improved external balances, dampened financial amplification channels, and reduced the sensitivity of the Turkish economy to capital flows.

How to design and implement macroprudential policies has been of great interest to both policy institutions and academia after the global financial crisis. The renewed interest in conducting macroprudential policy yielded a substantial amount of research in recent years. New theoretical results and empirical findings triggered attempts to streamline and standardise the conduct of macroprudential policy.<sup>5</sup> Although these efforts have tremendously contributed to our understanding of macroprudential policy, they are mostly based on theoretical results or cross-country evidences with limited attention to country-specific characteristics. Given the

<sup>1</sup> The views expressed in this paper are those of the authors' and do not necessarily represent the official views of the Central Bank of the Republic of Turkey. I would like to thank Koray Alper, Uğur Çıplak, Pınar Özlü, Faruk Aydın, Deren Ünalmiş and Canan Yüksel for useful contributions.

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<sup>3</sup> For an overview of macroprudential policy measures across advanced and emerging economies see, eg, Lim et al (2011, 2013), Tovar et al (2012), Ostry et al (2012), Claessens and Ghosh (2013), Claessens et al (2013), Claessens (2014), Galati and Moessner (2013, 2014), Bruno and Shin (2015) and Akinci and Olmstead-Rumsey (2015), among others.

<sup>4</sup> See Obstfeld (2015).

<sup>5</sup> See IMF (2013, 2015) and Schoenmaker (2014), among others.

complexity of instruments, long lags with which they affect the final policy objectives, and the short size of the data, the existing theoretical and empirical literature may still have to be complemented by case studies. In that sense, we believe that individual country experiences may provide valuable insights for the design and conduct of macroprudential policies.

Macroprudential policy experience of Turkey may yield contributions for the current debate at least for two reasons: first, Turkey has been quite active on the macroprudential front in recent years, using a wide range of tools imposed through restrictions on both borrowers and financial institutions; second, design and implementation of macroprudential policy framework in Turkey reflects a purely emerging economy perspective, where special emphasis has been given to the role of capital flows. Understanding this approach may yield particularly valuable insights, because recent studies have mostly focused on advanced economy settings. The central role of capital flows in driving business cycles and macro-financial risks in emerging economies may have different implications for the conduct of macroprudential policies as well as for the interaction between monetary and macroprudential policies.

The design and implementation of macroprudential policies are largely country-specific, depending on the initial cyclical and structural characteristics of the economy as well as the institutional background. Therefore, we proceed by describing the initial conditions and the background for the Turkish case.

## 2. Background

Turkey faced rapid credit growth during the past decade on the back of improved economic fundamentals after the 2001 crisis and easy global liquidity conditions. The 2001 crisis, which was a home-made event consisting of a mixture of banking, fiscal, and balance of payment crises, incorporated many features of the conventional crisis literature. The response to such a devastating crisis was strong. Several structural adjustments took place on fiscal, monetary and prudential dimensions. The new Central Bank law, introduction of a floating exchange rate regime along with inflation targeting, consolidation and strengthening of the banking system and fiscal balances, and foundation of a new banking regulatory and supervisory agency have made Turkey an attractive destination for capital flows. Fueled by ample global liquidity and also supported by demographic factors, Turkey faced rapid credit growth during the 2000s, as private credit to GDP ratio rose sharply (Figure 1).

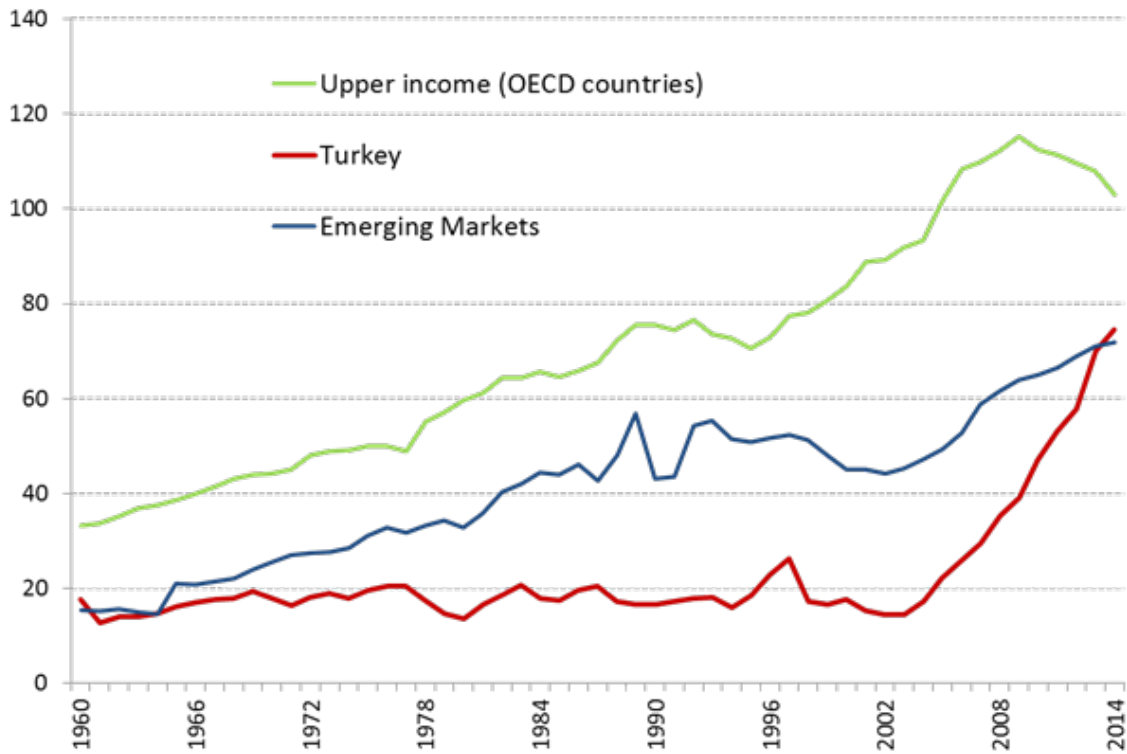
Perhaps paradoxically, rapid credit growth during the past decade coincided with a considerably tight bank regulation and supervision. Prudential policies in Turkey are traditionally implemented through the banking system, as Turkish financial intermediation is dominated by banks.<sup>6</sup> Reflecting the bitter experience of the past financial crises, bank regulation and supervision has been unambiguously prudent during the past decade. For example, banks were not allowed to have currency mismatches, foreign currency loans to consumers were prohibited, and there were restrictions on foreign currency lending to non-financial firms. Tight restrictions were

<sup>6</sup> As of September 2015, 92.3% of the financial liabilities of households are to banks (see CBRT Financial Stability Report, November 2015, Table II.1.2).

imposed on distributing bank dividends, new bank entry, branch openings etc. Moreover, Banking Regulation and Supervision Agency (BRSA) imposed significantly higher minimum capital adequacy and liquidity coverage ratios than required by international standards. Reflecting the cautious prudential framework, banks have maintained ample capital and liquidity buffers during this period.<sup>7</sup>

Private Credit/GDP Ratio

Figure 1



Source: World Bank.

