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## DOLLARIZATION AND EXTERNAL SUSTAINABILITY OF TURKEY

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## Abstract

In this paper, we attempt to explain that expanding current account deficit of Turkey can be a highlighting signal of its dependency on foreign capital inflows. When private non-financial firms borrow in foreign currency, they face currency mismatch in their balance sheets. Statistical analyses of aggregated balance sheet data of non-financial sector revealed that the negative gap between firms' dollarized assets and liabilities has been increasing considerably in Turkey. This creates financial exposure by private non-financial sector. Given a high level of liability dollarization by firms in Turkish economy, it is exposed dramatically to the changes in external and domestic conditions.

**Keywords:** Dollarization, Balance Sheets, Capital Flows, External Exposure

## 1. Introduction

Over the recent decade, Turkey has experienced considerable economic growth. However, high level of its current account deficit (CAD) raises concerns about its external sustainability. The downward trend of the current account balance has been observed in some of the emerging markets (EM)[1]. This is because these economies are dependent on the foreign capital inflows to fuel their investments and generate growth.

Together with capital liquidity, these inflows bring in the risk of external vulnerability for the domestic economy. Such inflows are usually denominated in foreign currency due to the inability of EMs to borrow in domestic currency. This is referred to as the "original sin" phenomenon, mentioned by Eichengreen and Hausmann (1999). Borrowing in foreign exchange (FX) generates high levels of liability dollarization in the balance sheets when the foreign currency debt is not properly hedged. In practice, banks could hedge against exchange rate (ER) exposure by issuing foreign currency denominated loans. In this case, however, the financial sector transfers the exposure risk to the non-financial sector, which constitutes the most of the total borrowers from banks. In this way, the persistence of high liability dollarization

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[1] Examples include Brazil, India, South Africa, Indonesia. These countries are also known as "top fragile five" (including Turkey) for their massive axternal debt and financial exposure (Morgan Stanley, August 2013).

in the economy creates fragility to any fluctuations in both external and domestic conditions.

Capital account (KA) is the reflection (liability side) of the current account (CA); surplus in the KA at the same time shows deficit in the CA (Krugman *et al.* 2011). The capital account, in turn, reveals the quality of deficit financing. When the financing consists of short-term foreign loans (also called as hot-money flows), domestic economy becomes highly vulnerable to the changes in the capital flows. The same can be attributed to the portfolio investments, which have relatively short-term character and higher liquidity. Firms, which hold the short-term capital in their balance sheets as dollarized liabilities, may find it hard to rollover their debt in case of capital reversion. The risk of defaults may spread to the banking and financial sector as a whole, which eventually, result in crisis and economic recession. The episodes of massive inflows, currency mismatches in balance sheets and current account reversal have been observed in a number of EMs such as Latin America in 1990s, Asian financial crisis in 1997-98, and Russia in 1998. Turkey also had two financial crises in 1994 and 2000-02. These crises were preceded by worsening of the current account and followed by reversion in external financing. Macroeconomic situation in these countries has been considerably improved by policies such as launching floating exchange rate regimes and imposing regulations on the activities of the financial sector. However, we consider that Turkish economy is not immune to financial crisis contagion as long as external funds flow and dollarization process takes place.

The purpose of this work is to evaluate the quality of the external borrowing in Turkey based on economic statistics and to discuss how these foreign loans have been generating external exposure for private corporate sector. We will look at the aggregated balance sheet data of the non-financial sector in Turkey in order to reveal amounts of dollarized debt and consequently, the risks of the currency mismatches in these accounts. When there are considerable currency mismatches in the economy, exchange rate policies may be ineffective to reduce external exposure. Therefore, alternative measures on macroprudential policies are discussed and recommended in the final part.

## 2. Overview of the External Imbalances: Current and Capital Accounts of Turkey

Surge of capital flows to emerging market economies (EMs) partly resulted from new market structures and financial conditions (Calvo, 2001). Increased global liquidity since 2000s (Chung *et al.* 2014; Shin, 2013) combined with perceptions of better macroeconomic foundations in EMs are among these conditions. Although the CAD in Turkey has been long and persistent, the drastic fall in the balance is coincided with globally falling interest rates and monetary spillovers from developed economies.

