

TURKISH NON-CORE BANK LIABILITIES

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Abstract

Developed countries implemented a loose economic policy after the global crisis, which encouraged huge capital inflows into the emerging markets. After the global crisis, the Turkish banking system took advantage of such foreign capital inflows and experienced significant credit growth. This paper focuses on non-core liabilities, which are the sources of the credit growth in the Turkish banking system. It seems that the Turkish banking system has depended more on non-core liabilities since the beginning of 2011. Most of the non-core liabilities of the Turkish banking system are largely foreign exchange denominated and the average term structure of foreign exchange liabilities is relatively medium-term. Foreign exchange non-core liabilities of the Turkish banking system have been more sensitive to international liquidity shocks. Non-core liability growth and its medium-term foreign exchange structure are a warning signal for the Turkish banking system.

JEL Classification: E51, G21, G32

Keywords: Balance Sheet, Banks, Core Liabilities, Non-Core Liabilities, Turkey

Acknowledgements: The authors gratefully acknowledge the anonymous referees for their insightful comments and constructive suggestions on earlier drafts.

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Introduction

Turkey is one of the important emerging countries and a candidate country for the European Union. Turkey has a young population compared to European Union countries, which is a great advantage, but it also has very serious structural economic problems. One of those is that Turkey's growth is dependent on international capital inflows (Başçı *et al.* 2013; Karaçimen, 2014; Orhangazi, 2014; Akyüz, 2015; Kara, 2015; Özgür and Orhangazi, 2015) due to the inadequate domestic savings level. For instance, the saving rate in Turkey in 2013 was 13 percent, which is the lowest rate not only in the Turkish economic history but also among all emerging countries in 2013. The International Monetary Fund (IMF, 2014a) indicated that the average saving rate of emerging countries was 33 percent of their GDP, a ratio is almost three times higher than that of Turkey. Turkey experienced an unprecedented flow of foreign resources during/after the global crisis. These inflows create a vicious cycle (more foreign resource, more credit, more consumption and fewer national saving) in the economic structure resulting in volatility in the country's growth path (Süslü and Balmumcu, 2015). The gap between credits and deposits (Credits > Deposits) has been increasing in the Turkish banking system and this credit expansion arises from the growth of the banks' non-core liabilities. Turkey's credit growth coincides with changes in the composition of Turkish banking liabilities (from core to non-core liabilities). It is noted that foreign exchange (FX) liabilities are key components of the non-core liabilities of the Turkish banking system. There is significant increase in the foreign exchange short position of Turkish banks' balance sheets. All of these situations are connected to each other and have caused a dangerous vicious cycle in the Turkish banking system. Fluctuations in the economic policy of developed countries or national/international liquidity shocks may cause capital outflows and decrease the borrowing capacity of the Turkish banking system. Consequently, sudden capital outflows are a major risk for the financial stability of Turkey. The IMF Staff Report (IMF, 2014b) indicated that capital outflows remain the main risk in the Turkish economy. Banks are vital in maintaining the financial stability in Turkey because the financial system is based on banking activities and intermediation services.

This paper aims at indicating the change of the Turkish banks' balance sheets during/after the global crisis, the shift of Turkish banks' liabilities in favour of non-core liabilities and the term structure and composition of non-core liabilities. This paper intends to expose that the composition and term structure of non-core liabilities pose a threat to the Turkish banking system.

This paper is organised as follows: The literature of non-core liabilities is presented in the first section. The liabilities of the Turkish banking system are examined in the second section. Turkish non-core liabilities are evaluated in the third section. The final section presents the results.

1. Literature

In economic literature, dealing with the financial cycle and financial vulnerability issues is generally focused on banking asset sheets. Credit figures, the growth of credit, the credit-to-asset ratio and the growth of the credit-to-asset ratio in the banking system have played a very important role in the financial cycle and the financial vulnerability analysis. This traditional perspective is reflected in banking regulations, which are related to preventing financial vulnerability. This focus has been given a specific form with requirements on the minimum capital for banks as a proportion of the risk-weighted assets of the bank (Hahm *et al.*, 2012a). Excessive increase in the level of credit variables (credit figures, the growth of credit, the credit-to-asset ratio and the growth of the credit-to-asset ratio) has been perceived as an indicator of the financial cycle from this traditional perspective. Shin and Shin (2010) have indicated that this traditional perspective is not enough for understanding the financial cycle and preventing financial vulnerability. Hahm *et al.* (2012b) have concluded that non-core liabilities may be usefully monitored as a complementary measure to the credit-to-GDP ratio. The global crisis revealed risks to the financial stability arising from the banks' reliance on certain types of non-core funding (IMF, 2013). Many researchers indicate that non-core funding is a major reason for banks' vulnerability (Demirgüç-Kunt and Huizinga, 2010; Huang and Ratnovski, 2010; Goldsmith-Pinkham and Yorulmazer, 2010; Bologna, 2011; Chen *et al.*, 2012; Hamn *et al.*, 2012a; Vazquez and Federico, 2012; Errico *et al.*, 2014). Funding structures matter for financial stability because a healthy funding structure lowers the probability of a bank falling into distress (IMF, 2013).