Although many of these prudential features had macro implications, a formal macroprudential perspective was lacking during the 2000s. BRSA had a microprudential mandate, mostly focusing on the health of individual banks. CBRT published a financial stability report with a macro perspective, but monetary policy was conducted under a conventional inflation targeting regime, with no explicit mandate or tool(s) for responding to macro-financial risks.

The quantitative easing by advanced economies and the surge of capital flows to emerging economies after the global financial crisis further highlighted the need to adopt an explicit macro approach to financial stability. The underlying trend of private credit growth rate climbed to 40% at the end of 2010. Meanwhile, Turkish lira appreciated rapidly in real terms. These developments were accompanied by an overheating in the economy and a sharp widening in the current account deficit. Perhaps more importantly, the quality of external finance deteriorated sharply. By the end of 2010, almost all the current account deficit was financed by either short-term

<sup>7</sup> For example, the capital adequacy ratio of the system was above 16% throughout the period of 2002–10.

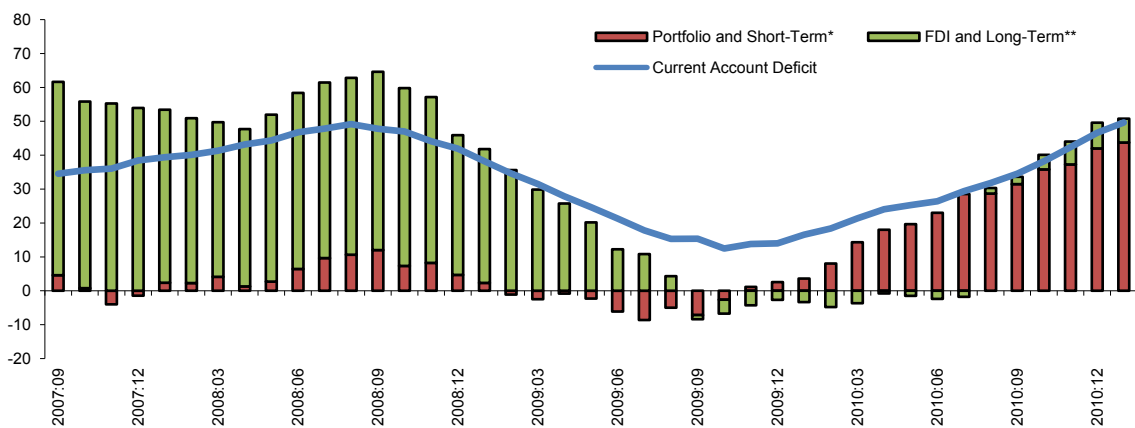
or portfolio flows, leaving the economy susceptible to sudden reversals in global sentiment (Figure 2).

The large external financing needs and the deterioration in the quality of inflows in 2010 have increased the so called “sudden stop” risks for the Turkish economy. Historically, capital outflows have been the main trigger of output losses across emerging economies<sup>8</sup> and Turkey has been no exception in this regard. Turkish business cycles were dominated by boom-bust episodes, which were amplified by sudden movements in capital flows. The massive economic contractions in 1994, 2001, and 2009 reflected such episodes. Each recession was accompanied by a negative net capital inflow (sudden stop) and a disruption in the financial system. Given such an historical background, the sharp deterioration in the current account balance and the quality of external financing by the end of 2010 called for a timely response, once again highlighting the need to adopt a macro approach to financial stability.<sup>9</sup>

### Initial Conditions: Current Account Deficit and Net Inflows

12 months cumulative, billion USD

Figure 2



Source: CBRT.

Although the build-up of macro-financial risks in 2010 required a prompt policy response, it was not clear *who* should react and *how* the response would be executed in practice. Given the dominant role of the banks in the Turkish financial intermediation, one natural candidate was the bank regulator. The BRSA had all the relevant tools to contain credit growth, which would help limit the over-borrowing tendency of economic agents. Yet, looking from the regulator’s *micro* perspective, there was no sense of urgency to respond to the rapid loan growth: bank balance sheets looked healthy, profitability was high, capital and liquidity positions were comfortable, and non-performing loans were low. Nonetheless, the situation looked far more concerning and urgent from a *macro* point of view. Under these circumstances, the CBRT decided to step in.

<sup>8</sup> See Claessens and Gosh (2013) for some evidence.

<sup>9</sup> See Başçı and Kara (2011) for more details on the rationale behind the change in the policy approach.

### 3. Macroprudential policy implementation

#### The first phase: devising monetary instruments for macroprudential purposes

The lack of a formal institutional setup for containing macro-financial risks in Turkey has prompted the CBRT to take a leading role at the end of 2010. Accordingly, the CBRT adopted a new policy strategy to contain macro-financial risks and to address the challenges posed by volatile capital flows. To this end, the conventional inflation targeting regime was modified by incorporating financial stability as a supplementary objective. Price stability remained as the overriding objective, while policy focus was broadened to include macro-financial risks – especially macroeconomic volatility caused by excessive global liquidity cycles. To this end, the policy toolkit was expanded to include reserve requirements and a flexible interest rate corridor system (Table 1).