Most of the research on the CAD of Turkey emphasizes on the trade deficit and structural characteristics of Turkish economy to explain it (Ozata, 2014; Kayikci, 2012; Ozlale and Pekkurnaz, 2010). Oil dependency, imports of intermediate goods in manufacturing and a low value added can be among these characteristics. While trade deficit plays an important role in generating imbalances in the external account, capital surplus can signal significant implications about its sustainability.

Figure 1 illustrates annual trends in current account balance of Turkey from 1975 to 2013. The deficits reveal "chronic" character over the stated period with occasional improvements. We can see improvements in 1994 and 2001, which can be attributed to the financial crises associated with capital flight. Long lasting negative balance of the current account over the period certainly shows the structural problems and can be related to the tendency of Turkish imports to be higher that its export levels. However, current account has started to fall drastically, especially, after 2001 post-crisis period. This phenomenon signals that there are some other factors affecting CA beyond the trade deficit per se.

The investigation of the capital account (given in Appendix A.1) reveals that capital inflows to Turkey dramatically intensified from 1.1 billion of USD in 2002 to over than 70 billion in 2013. Out of this huge amount, net foreign direct investments (FDIs) constituted for only about 9 billion or one eighth of the total net inflows. The rest of the capital surplus was financed by portfolio investments and other types of investments, which unlike FDIs, can hold speculative characteristics, validating financial fragility. Capital account analyses reveal that the roots of

rapidly-expanding CAD problem in Turkey lie indeed in massive capital account surpluses rather than in trade deficit alone. This can be combined effect of external conditions in global financial markets, such as excess liquidity and improved risk perceptions towards Turkey by global investors over the last decade.
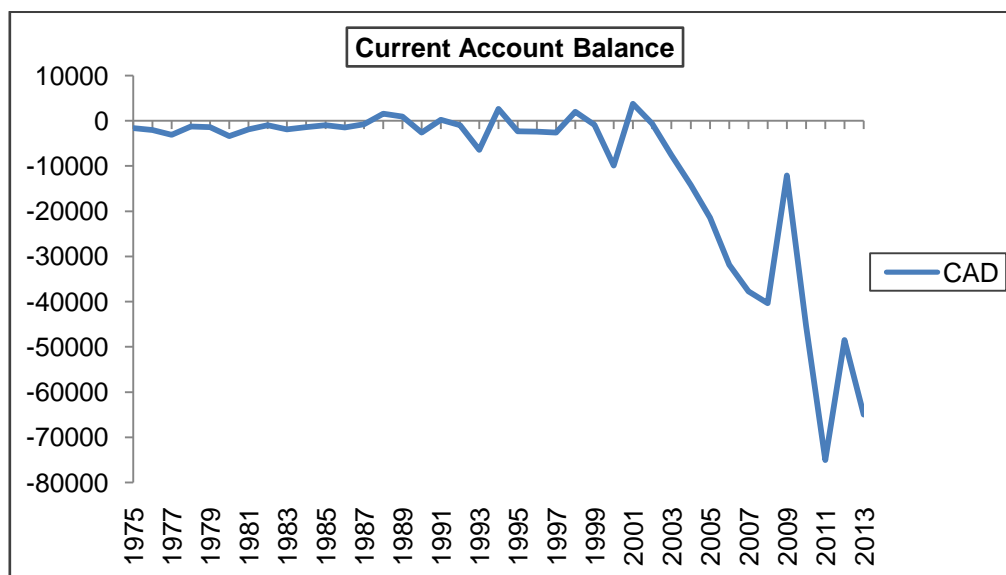


**Figure 1. Current Account of Turkey (in millions of US dollars)**
**Source:** CBRT, Corporate Sector Statistics

Together with dollarized capital, these inflows can bring in financial risks. Maturity and currency mismatches are among these risks. At first stages, these inflows generate loan availability, excess liquidity, currency appreciations and boom in asset prices. Investments, consumption and growth start to rise considerably. However, when conventional optimism of global investors becomes reversed in bad times, the inflows begin to stop, if not pulled out. This condition may facilitate contagion of defaults in whole economy. Firms with FX debt find it hard to rollover their debt, net worth fall, credits shrink and risk of defaults can spread to the banking activity. In 2001 many banks became insolvent in Turkey due to busts in financial markets and capital flight out of the country. Evidence from EM crises showed that net capital inflows to emerging markets are often pro-cyclical, increasing when the economies are booming and retreating when the economies are slowing (Kaminsky *et al.* 2005).