Banking regulations should also focus on the bank liabilities' composition in addition to the bank assets' composition. This idea has been accepted after the global crisis. Generally speaking, the liability side of banks' balance sheets was analysed with regard to the term structure (short or long term) of liabilities. The new idea focuses on the core and non-core structure of bank liabilities. Recent literature suggests that the size, source, and composition of non-core liabilities provide useful insights into a financial system's health and the potential for spill-overs to the real economy (Chen *et al.*, 2012 and Harutyunyan *et al.*, 2015). Shin and Shin (2010) firstly argue that liabilities due to an ultimate domestic creditor (mainly households) are classified as core liabilities and liabilities due to an intermediary and a foreign creditor are classified as non-core liabilities. This distinction is based on actual claim-holders and it is usually very difficult to classify liabilities in this respect. Shin and Shin (2010) secondly refer the other distinction based on financial instruments (deposits, securities other than shares, loans, government loans, call loans, call money, financial derivatives, and other foreign debts). Finally, authors classify bank liabilities through their harmonisation (by instruments and by claimholders).

Table 1. Definition of Core and Non-Core Liabilities

	Core Liability	Intermediate	Non-Core Liability
Highly Liquid	Demand Deposits (Households)	Demand Deposits (Non-financial Corporate)	Repos Call Loans Short Term Foreign Exchange Bank Debt
Intermediate	Time Deposits (Households)	Time Deposits (Non-financial Corporate)	Time Deposits (Banks & Securities Firms)
Illiquid	Trust Accounts Covered Bonds (Households)	Trust Accounts (Non-financial Corporate)	Long Term Bank Debt Securities (Banks & Securities Firms) Mortgage Securities

Source: Shin and Shin (2010).

Shin and Shin (2010) and Kim *et al.* (2013) have defined non-core liabilities as the sum of (i) bank FX liabilities, (ii) bank debt securities, (iii) promissory notes, (iv) repos, and (v) certificates of deposit (Table 1). Hamn *et al.* (2012a) have adopted two new alternative measures for non-core liabilities. One of them includes banks' liability to the foreign sector and banks' liability to the non-banking financial sector. Other includes banks' liability to the foreign sector and the difference between M3 and M2. Hamann *et al.* (2014) have defined another two alternative non-core liabilities, which are very similar to the aforementioned definitions. One of them includes repos, bonds, foreign exchange debt, other debt and CDT¹. Another definition excludes the liability position in derivatives. Harutyunyan *et al.* (2015) have defined core liabilities as bank deposits from non-financial corporations and households, while non-core liabilities as all remaining funding sources².

Hahn *et al.* (2012b) have found that non-core liabilities are a powerful predictive indicator of financial crises and Hahn *et al.* (2012a) have clarified the relationship between credit booms and changes in the composition of bank liabilities. The 2007-2009 global banking crises showed that banks depended disproportionately on short term non-core funding (Gasperini and Rixtel, 2013). Hamann *et al.* (2014) have

1. CDT is payable to the credit of the Central Government and CDTs owned by large investors are classified under non-core liabilities.

2. Harutyunyan *et al.* (2015) have used non-core liabilities of banks as well as of non-bank financial institutions.

indicated that there is an interesting connection between bank credit/asset growth, composition of bank liabilities and bank leverage in Colombia. Harutyunyan *et al.* (2015) have calculated core and non-core liabilities for 26 countries from 2002 to 2013. Harutyunyan *et al.* (2015) have indicated that both the growth rate of the non-core liabilities of Turkey and the standard deviation of annual growth rates of the non-core liabilities of Turkey are more than those of others countries in this period.³ In spite of the significance of non-core liabilities in Turkey, there are relatively few studies on non-core liabilities. Köksal and Binici (2012) have indicated that non-core liabilities are important drivers of leverage in the Turkish banking system. Kılınç *et al.* (2013) have revealed a robust relationship between credits and non-core liabilities in Turkey. Özen *et al.* (2013) have showed that the accumulation of foreign exchange denominated non-core liabilities could potentially amplify the severity of external financial stress shocks in Turkey. Akdoğan and Yıldırım (2014) have concluded that the level of non-core liabilities in the Turkish banking system is currently at moderate levels.