Augmenting the Traditional Inflation Targeting Framework

Table 1

	<b>Previous Approach</b>	<b>New Approach</b>
<b>Objectives</b>	Price Stability	Price Stability Financial Stability
<b>Policy Tool(s)</b>	Policy Rate	Policy Rate Interest Rate Corridor Reserve Req. Policy

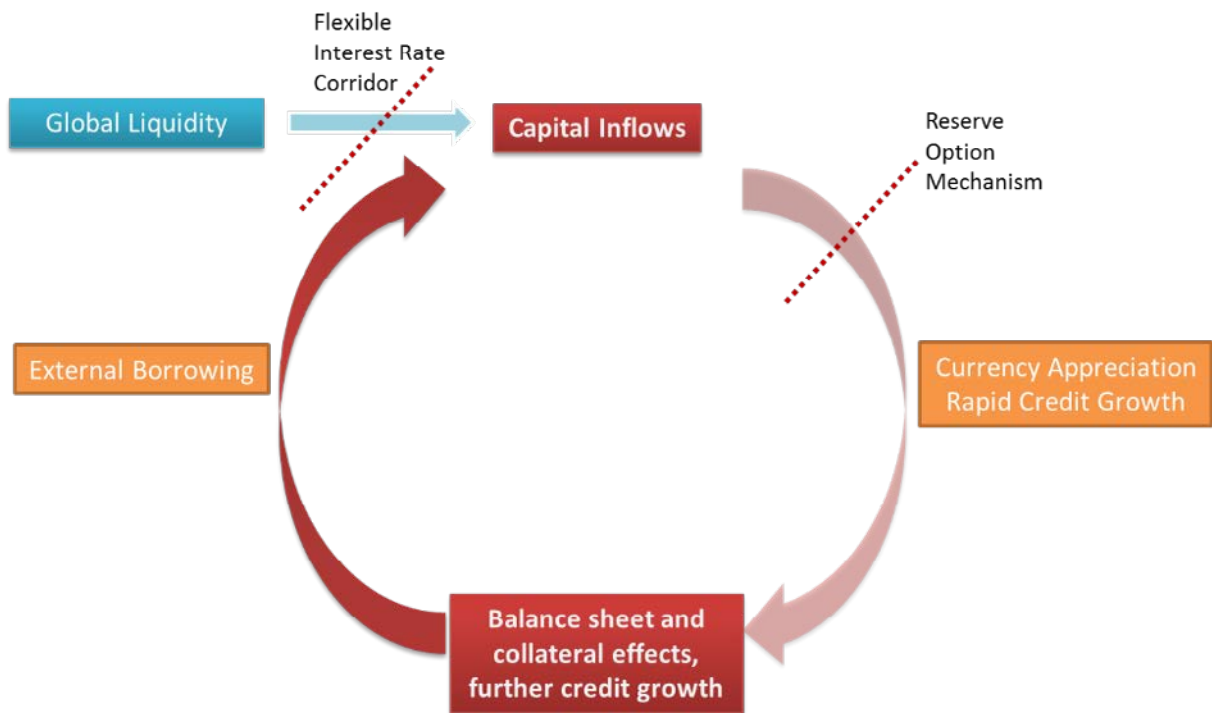
The new strategy focused on containing the adverse effects of the capital flow volatility on the domestic economy. Faced by rapidly widening current account deficits and a deterioration in the quality of external finance, priority was given to reducing the probability of a sudden disruption in external financial flows. In this context, the CBRT pointed out the importance of containing excessive borrowing (credit growth) and reducing exchange rate misalignments. Meanwhile, the CBRT also highlighted the need to dampen the interaction between capital flows, exchange rates and credit growth, which amplifies the business cycle fluctuations in an emerging economy with currency mismatches as illustrated in Figure 3.<sup>10</sup>

<sup>10</sup> Hofmann, Shim and Shin (2016) use a similar mechanism for explaining the role of cross-border flows as an amplifying factor for business cycles.

Needless to say, such a diverse approach necessitates the use of a variety of policy instruments. Accordingly, the CBRT devised new instruments such as “asymmetric interest rate corridor” and “reserve option mechanism”. As Figure 3 depicts, the former aims at smoothing the volatility of capital flows, while the latter is designed to weaken the link between capital flows and domestic macroeconomic variables.<sup>11</sup> Overall, these unconventional tools aim to ease the policy tradeoffs associated with the volatility in capital flows by dampening the amplifying role of capital flows.

The role of CBRT’s monetary instruments to dampen the amplification effects of cross-border flows

Figure 3



Source: CBRT.

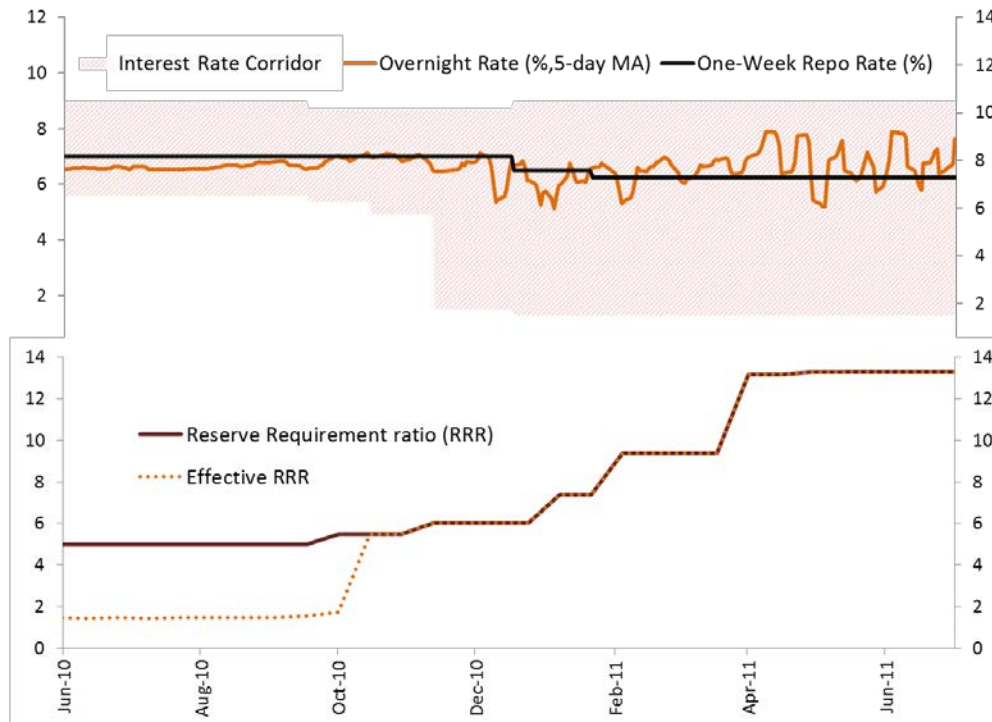
Implementation of the new policy framework during the initial stages deserves special attention, as it provides an interesting example of using monetary tools for macroprudential purposes. In the absence of a formal institutional setup and explicit tools to conduct macroprudential measures, the CBRT decided to use reserve requirement ratios and a wide interest rate corridor as cyclical tools to respond to credit growth and capital flow volatility. Figure 4 shows how the two main tools evolved between mid-2010 and mid-2011. The CBRT raised reserve requirement ratios (Figure 4, bottom panel) significantly and stopped remunerating required reserves at the end of 2010 to contain rapid credit growth. At the same time, volatility