## 3. Liability Dollarization in Turkey: Why and How Big?

Dollarization is the process of substituting a foreign currency for a domestic currency to fulfill the essential functions of money as a medium of exchange and/or as a store of value.  Full or official dollarization is the adoption of foreign currency as a legal tender (Feige, 2003). In high inflation countries, dollars or some other hard currency may be in widespread use in daily transactions, alongside the local currency. However, Turkey does not have these "extreme" cases of dollarization. It is typically prone to have a liability dollarization (LD), which means that loans are mostly denominated in foreign currency. Most developing economies have a limited, unofficial form of dollarization in different types. To a greater or lesser degree, their residents may already hold foreign currency and foreign currency-denominated deposits at domestic banks. Alternatively, firms can be borrowing loans in dollars, especially if the level of imports is relatively high.

The term LD is typically characteristic for emerging economies, where emerging markets' demand for financial assets is in excess of their ability to produce them, since they have very limited institutional capability to produce these assets. Therefore, a country can be not as highly dollarized on the asset side, but subject to high dollarization with respect to its

external debt. This is because the sources of loans are merely from abroad and are denominated in FX. The holders of the liability dollarization can be both public sector as well as private industries.

Dollarization can take place due to different factors. As main factors, we can state inflation differentials, exchange rate changes, interest rate spread, credibility in macroeconomic policy and market structure imperfections (Savastano, 1996; Levy-Yeyati and Arias, 2003; Reinhart *et al.* 2003; Havrylyshyn and Beddies, 2003). Certainly, dollarization is not limited to these factors. It is crucial to note about interaction of the economic agents with one another. Interactions of banking sector with the household, business and government sectors as well as interaction of firms with their foreign affiliates have significant impact on level of financial dollarization. The studies (Ize, 2005) have shown that the behavior of each sector affects the decision of another sector and hence affects the level of financial dollarization in the economy. For example, increase in the level of deposit dollarization, in turn, raises the level of banks' loan dollarization.

On the other hand, the factors that affect dollarization may have unequal influence on the different types of dollarization. For example high differentiation of the domestic interest rates from the rest of the world in favor of the domestic currency deposits may reduce dollar deposits; but at the same time this may generate more foreign inflows and greater availability of dollar debt from abroad (Ize and Levy-Yeyati, 2003).

Study of supply-side factors and demand-side factors in build–up of dollarization is crucial. Whereas emerging economies need higher capital inflows to fuel investments from the demand-side, supply factors such as high global liquidity or interest spread conditions play an important role. Besides domestic factors, the stance of external interest rates, availability of direct dollar loan instruments due to financial integration and global accommodative macroeconomic policies have large impact on cross-border dollarization levels. Usually, high savings in wealthier countries have reflection in emerging economies in forms of hot money inflows, as these developing economies offer higher returns and more promising productive capability in the following years. Main signal or side-effect of this reflection is, unfortunately, high current account deficits of emerging economies and the sustainability of these deficits is still under debate.

Figure 2 illustrates the aggregated liability dollarization (LD) ratio[2] for all non-financial sectors in Turkey as well as for manufacturing and the real estate sector. The relative improvement of the macroeconomic conditions since 2002 appears to be effective in decreasing total average liability dollarization ratio from 80% in 2001 to about 60% in 2014, albeit which is still a very high one. While in the manufacturing sector the level of dollarization fluctuates around 70%, this rate is considerably elevated in the real estate sector with around 90%. Real estate is indeed the highest dollarized sector among all sectors in non-financial activity in Turkey[3]. High rates of dollar debt and increasing leverage ratio of non-financial firms still make them very vulnerable to the combined effects of ER fluctuations and rising interest rate globally.