2. Turkish Bank Liabilities

The banking sector is the key-element of the financial system in Turkey. It represents 87% of the domestic financial system. The major source of borrowing in the Turkish banking system is deposits. Other sources of borrowing are payables to banks, funds from repo transactions, securities issued, other liabilities, payables to the central bank and payables to the money market.

Table 2. The Liabilities of the Turkish Banking System (December 2015)

Deposits	59.36%
Payables to Banks	17.35%
Funds from Repo Transactions	7.45%
Securities Issued	4.68%
Other Liabilities	9.79%
Payables to the Central Bank	1.12%
Payables to the Money Market	0.25%

Source: Banking Regulation and Supervision Agency Statistics (BRSA), Turkey, December 2015.

3. Harutyunyan *et al.* (2015): their findings are indicated in Tables 2 and 3 and Figure 8.

The key elements of bank liabilities in the Turkish banking system are presented in Table 2. Deposits, payables to banks, funds from repo transactions and securities issued come to nearly 90% of bank liabilities in the Turkish banking system. It is a well-known fact that the size of every element in the liabilities depends on the specific country characteristics. In this paper, deposits are classified as core liabilities of the Turkish banking sector. Other components of bank funding (payables to the money market, payables to banks, funds from repo transactions and securities issued) are classified as non-core liabilities of the banking sector in Turkey⁴.

Table 3. Core and Non-Core Liabilities of the Turkish Banking System

Core Liabilities	Non-Core Liabilities
Deposits	Payables to Banks (BB)
	Funds from Repo Transactions (REP)
	Securities Issued (IMK)
	Payables to Money Market (PPB)

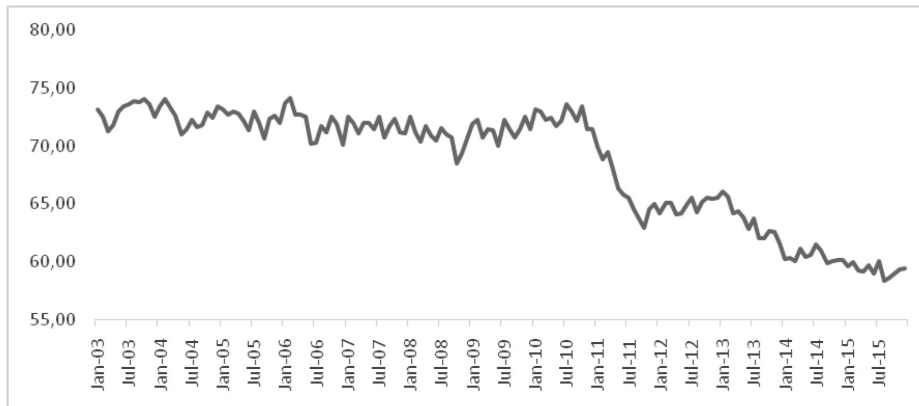
Source: Authors' definitions.

This classification is an essential tool in analysing credit growth in Turkey during/after the global crisis. Turkey received huge capital inflows through the banking system during/after the global crisis. Banks applied to less reliable and volatile sources of funding during the global crisis in order to meet their credit demands, which intensified the vulnerability of the banking sector to systemic risks (Akdoğan and Yıldırım, 2014).

Graph 1 presents deposits as a percentage of total liabilities declined in the beginning of 2011 due to decrease in local currency (TL) deposits and foreign exchange (FX) deposits in the Turkish banking system. Deposits might limit the capacity for growth, but they constitute a sounder and more stable source of funds, not so dependent on external factors of the bank (Oliver, 2013). Turkey is an emerging country which has not solved its structural and economic problems. As a conclusion, declining deposits in the banking system exacerbate the economic vulnerability of the country.

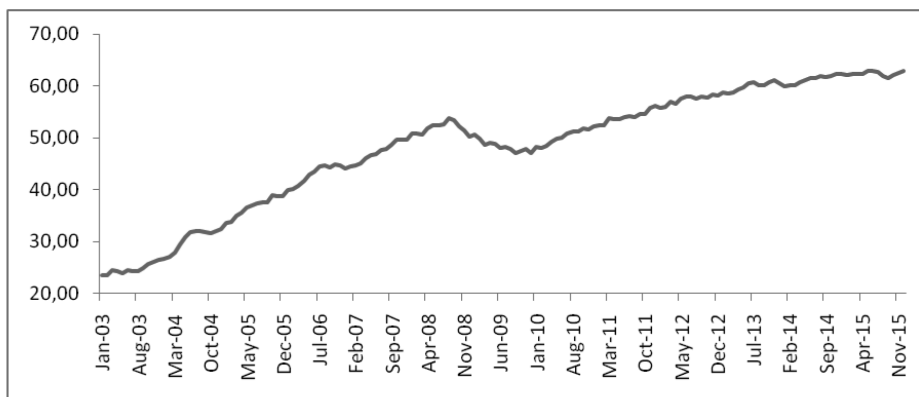
4. Deposits represented 60% and non-core liabilities represented 30% of the liabilities of the Turkish banking system in December 2015. In this analysis, 10% of total liabilities are classified as "other liabilities".