<sup>11</sup> The mechanics and transmission of the wide interest rate corridor and the reserve option mechanism (ROM) are explained through several working papers and documents published at the CBRT website. See, for example, Alper, Kara, and Yörükoğlu (2013a), Küçüksaraç and Özel (2013) and Aslaner et al (2015) on the ROM; Başçı and Kara (2011), Kara (2013), Alper, Kara, and Yörükoğlu (2013b), Binici et al (2013) and Akçelik et al (2015) on the interest rate corridor, among others.

in short-term money market rates were increased through the active use of interest rate corridor (Figure 4, top panel) in order to reduce the attractiveness of short-term carry-trade type of inflows.<sup>12</sup> As a result, effective reserve requirement ratio for the banking system rose sharply by about 10 percentage points and interest rate volatility in the overnight repo market increased substantially.

Interest Rate Corridor and Reserve Requirement Ratios

Figure 4



Source: CBRT.

Despite these intensive efforts by the CBRT, a significant slowdown in credit could be observed only after the bank regulator's measures by mid-2011 (Figure 5).<sup>13</sup> Unconventional monetary instruments alone were not able to bring down the private credit growth to reasonable levels initially, because of their indirect nature to influence the supply and demand for loans.<sup>14</sup> Although the acceleration of credit stopped after the hikes in the reserve requirement ratio, annual loan growth remained elevated at around 35% during the first half of 2011, leading to concerns regarding the effectiveness of the CBRT's new policy strategy.

The new multiple-tools-multiple-objectives framework complicated the communication of monetary policy. Uncertainty regarding the transmission mechanism of new instruments hampered the predictability and accountability of

<sup>12</sup> Kara (2015) provide the operational details on how the short-term interest rates are set flexibly within the interest rate corridor by changing the composition of central bank funding.

<sup>13</sup> The next section provides more details on BRSA measures.

<sup>14</sup> Başçı and Kara (2011) provide an assessment of the impact of reserve requirements and short-term interest rate volatility on financial variables and credit growth during the initial stages of policy implementation. Alper et al (2014) offer more detailed analysis on the transmission mechanism of reserve requirements through bank lending behavior.

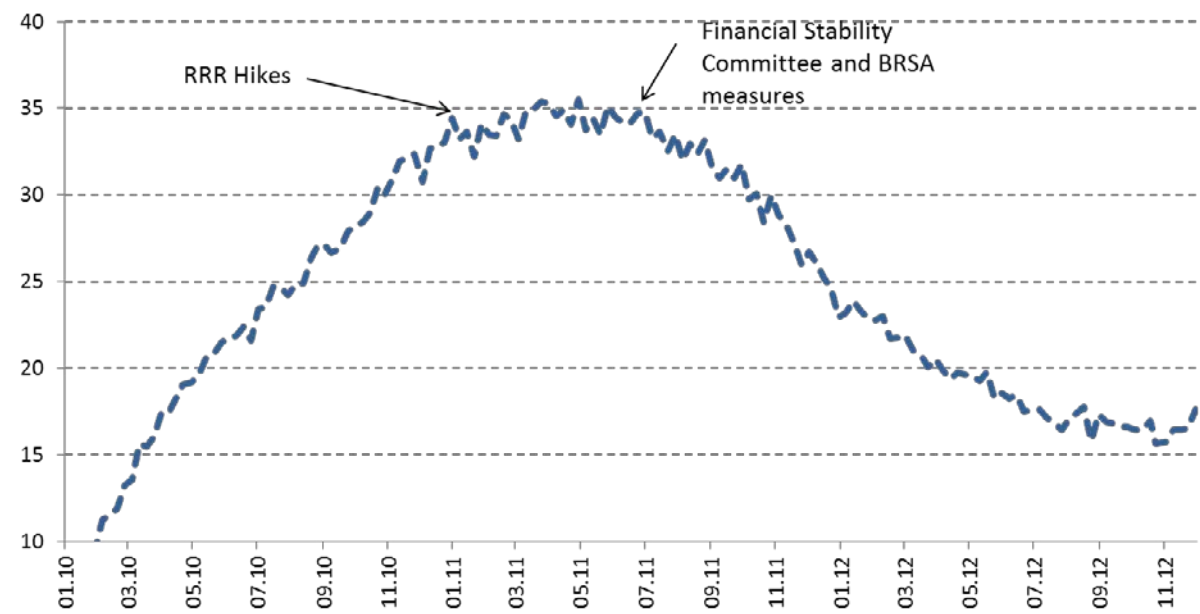


policies. The theoretical and empirical literatures on the effectiveness of these instruments were scarce and not robust enough to convince the public. Given the inherently vague nature of financial stability and the difficulty of linking each tool to objectives, the joint use of multiple instruments for multiple purposes posed significant communication challenges for the CBRT. Notwithstanding the drawbacks related to communication and effectiveness of unconventional instruments, the efforts by the CBRT to contain macro-financial risks have increased the awareness of the need to establish a formal institutional body for macroprudential policies, paving the way for the foundation of the Financial Stability Committee.

## Credit Growth

annual % change, adjusted for exchange rate valuation effects

Figure 5



Source: CBRT.