The reforms oriented towards liberalization of the commodity and financial markets since late 1980s have contributed to the changes in macroeconomic environment in Turkey. However, domestic equity market has remained as marginal source of financing. The fundamentals of equity markets or of other alternative financial markets have been very weak. Shadowed transparency of firm performance and indexing values has been among other problems that created obstacles to the development of direct finance in EMs. As the main sources of finance firms had to rely on either retained profits or raise debt from banks.

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[2] Liability dollarization ratio is calculated as the percentage of FX loans over total loans.
[3] This tendency of high LD in real estate can be related to the "risk appetite" with increasing asset prices in housing in Turkey over the recent decade.
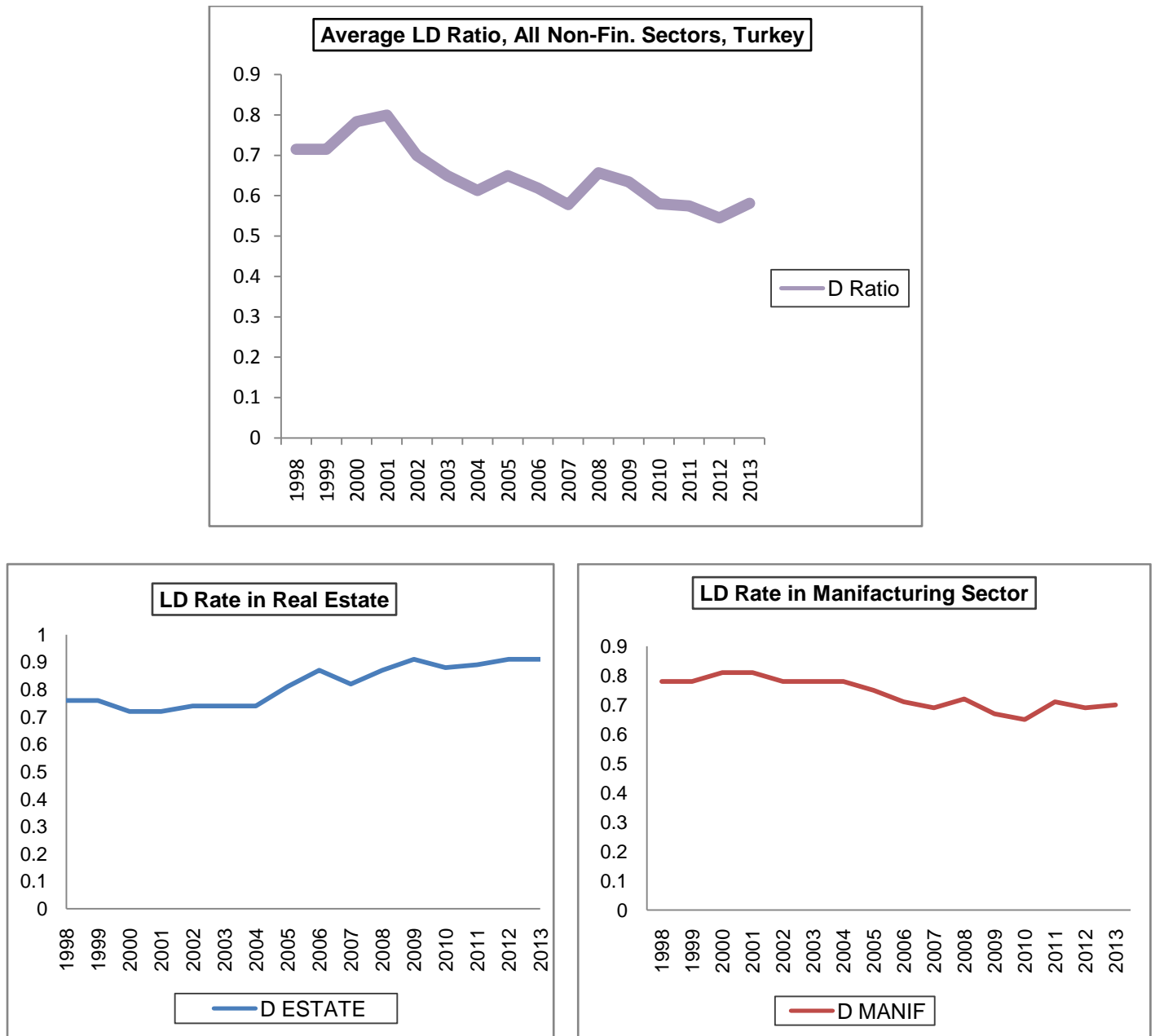
**Figure 2. Total Average Dollarization Ratio in Turkey for All Non-Financial Sectors;**
**Manufacturing Sector; and Real Estate**
**Source:** CBRT, Corporate Sector Statistics