Graph 1. Deposits to Total Liabilities Ratio (%) in the Turkish Banking System (2003-2015) (Adjusted FX Values by CPI Based Real Effective Exchange Rate (2003=100))



Source: Banking Regulation and Supervision Agency Statistics (BRSA), Turkey, 2015.

Graph 2. Credit to Total Assets Ratio (%) in the Turkish Banking System (2003-2015) (Adjusted FX Values by CPI Based Real Effective Exchange Rate (2003=100))

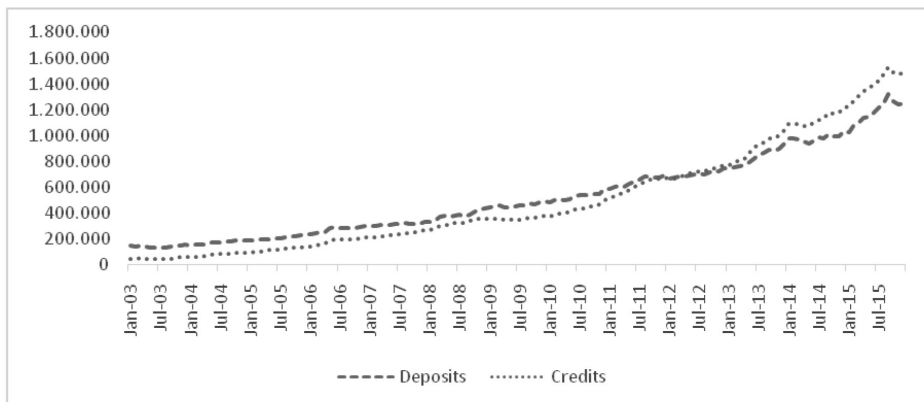


Source: Banking Regulation and Supervision Agency Statistics (BRSA), Turkey, 2015.

An increasing trend in credit demand (except 2008-2009) is clearly apparent in Graph 2. Credit to total assets ratio began to increase at the onset of 2011. Credit growth reached 30 percent between early 2010 and late 2011. Such rapid credit growth is a main indicator of financial and economic crises (Mendoza and Terrones, 2008; Schularick and Taylor, 2012; Dell'Ariccia *et al.*, 2012). The Central Bank of the Republic of Turkey has introduced the interest rate corridor, the reserve requirement

and the reserve option mechanism so as to lessen credit growth and credit volatility (Başçı and Kara 2011; Aysan *et al.*, 2014). Special emphasis has been placed on credit variables as an indicator of financial stability (Kara *et al.*, 2013). Emerging economies have increased their credit levels during the past decade, but Turkey has experienced a very different condition compared with other emerging countries. Escribano and Han (2015) have calculated the average credit growth rate for 32 emerging countries in the last decade⁵ and this study showed that Turkey has had the highest annual credit growth in the last decade. We emphasise the sources of credit growth rather than the credit growth rate. All historical data of banking balance sheets in Turkey indicate that the gap between credits and deposits (Credits > Deposits) arises from the enormous growth of non-core liabilities. The equilibrium between credits and deposits in the 2003-2015 period can be seen in Graph 3. This equilibrium was in favour of deposits (Deposits > Credits) before 2011, but it changed in favour of credits (Credits > Deposits) since the beginning of 2011.

Graph 3. Credits and Deposits (Million Liras) in the Turkish Banking System (2003-2015) (Adjusted FX Values by CPI Based Real Effective Exchange Rate (2003=100))

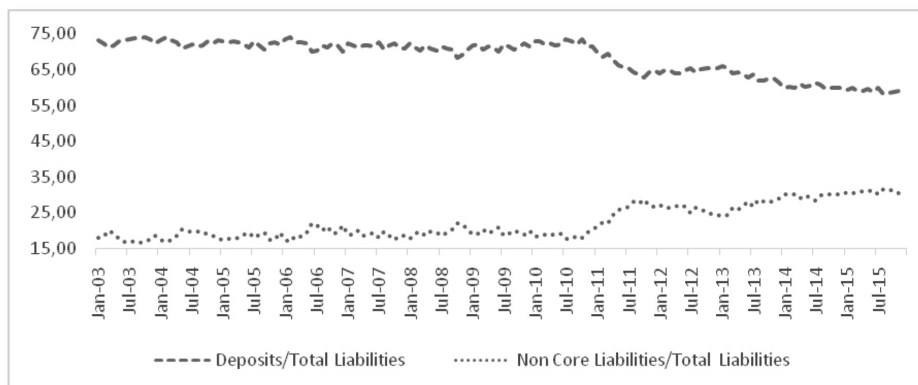


Source: Banking Regulation and Supervision Agency Statistics (BRSA), Turkey, 2015.