## The second phase: Financial Stability Committee (FSC)

### Organisation structure and functions of the FSC

The foundation of the FSC in June 2011 was a major step towards establishing a formal macroprudential framework in Turkey. Chaired by the deputy prime minister in charge of economy, the FSC is a body that brings together all the major relevant institutions for financial stability: Banking Regulation and Supervision Agency, Central Bank, Treasury, Capital Markets Board, and Saving Deposit Insurance Fund. The idea is to enhance information sharing, coordination and cooperation between parties. The FSC does not have its own tools; each institution has its own mandate and responsibility. Therefore, the power and the tools rest with the relevant authorities. The main duties of the FSC are to assess systemic risks, identify necessary measures and make policy recommendations.

The FSC facilitated the implementation of prudential policies directly for the aim of reducing macro-financial risks. The establishment of the FSC helped the relevant



institutions to internalise the macroeconomic and systemic dimension of financial stability, lifting some of the weight off the CBRT's shoulders. Through the recommendations of the FSC, relevant institutions have taken a comprehensive set of measures to contain excessive leverage and improve the quality of external financing.

Macroprudential policies envisaged under the guidance of the FSC have further extended the CBRT's previous individual efforts to alleviate the adverse impact of global liquidity swings on the domestic economy. To this end, the FSC focused on two main pillars:

1. containing credit growth (especially by reducing household indebtedness); and
2. improving the quality of bank liabilities.

The first pillar is related to over-borrowing and current account deficit, while the second one largely pertains to the quality of capital inflows. Taken together, these intermediate goals intend to increase the resilience of the economy against external finance shocks.

### Containing credit growth and household debt

The link between macro-financial risks and credit growth has been well documented by the literature. Historically, credit booms are identified to be the most robust and significant predictors of financial crises.<sup>15</sup> More recent evidence suggests that the composition of credit matters as well. For example, a rise in the household debt-to-GDP ratio is associated with higher current account deficits and predicts lower output growth over the medium run.<sup>16</sup> For the Turkish case, macro-financial aspects of the household debt is even more relevant due to its close relation with the current account deficit.<sup>17</sup>

Against this backdrop, containing consumer loan growth has been one of the priorities for the FSC. The measures to contain credit growth and household debt were mainly taken by the BRSA, with the recommendations of the FSC. The measures were introduced in two rounds of macroprudential tightening. The first package, which was implemented throughout 2011, included higher risk weights and general provisions for consumer loans, higher minimum payments for credit card debt, and loan-to-value (LTV) caps for housing loans. The second package, which came in late 2013–early 2014 introduced further caps, limits and higher risk weights on credit cards, LTV ceilings for vehicle loans, and maturity restrictions for uncollateralised consumer loans.

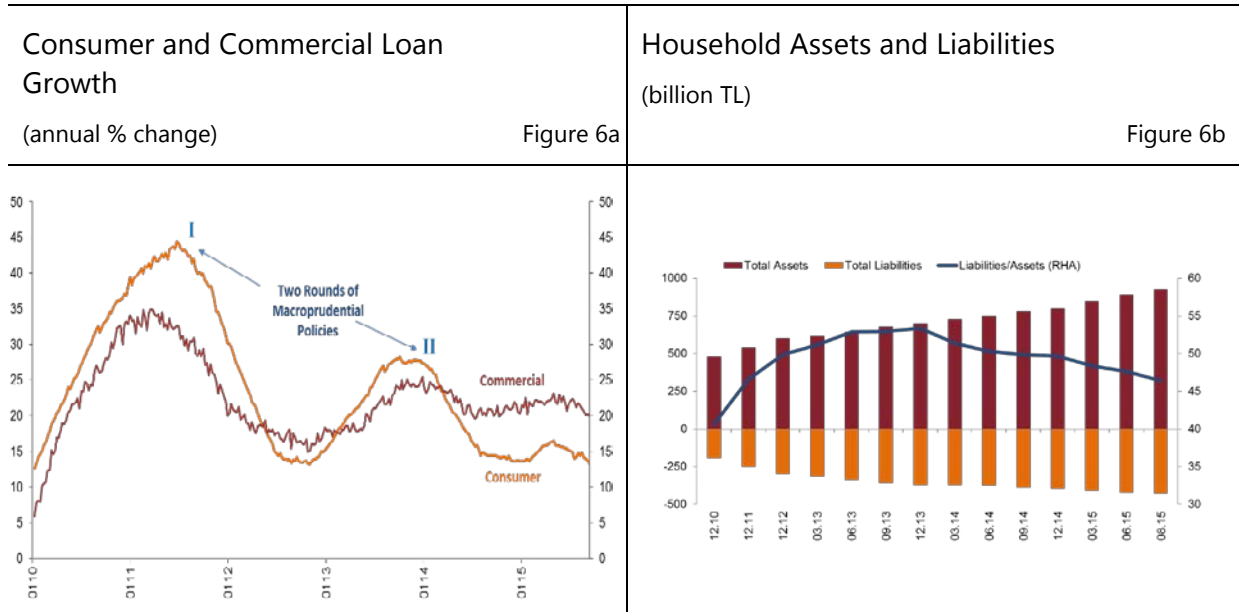
These measures, coupled with a tighter monetary policy stance, had a significant impact on loan growth as depicted in the Figure 6-a. Consumer loans displayed a marked deceleration each time a new round of measures were introduced. The annual rate of growth in consumer loans slowed from 45% in mid-2011 to less than 15% in 2015. As a consequence, the upward trend in household indebtedness ratio (household liabilities over assets) has reversed since 2013 (Figure 6-b). The

<sup>15</sup> See, for example, Borio and Lowe (2002), Reinhart and Rogoff (2009), Jorda et al (2011), Gourinchas and Obstfeld (2012) and Schularick and Taylor (2012).

<sup>16</sup> See Mian, Sufi and Verner (2015).

<sup>17</sup> Alioğulları et al (2015) find that consumer loans are tightly associated with the current account balance in Turkey, while the link between commercial loans and current account is weaker.

deceleration in commercial loans were less pronounced, because this segment was not directly targeted by the macroprudential measures. Overall, these observations suggest that macroprudential measures have been instrumental in containing credit growth and household indebtedness, and changing the composition of credit.<sup>18</sup>



Source: CBRT.