Figure 3 plots the figures on outstanding short term loans received from abroad by financial and non-financial private sector. According to the same statistics, which were obtained from the CBRT online data, 86% of these loans are denominated in foreign currencies[4]. The figure illustrates that flow of funds intensified considerably after 2009 post-crisis period. Given that Turkish financial sector is dominated by banks[5] (Caliskan, 2011), we can conclude that the

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[4] CBRT, outstanding loans received from abroad by private sector (currency composition). <http://www.tcmb.gov.tr/wps/wcm/connect/TCMB+EN/TCMB+EN/Main+Menu/STATISTICS/Balance+of+Payments+and+Related+Statistics/Outstanding+Loans+Received+From+Abroad+by+Private+Sector-/Data>
[5] In 2009, share of banks constituted 81.2% in term of asset size (Caliskan, 2011).

share of foreign liabilities in the balance sheets of banking sector is still rising. Although banks can hedge against exchange rate risk by issuing FX denominated assets, such strategy can be considered as not necessarily hedging but merely a transfer from one form of risk into another, namely foreign exchange risk into default risk. Indeed, high levels of banks' dollarized liabilities lead to more issuance of FX credits in domestic economy.
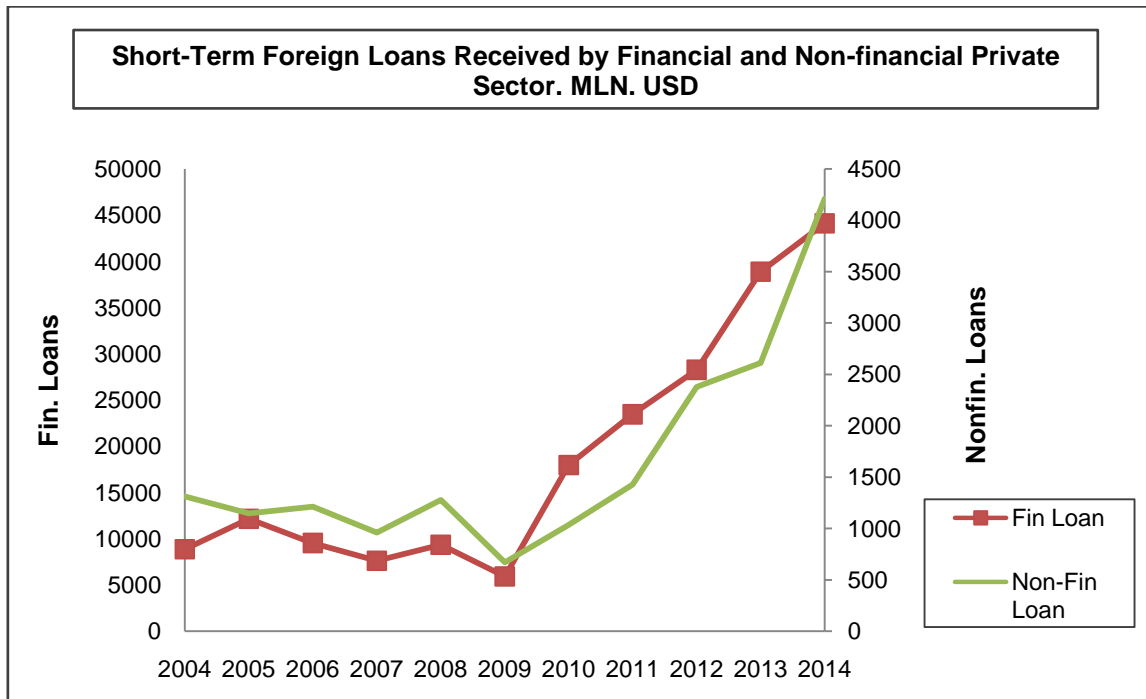