The credits-deposits gap started in the first quarter of 2012 and increased dramatically until December 2015. When credit grows faster than the pool of available deposits, then banks turn to other sources of funding to support their credit growth (Hamn *et al.*, 2012a). There is a close correlation between credit growth and growth of non-core liabilities in the Turkish banking system. Non-core liabilities are the main drivers of this gap.

5. Annual growth rates in 2003-2012, real credit variables according to Escribano and Han (2015).

Graph 4. Deposits and Non-Core Liabilities to Total Liabilities Ratio (%) in the Turkish Banking System (2003-2015) (Adjusted FX Values by CPI Based Real Effective Exchange Rate (2003=100))

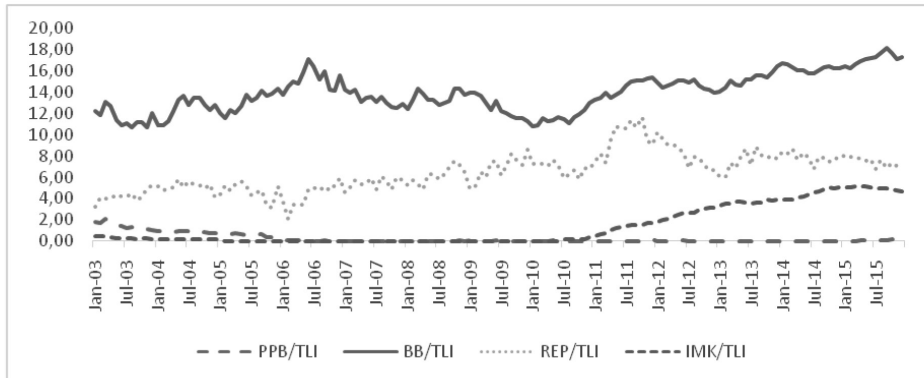


Source: Banking Regulation and Supervision Agency Statistics (BRSA), Turkey, 2015.

It is clearly seen that deposits, as a percentage of total liabilities, have decreased and non-core liabilities, as a percentage of total liabilities, have increased (Graph 4). Deposits as a percentage of total liabilities decreased from 73% in 2003 to 60% in 2015. Non-core liabilities as a percentage of total liabilities increased from 17% in 2003 to 30% in 2015. Decreasing deposits as a percentage of total liabilities have been compensated by increasing non-core liabilities as a percentage of total liabilities.

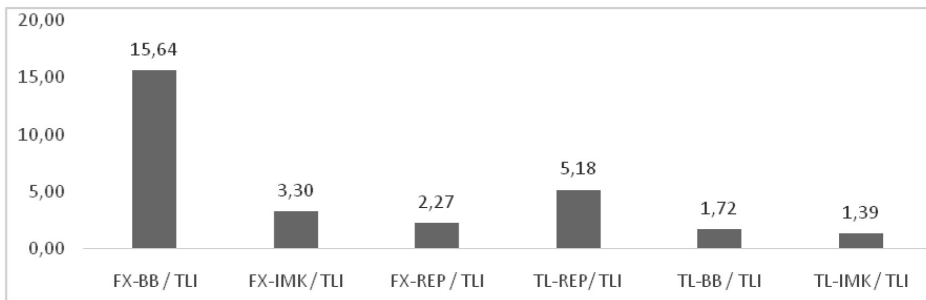
Key elements of non-core liabilities in the Turkish banking system are presented in Graph 5. PPB represents payables to the money market, BB represents payables to banks, REP represents funds from repo and IMK represents securities issued. It is preferable to use only three of them (BB, REP and IMK) because the size of other source (PPB) is merely symbolic. The drastic drop in deposits is compensated by an enormous rise in payables to banks, funds from repo and securities issued. Most of the Turkish banking system liabilities are largely foreign exchange-dominated and this situation is particularly important for Turkey. In this perspective, the non-core liabilities can be classified as foreign exchange (FX) denominated non-core liabilities and local currency (TL) denominated non-core liabilities.

Graph 5. Payables to the Money Market (PPB), Payables to Banks (BB), Funds from Repo (REP) and Securities Issued (IMK) to Total Liabilities (TLI) Ratio (%) in the Turkish Banking System (Adjusted FX Values by CPI Based Real Effective Exchange Rate (2003=100))



Source: Banking Regulation and Supervision Agency Statistics (BRSA), Turkey, 2015.