### Improving the quality of financing

The BRSA measures to contain credit growth mainly addressed the issues related to current account balance and *asset* side of the financial intermediaries. On the other hand, improving the quality of the *liability* side, which is closely associated with the financing of the current account deficit, was also deemed essential to increase the resilience of the financial system. After the global financial crisis, the banking system financed credit growth predominantly through external borrowing (non-core liabilities). Moreover, the share of short-term non-core liabilities increased substantially during this period. Although the banks in Turkey do not hold excessive currency mismatches in their balance sheets due to regulatory restrictions, the increasing share of non-core liabilities (as evidenced by rising credit-to-deposit ratios) and shortened maturities were still of concern to the FSC from a macro-financial perspective.

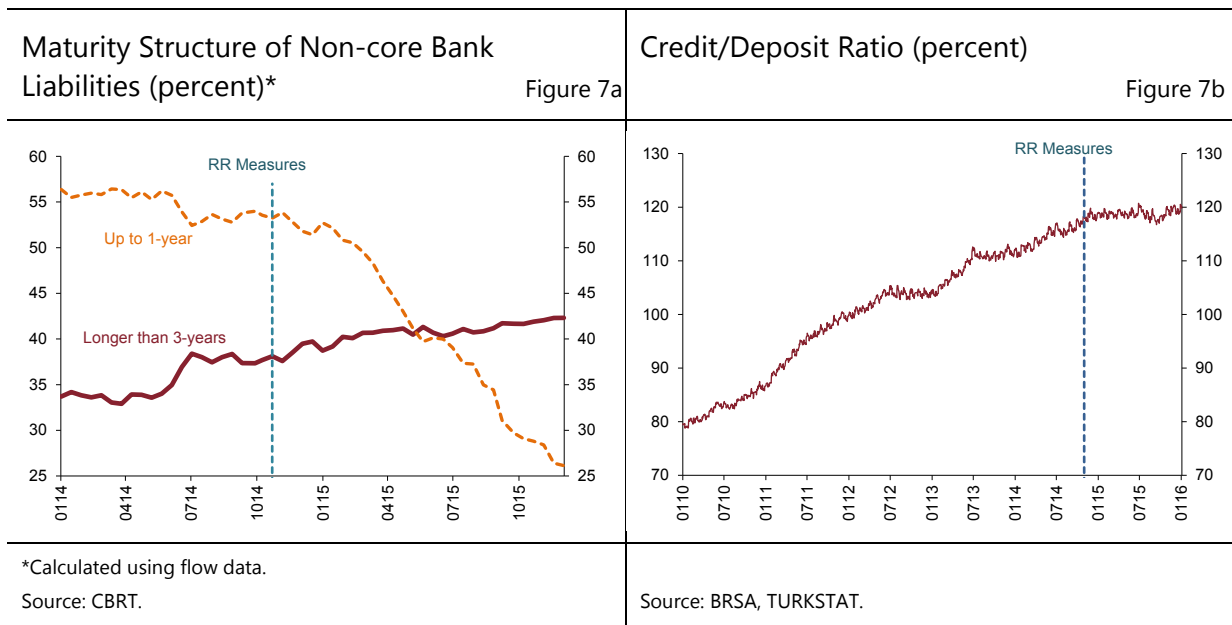
Macroprudential measures to improve the composition of bank liabilities were mainly implemented by the CBRT through reserve requirement (RR) policies. To this end, RR ratios and remuneration rates were differentiated across several dimensions, providing incentives for the banking system to prefer (i) core liabilities over non-core liabilities, (ii) long-term over short-term liabilities, and (iii) Turkish Lira (TL) over FX liabilities. Among these objectives, lengthening the maturity of external debt and

<sup>18</sup> More sophisticated analysis also confirms our descriptive argument that the measures to curb consumer loan growth were effective. For example, using bank-level micro data, Arslan and Taşkın (2015) explore the impact of loan-to-value restrictions on vehicle loan growth using panel regression methods and reach similar conclusions.

increasing the share of core liabilities were seen as particularly essential to boost the resilience of the financial institutions against external finance shocks.

Although RR policies have been used actively since end-2010, it is important to note that during the initial stages, they were used mostly for cyclical purposes (see the previous section), and thus did not directly target non-core versus core components of liabilities.<sup>19</sup> The most significant package regarding the composition of liabilities came at late 2014 and early 2015, when the CBRT decided to increase the RR ratios for short-term (up to one-year maturity) non-core liabilities sharply from 13% to 20% in two consecutive steps. At the same time, the remuneration rates for required reserves were adjusted so as to provide incentives to increase the share of core liabilities.

Figure 7 suggests that RR-based measures have induced significant changes in the composition of bank liabilities. Following the announcement of RR measures by the CBRT, the share of non-core short-term liabilities in total non-core liabilities has declined significantly, falling from 53% to 28% throughout 2015 (Figure 7-a). Meanwhile, the increasing trend of credit/deposit ratio, which has been ongoing for many years, receded after the introduction of RR measures (Figure 7-b).



Up to this point, we have evaluated the impact of macroprudential policies through bank balance sheets. Now we turn to macroeconomic implications. In macro terms, the main goals of macroprudential policies in Turkey during the 2011–15 period were to contain current account deficits, improve the quality of external finance and reduce the sensitivity of domestic economy to the excessive volatility in capital flows. In order to assess the overall rebalancing performance, we will document the evolution of relevant variables after the introduction of macroprudential measures.