**Figure 3. Outstanding Short Term Loans Received From Abroad by Financial and Non-Financial Private Sector (Mln US $)**
**Source:** CBRT, Corporate Sector Statistics

If corporate debts are denominated in dollars while the value of corporate assets depends on local currency (or if corporate revenues increase with the relative price of goods produced at home), sharp and unexpected currency movements will matter for financial and external stability (Chang and Velasco, 2006). In case of exchange rate depreciations, for example, firms with high dollarized debt and currency mismatch will face the risk of debt default. Table 1 shows total FX denominated assets and liabilities from 2002 till 2014 present in the balance sheets of Turkish corporates. The gap between dollarized assets and liabilities has been expanding notably. In 2014 accumulated FX liabilities reached 265 billion of US dollars, while assets constituted less than a half of all dollar liabilities, staying at only 101 billion of US dollars. Rapidly increasing negative financial position of the private sector indicates that it is involved in the extremely high risk taking. Increasing gap between assets and liabilities incurs larger currency mismatches and consequently, higher ER exposure and vulnerability of firms. On the other hand, appreciation of the domestic currency contributes to the improved net worth positions of firms and makes them to engage in even more credit risk taking.

Strengthened borrower balance sheets resulting from the periods of permissive financial conditions expand investment demand, which in turn, tends to propagate and amplify the upturn. On the contrary, weakened balance sheets in bad times just do the opposite and cut investments. A fall in economic activity further cuts the asset prices down. This facilitates a feedback cycle of falling asset prices, deteriorating balance sheets, tightening financial conditions and declining economic activity (Bernanke and Gertler, 1987).

**Table 1. Foreign Exchange Assets and Liabilities of Non-Financial Companies in Turkey 2002-2014 (MLN USD)**

| Date | FX Assets | FX Liabilities |
|------|-----------|----------------|
| 2002 | 25100 | 31638 |
| 2003 | 30202 | 48651 |
| 2004 | 37671 | 56660 |
| 2005 | 45392 | 67123 |
| 2006 | 62659 | 91186 |
| 2007 | 76131 | 129941 |
| 2008 | 80465 | 151709 |
| 2009 | 76994 | 147734 |
| 2010 | 84180 | 176536 |
| 2011 | 77788 | 200635 |
| 2012 | 85662 | 225649 |
| 2013 | 89875 | 266153 |
| 2014 | 101189 | 265034 |

**Source:** CBRT, Corporate Sector Statistics

Kesriyeli *et al.* (2011) states that there is a high tendency for countries with fixed exchange rate regimes to hold higher levels of LD, since fixed ERs encourage more FX borrowing. However in Turkey, despite the adoption of flexible exchange regime since 2000 LD ratio among non-financial sector has not fallen significantly. There can be different reasons. First, although official exchange rate regime was floating, it was based on managed float, which gave authorities more room to intervene to the FX market to smoothen ER fluctuations when needed. There are instances of the Turkish central bank's tendency to support real appreciations, whereas during depreciations, it typically intervened with FX sales and raising domestic interest rates (Baydur, 2007; Benlialper and Comert, 2013). Apart from that, rise in global liquidity and monetary spillovers post 2008-crisis may have contributed greatly to the massive FX debt accumulation in Turkey and other EMs.