Graph 6. FX | TL Payables to Banks (BB), FX | TL Funds from Repo (REP) and FX | TL Securities Issued (IMK) to Total Liabilities (TLI) Ratio (%) in the Turkish Banking System (December 2015) (Adjusted FX Values by CPI Based Real Effective Exchange Rate (2003=100))



Source: Banking Regulation and Supervision Agency Statistics (BRSA), Turkey, 2015.

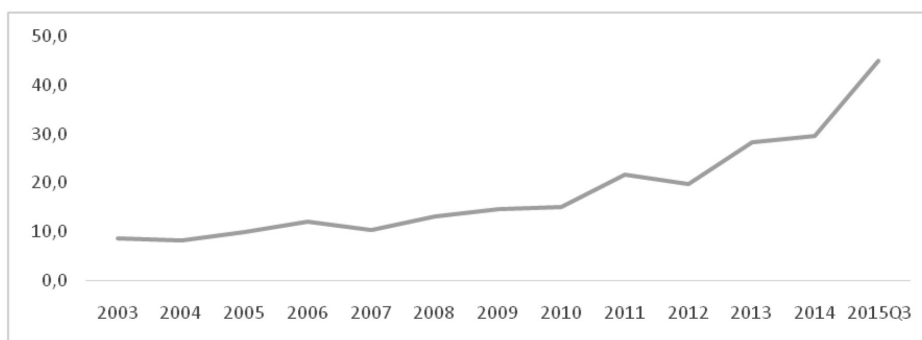
The TL-BB represents the local currency denominated ‘payables to banks’, FX-BB represents foreign currency denominated ‘payables to banks’, TL-REP represents local currency denominated ‘funds from repo’, FX-REP represents foreign currency denominated ‘funds from repo’, TL-IMK represents local currency denominated ‘securities issued’, FX-IMK represents foreign currency denominated ‘securities

issued' and TLI represents total liabilities in Graph 6. FX denominated non-core liabilities (FX-BB and FX-IMK) are greater than TL denominated non-core liabilities (TL-BB and TL-IMK). TL denominated 'funds from repo' is slightly greater than FX denominated 'funds from repo'. It is apparent that FX denominated non-core liabilities are two times greater than TL denominated non-core liabilities.

3. Evaluating Turkish Non-Core Liabilities

There are no international standards in the academic literature for evaluating the level of non-core liabilities, although there are several approaches for analysing and comparing the level of non-core liabilities. A first approach uses the non-core liabilities to Gross Domestic Product⁶ (GDP) ratio. In Graph 7, it is clearly shown that there has been a progressive upward trend in non-core liabilities to GDP ratio in Turkey since the global crisis. This trend accelerates after the global crisis and coincides with the growing gap between credits and deposits.

Graph 7. The Non-Core Liabilities to GDP Ratio (%) in Turkey (January 2003-September 2015) (Adjusted FX Values by CPI Based Real Effective Exchange Rate (2003=100))



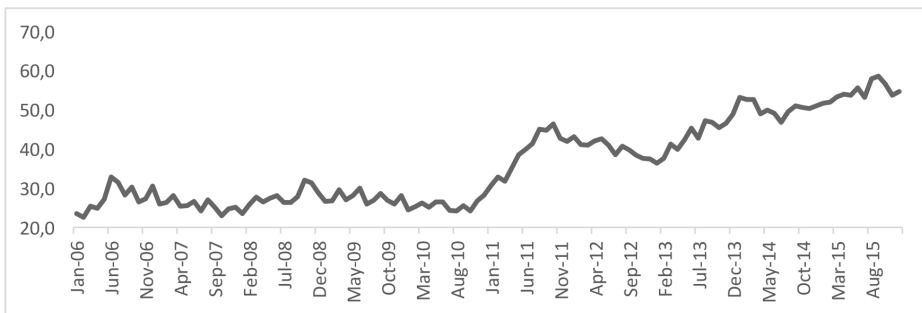
Source: Banking Regulation and Supervision Agency Statistics (BRSA) and Turkish Statistical Institute Statistics (TURKSTAT), September 2015.