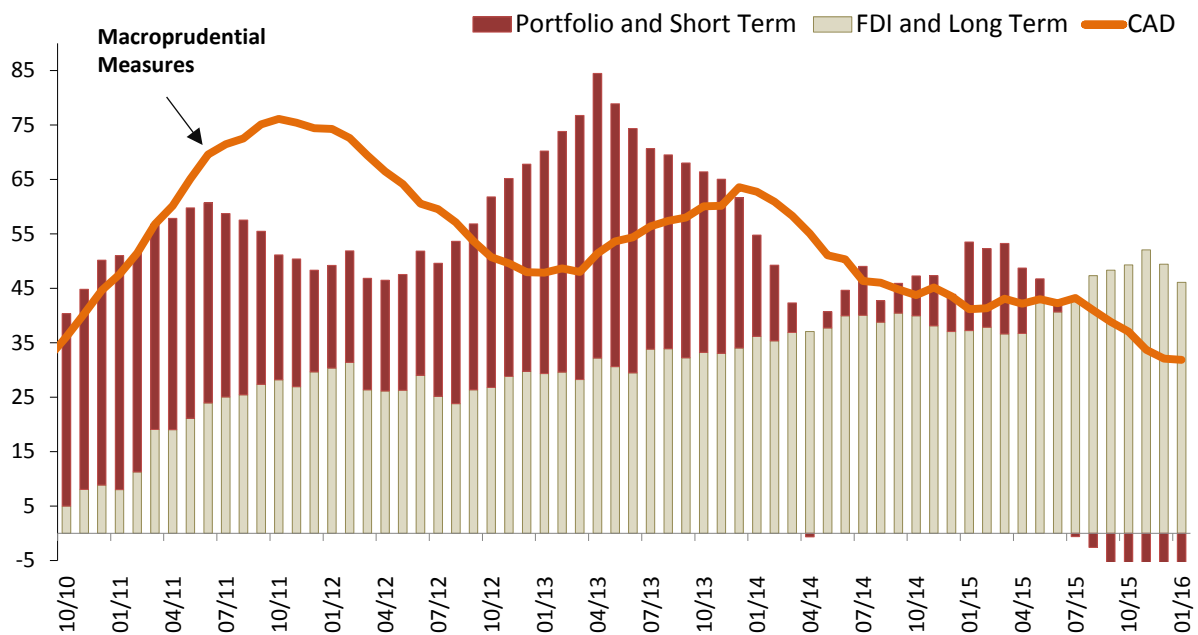
<sup>19</sup> During the initial stages, the CBRT also attempted to use the RR ratios for the purpose of lengthening maturities of domestic currency deposits, which had a limited impact on the average maturity of deposits.

We begin with the current account balance and the composition of external finance. Figure 8, which is an extended version of Figure 2, shows the current account deficit and net capital inflows on a 12-month cumulative basis. Since 2011, there has been a steady decline in the current account deficit. Moreover, the share of FDI and long-term inflows in total net inflows have increased persistently. As of the writing of this note, current account deficit was financed entirely through FDI and long-term borrowing.

## Current Account Deficit and Net Inflows

(12 months cumulative, billion USD)

Figure 8



Source: CBRT.

In sum, both the current account balance and the quality external finance have improved markedly since the implementation of macroprudential policies. Admittedly, the Fed tapering process and the decline in commodity prices have also contributed to the rebalancing process since 2013. However, it is also important to note that the improvement in the current account balance and the composition of external financing have begun way earlier, coinciding exactly with the formal introduction of explicit macroprudential measures by the authorities. These observations lend support to the view that macroprudential policies were instrumental in driving the rebalancing in the Turkish economy since 2011.

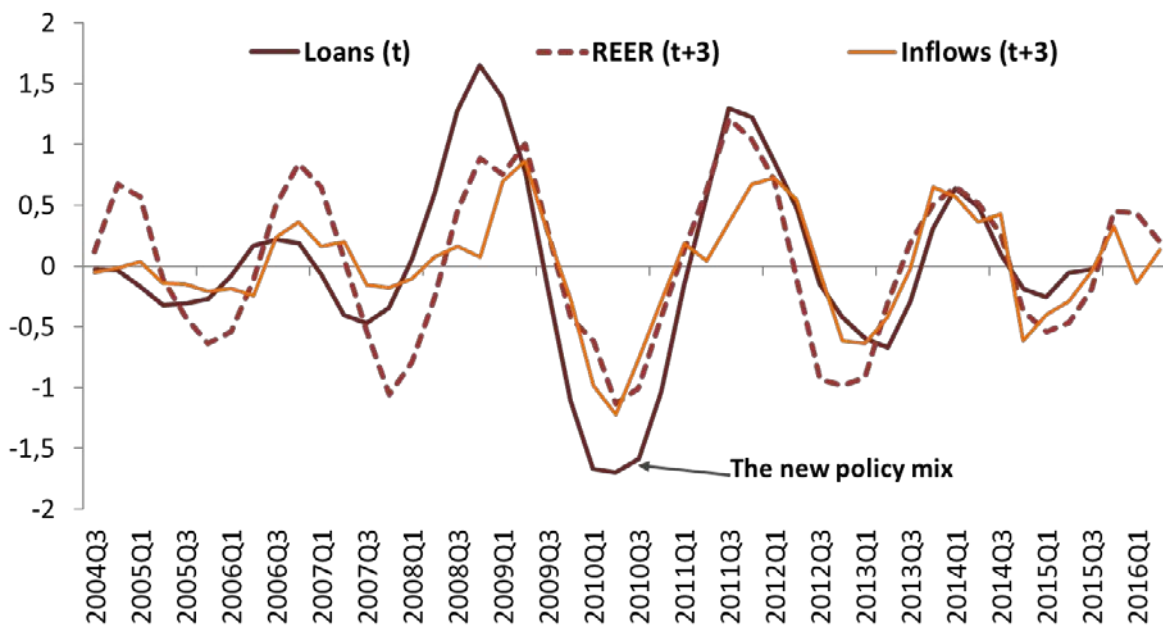
Another purpose of the macroprudential policies in Turkey was to weaken the amplification channels driven by global financial flows. The interaction between net capital flows, exchange rate and domestic credit is likely to be the key mechanism in emerging economies amplifying the impact of the cross-border flows, as suggested by Mendoza and Terrones (2008), Bruno and Shin (2015) and Hofmann, Shim and Shin (2016), among others. Figure 9 suggests that this mechanism might have been relevant for the Turkish case. The cyclical component of capital flows, real exchange rate and bank loans for Turkey typically move closely with each other with some lead-lag relationship, confirming the close interaction between capital flow cycles and

key financial variables. Yet, the evolution of these variables before and after the adoption of macroprudential policies reveals an interesting point: the amplitude of the cycles have been dampened considerably since the adoption of the macroprudential policies in 2011. This observation suggests that the macroprudential policies may have had some impact on the financial accelerator mechanisms driven by cross-border flows, although more concrete evidence is needed to assess the exact drivers underlying these developments. Our interpretation is that domestic credit growth and exchange rates have become less sensitive to capital flows due to macroprudential measures adopted to curb credit growth.<sup>20</sup> Several recent studies by the CBRT staff also suggest that unconventional measures such as flexible use of interest rate corridor and the reserve requirement policies may have contributed to this process (see also the diagram in Figure 3).<sup>21</sup>

### Net Capital Flows, Real Exchange Rate, and Credit Cycles

(HP filtered, standardised)

Figure 9



Source: CBRT.