## 4. External Exposure

It is noteworthy to emphasize on the role of exchange rate appreciation in obtaining dollar funding from abroad. Over the recent decade Turkish Lira stayed relatively appreciated against other hard currencies such as US dollar. There was exception during the global financial crisis in 2008, but as the effects of crisis faded TL tendency to appreciation has returned. Kutan *et al.* (2012) mention that TL appreciated 27% against the US dollar between the first quarter of 2003 and the end of 2007. Total foreign loans rose substantially in value over the same period. This increase shows borrowers' preference to borrow in foreign currency as the local currency appreciates. Analyses estimating real ERs in EMs prior to the crisis showed that the currencies of Indonesia, Korea, Malaysia, the Philippines, and Thailand were overvalued, as were the currencies of Hong Kong and Singapore (Edwards, 2000)[6]. When local currency is stable and forecast of future exchange rate appreciation, borrowers may prefer to take loans in foreign

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[6] Edwards (2000) adds that in real practice it can be hard to asses real ER and its deviations from equilibrium points.

currencies due to the fact that their loan commitments in terms of local currency decrease with an appreciating local currency. Alternatively, corporates' net worth keeps increasing in value.

We can summarize the following reasons of why Turkish firms can have currency mismatch in their balance sheets:

- Elevated global liquidity conditions and easily available FX debt from regional banks
- Willingness of local banks to hedge against currency mismatch, which appears in their balance sheets due to the external dollar debt outstanding
- As a result of advanced economies' monetary policy spillovers, there is rapidly expanding global funds' market, which led to the issuance of direct international debt securities by firms. This debt issuance can be also carried out through firms' foreign subsidiaries
- Appreciation of TL versus other hard currencies. It could have facilitated firms' preferences to borrow in FX based on the motives for speculative activity by firms as well as valuation expectations in their future net worth
- Importing firms' needs for dollar payables

Financial liberalization, carried out without strong macroeconomic fundamentals, has generated mostly speculative-led and consumption-based economic growth in Turkey. This type of economic growth can hold several implications. Firstly, investments which are highly risky and have higher returns can become dominant while low risk – low expected return investments can be discouraged. Secondly, economy becomes more vulnerable to financial and external crisis due to disruptive effects in the real sector (Grabel, 1995). Thirdly, speculative-led economic growth exposes the economy directly to unproductive profit seeking investments (such as property ownership in Turkey).

ER exposure, sensitivity to the changes in external conditions, contagion and reversal in the current account are examples of mentioned risky features associated with external borrowing (Dornbusch, 1999; Levy-Yeyati and Stuzenegger, 2007; Krugman, 1999; Calvo, 2001; Yeldan, 2006). Instance of capital reversal risk includes capital outflows from Turkey during the 2008 global crisis; the amount of the outflow reached about 35 billion of USD. In practice this swing is usually achieved partly through massive real depreciation that leads to debt defaults, economic contraction and the consequent recession.

Although Turkey managed to escape 2008 crisis without major damages, it does not remain immune to possible shocks in the future. Quick recovery of Turkey post 2008 crisis may have been due to the low interest stimulation programs in developed world. In this way, expansionary monetary spillovers may have been directed towards the developing countries with higher interest rates such as Turkey, which offered higher yields. However, these conditions in the rest of the world can change and unequal spread of global capital may take another shaping and distribution among countries. For long-term current account stability, capital inflows can be sustained by regulations imposed on capital flows. Since exchange rate depreciation is not the best choice to achieve improvement in the current account due to the balance sheets exposure, alternative methods should be implemented.

Some of the preventive monetary policies have already been established in Turkey. Setting interest rate corridor by monetary authorities is one example to reduce interest and exchange rate fluctuations. Turkey also has been imposing limits on the FX borrowing, particularly on consumption credits since 2009[7]. Although banking sector regulations have

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[7] A new provision was added to Decree No. 32, "the Law Regarding the Protection of Value of Turkish Currency" which enabled Turkish banks to provide foreign currency loans to Turkish residents provided that the average maturity of each loan is more than one year and the loan amount is more than USD 5 mln. On the other hand, following these amendments Turkish residents were now only able to obtain foreign indexed loans from Turkish banks for commercial or professional purposes, which meant that Turkish banks could no longer provide foreign indexed consumer loans. The law was made effective immediately (Kutan *et al.* 2012).

been improved greatly since 2001 crisis[8], corporate sector regulations have not been implemented and monitored effectively. Provision of transparency in the balance sheet activities of corporate sector as well as monitoring hedging operations would contribute greatly to the financial stability of the country. Central bank also can assist in the diversification of FX hedging market instruments and in the provision of sound regulations towards short-term capital controls.