The drawback in this ratio is that GDP is not a real time variable and it is frequently revised. Furthermore, non-core liabilities are published monthly; however, GDP is published quarterly in Turkey. A second approach uses monetary aggregates, which are financial data and are published more frequently (weekly and monthly). Shin

6. Expenditure on the Gross Domestic Product (at Current Prices) (2015 third quarter) is taken from the national account of the Turkish Statistical Institute (TURKSTAT).

and Shin (2010) used the non-core liabilities to M2 money supply ratio in analysing the financial system of Korea and concluded that this ratio reached maximum level during the global crisis and then decreased rapidly. This ratio is used to indicate the pro-cyclical nature of non-core liabilities in the Korean economy. It is seen that, in the Korean economy, this ratio reached a peak level in the economic crisis (1997 and 2009) and then sharply decreased. M2 money supply in Turkey comprises the currency in circulation, demand deposits and time deposits in the financial system.

Graph 8. The Non-Core Liabilities to M2 Ratio (%) in the Turkish Banking System (2006-2015) (Adjusted FX Values by CPI Based Real Effective Exchange Rate (2003=100))

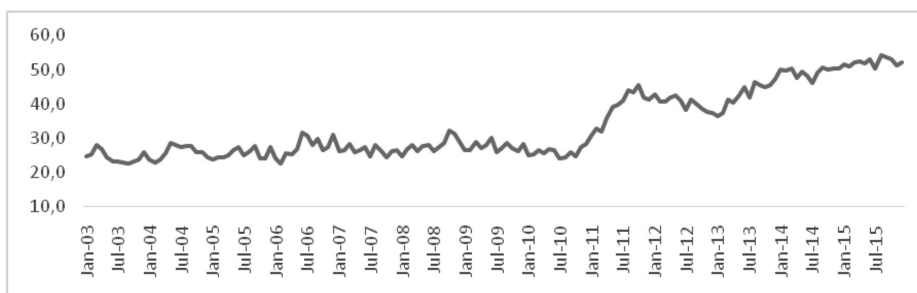


Source: Banking Regulation and Supervision Agency Statistics (BRSA) and Turkish Central Bank Statistics (CBRT), 2015.

Graph 8 illustrates that the non-core liabilities to M2 money supply ratio increased from 23.6 % in 2006 to 54.8 % in 2015. Shin and Shin (2010) and Hahm *et al.* (2012a) have indicated that this ratio was nearly 50% in Korea at the onset of the global crisis and then decreased sharply. This ratio is another important indicator to determine the size of non-core liabilities in Turkey, but the drawback in this ratio is that there is no common M2 definition among the countries. Third approach uses the non-core to core ratio to determine the size of non-core liabilities.

The non-core liabilities to core liabilities ratio increased from 24% in January 2003 to 52% in December 2015 (Graph 9). This ratio slowly increased between 2003 and 2010 and it was only 28% in December 2010. However, it began to increase dramatically in January 2011 and it reached 52% in December 2015.

Graph 9. The Non-Core Liabilities to Core Liabilities Ratio (%) in the Turkish Banking System (2003 -2015) (Adjusted FX Values by CPI Based Real Effective Exchange Rate (2003=100))



Source: Banking Regulation and Supervision Agency Statistics (BRSA), Turkey, 2015.

Table 4. Elements of Non-Core Liabilities in the Turkish Banking System (%) (December 2015) (Adjusted FX Values by CPI Based Real Effective Exchange Rate (2003=100))

BB / Non-Core Liabilities	REP / Non-Core Liabilities	IMK / Non-Core Liabilities
58.85%	25.27%	15.89%

Source: Banking Regulation and Supervision Agency Statistics (BRSA), Turkey, 2015.

The elements of non-core liabilities in the Turkish banking system are shown for December 2015 (Table 4). Most of non-core liabilities are composed of payables to banks. The expansion of non-core liabilities originated from the enormous growth of payables to banks. Non-core liabilities should be analysed from the point of FX and TL composition.

Table 5. FX and TL Composition of Non-Core Liabilities in the Turkish Banking System (%) (December 2015) (Adjusted FX Values by CPI Based Real Effective Exchange Rate (2003=100))

	BB	REP	IMK
FX	90.1%	30.5%	70.4%
TL	9.9%	69.5%	29.6%

Source: Banking Regulation and Supervision Agency Statistics (BRSA), Turkey, 2015.

FX and TL composition of non-core liabilities in the Turkish banking system are shown for December 2015 (Table 5). FX denominated “payables to banks” and “securities issued” are greater than TL denominated “payables to banks” and “securities issued”, whereas TL denominated “funds from repo” is greater than FX “funds from repo”. It is clearly seen that, in December 2015, FX denominated non-core liabilities were greater than TL denominated non-core liabilities in the Turkish banking system. There is no doubt that the distinction between short-term and long-term non-core liabilities is significant for the detailed analysis of non-core liabilities. The term structure of non-core liabilities is presented in Table 6.