Given the central role of capital flow volatility in the design of Turkey's macroprudential policies, the ultimate success during the period of interest should be rather judged by the following question: has the domestic economic activity become less sensitive to cross-border flows? A simple eyeballing of the co-movement between net capital flows and domestic economic activity in Figure 10 suggests that the answer is likely to be affirmative. Historically, Turkish GDP has been closely correlated with capital flows (possibly with a two-way causality). However, the

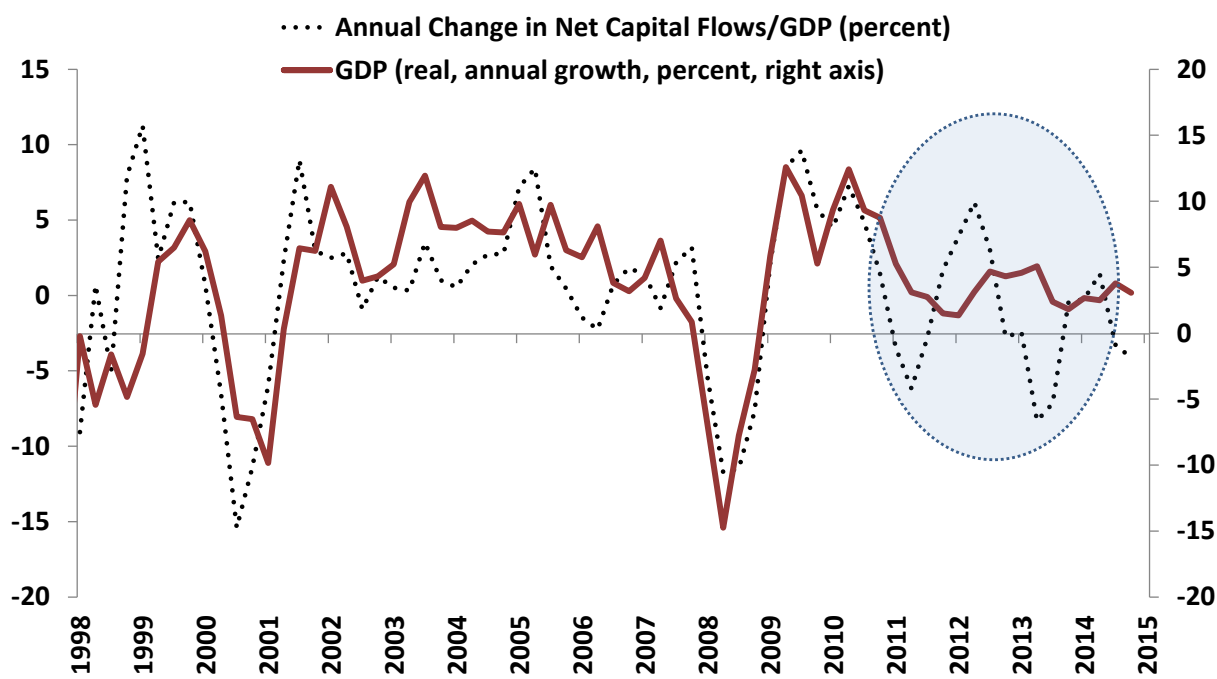
<sup>20</sup> Using a comprehensive panel data set, Aysan et al (2015) find that domestic credit growth has become less sensitive to cross-border portfolio flows in emerging economies after the implementation of macroprudential policies.

<sup>21</sup> See Mimir et al (2012), Oduncu et al (2013), Binici et al (2013), Değerli and Fendoğlu (2015) and Aysan et al (2014) on the effectiveness of interest rate corridor and the reserve option mechanism on credit growth and exchange rate volatility.

relationship seems to have weakened considerably since 2011. Net capital flows exhibited heightened volatility during this period, while the GDP growth rate hovered between 2% and 5%, which was remarkably stable compared to historical patterns.

GDP Growth and Net Capital Flows

Figure 10



Source: Kara, Özlü, and Ünalmış (2015).

#### 4. Conclusion and final remarks

Turkey's experience with macroprudential policy confirms that there is no single recipe for the design of macroprudential policies. Initial conditions and structural characteristics matter for the choice and implementation of particular instruments, which inter alia implies that policies designed for emerging economies may need to involve different features than advanced economies. For example, the interaction of monetary policy with financial stability and macroprudential policies should take into account the complex trade-offs exacerbated by the capital flow cycles and their implications for monetary policy. Against this backdrop, macroprudential policies in Turkey have focused on containing the adverse impacts of the global liquidity cycles and the associated capital flow volatility on the domestic economy. Policies were oriented towards dampening the adverse feedback loops and credit cycles in order to reduce the probability of a sudden stop. At the same time, additional measures were introduced to increase the resilience of the financial system against global shocks.

We have argued that the macroprudential policies have significantly contributed to the rebalancing process and bolstered the resilience of the economy against external shocks. Since 2011, the current account deficit has been on a steady declining trend and the sensitivity of economic activity to capital flow volatility have weakened

considerably, implying a more balanced and sustainable growth path. Overall, Turkey's recent experience have demonstrated that, targeted macroprudential policies along with unconventional monetary measures can improve the tradeoffs posed by volatile capital flows.

However, it is also important to note that macroprudential policies cannot be a substitute for sound structural reforms. In many cases, macroprudential policies can rather be regarded as second-best solutions that save time until deeper structural adjustments take place. To the extent structural policies are able to sufficiently increase the resilience of the economy on their own, there could be less of a role for unconventional monetary policy as well as for macroprudential policies. Therefore, in the long term, it is essential to undertake structural measures to improve the trade-offs posed by large and volatile capital flows. As with the Turkish case, bringing down structural component of the current account deficit (by increasing saving rates and boosting productivity) and reducing dollarisation (by deepening financial markets and achieving price stability) can be listed among priorities.

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