## 5. Conclusion

An examination of the external account of Turkey creates concerns about its sustainability over the longer term. In addition to the structure of current account deficits that are mainly driven by trade mismatches, the quality of the capital account surplus is crucial in the analysis of external sustainability. Investigation of the financial flows in the capital account revealed that most of the funds consist of short-term capital with speculative character. Moreover, amount of this short-term capital has been increasing dramatically since 2002.

   Investigation of the corporate sector aggregated balance sheets in Turkey disclosed evidence of high liability dollarization and widened negative gap between the sector's FX assets and liabilities. Currency mismatches and reliance on foreign loans create significant ER exposure of the domestic economy to the changes in global and/or domestic financial conditions. High level of liability dollarization and currency mismatches also make ER policies irrelevant to fight against persistent CADs. This creates the necessity for alternative macro-prudential measures.

   Provision of transparency in the balance sheets of corporates can be a good starting point. Besides, developments in risk management, especially in FX hedging, can be especially useful tool in reduction of external vulnerability in emerging economies. Central bank also can play important role in provision and maintenance of diversified hedging instruments in the hedging markets. Preventive regulations on the capital flows, hopefully, help diminish future vulnerability, which usually have sudden and unpredicted character in the case of emerging markets.

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[8] For example Banking Regulation and Supervision Agency (BRSA) were established to supervise financial sector activity with tighter regulations. Apart from that, other regulatory institutions such as the independent central bank (CBRT) and Saving Deposit Insurance Fund (SDIF) were launched

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## APPENDIX

### A.1. Capital (financial) account of Turkey between 2002-2013 (in billions of US dollars)

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Capital account | 1.1 | 7.1 | 17.7 | 42.7 | 42.7 | 49.2 | 34.8 | 9.9 | 59.5 | 66.9 | 70.3 | 72.7 |
| FDI abroad | -0.1 | -0.5 | -0.8 | -1.0 | -0.9 | -2.1 | -2.5 | -1.6 | -1.5 | -2.3 | -4.0 | -3.1 |
| FDI in Turkey | 1.1 | 1.7 | 2.8 | 10.0 | 20.2 | 22.0 | 19.8 | 8.6 | 9.0 | 16.1 | 13.2 | 12.9 |
| Portfolio I. Assets | -2.1 | -1.4 | -1.4 | -1.2 | -4.0 | -1.9 | -1.2 | -2.7 | -3.5 | 2.7 | 2.7 | 2.6 |
| Portfolio I. Liabilities | 1.5 | 3.9 | 9.4 | 14.7 | 11.4 | 2.7 | -3.8 | 2.9 | 19.6 | 19.3 | 38.1 | 21.0 |
| Other I. Assets | -0.8 | -1.0 | -6.9 | -0.6 | -13.5 | -5.0 | -12.0 | 10.9 | 7.0 | 11.2 | -0.7 | 1.8 |
| Other I. Liabilities | 1.6 | 4.5 | 14.7 | 20.8 | 29.5 | 33.5 | 34.6 | -8.4 | 28.9 | 19.9 | 21.0 | 37.4 |
| Private sector other I. liabilities | 1.0 | 6.1 | 15.9 | 23.7 | 31.4 | 34.8 | 34.6 | -9.1 | 25.6 | 19.8 | 23.4 | 39.4 |
| Net Errors &Omissions | -0.7 | 4.4 | 0.8 | 1.9 | -0.2 | 0.5 | 2.9 | 3.1 | 0.9 | 9.1 | 1.0 | 3.1 |
| Reserve Assets | 0.2 | -4.0 | -4.3 | -23.2 | -10.6 | -12.0 | 2.8 | -0.8 | -14.9 | -1.0 | -22.8 | -10.8 |

**Source:** CBRT, Corporate Sector Statistics