Table 6. The Term Structure of Non-Core Liabilities in the Turkish Banking System (Million Liras) (December 2015) (Adjusted FX Values by CPI Based Real Effective Exchange Rate (2003=100))

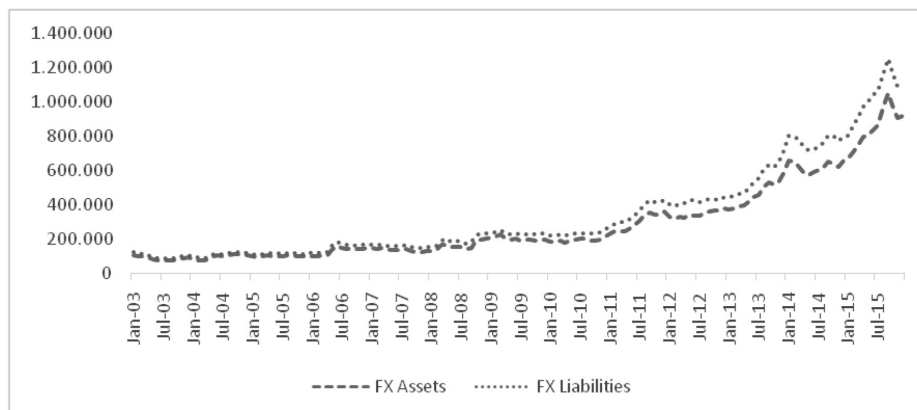
	FX BB	FX REP	FX IMK	TL BB	TL REP	TL IMK
Short	133.456	48.023	6.255	11.011	109.425	19.888
Long	176.657		70.870	4.948		8.875

Source: Banking Regulation and Supervision Agency Statistics (BRSA) and Central Bank of the Republic of Turkey Statistics (CBRT) and The Banks Association of Turkey Statistics (BAT), Turkey, 2015.⁷

Short-term non-core liabilities were greater than long-term non-core liabilities in December 2015. The term structures of FX and TL denominated non-core liabilities are significantly different. The short term TL denominated non-core liabilities are greater than the long term TL denominated non-core liabilities. The long term FX denominated non-core liabilities are slightly greater than the short term FX denominated non-core liabilities. It is clear that the average term structure of foreign exchange liabilities is relatively medium-term. This situation is very important because the Turkish banking system has widened the net FX short position since the beginning of 2011.

7. FX - BB values are provided by CBRT (Outstanding Long Term Loans Received From Abroad by the Private Sector), TL - BB values are provided by BRSA (Sectoral Loan Distribution - Loans Extended to Banks), FX - REP | TL - REP values are provided by BRSA (Funds from Repo Transactions) and FX -IMK|TL - IMK values are provided by BAT (Bills and Bonds).

Graph 10. FX Assets and FX Liabilities in the Turkish Banking System (2003-2015) (Million Liras) (December 2015) (Adjusted FX Values by CPI Based Real Effective Exchange Rate (2003=100))



Source: Banking Regulation and Supervision Agency Statistics (BRSA), Turkey, 2015.

The gap (FX Liabilities > FX Assets)⁸ has increased sharply since the beginning of 2011 (Graph 10). The net FX short position of the banks in the balance sheet reached -170.2 billion TL in December 2015. This gap (FX Liabilities > FX Assets) is covered by the same amount of the net long TL position (TL Assets > TL Liabilities) of the banks. The credit growth of the Turkish banking system over the past four years has been largely funded by FX non-core liabilities. The long term FX non-core liabilities are slightly more than the short term FX non-core liabilities in the Turkish banking system and, therefore, FX non-core liabilities are medium-term. The first problem is that the Turkish banking system has a net FX short position (-170.2 billion TL) and the secondly problem is that the long term FX non-core liabilities are slightly more than short term FX non-core liabilities in the Turkish banking system. The Central Bank of the Republic of Turkey (CBRT) raised the remuneration rate for the required reserves maintained in Turkish liras for the purpose of supporting core liabilities and took additional measures to extend the maturity of banks' non-core foreign currency liabilities (CBRT, 2015a). The Central Bank of the Republic of Turkey (CBRT) has claimed that the share of non-core liabilities with maturities up to one year gradually dropped and this drop was mainly substituted by liabilities with maturities of 1-3 years (CBRT, 2015a). This declaration seems to be unclear and doubtful when analysing

8. FX Liabilities equal Foreign Exchange General Position - Total Foreign Exchange Liabilities (million TL) and FX Assets equal Foreign Exchange General Position - Total Foreign Exchange Assets (million TL) in the Banking Regulation and Supervision Agency Statistics (BRSA).

banks' FX borrowing policy. Of the \$15.5 billion of syndicated loans that Turkey's banks have borrowed since the start of 2015, about 90 percent have a maturity that is longer than a year by between one and 10 days (Bloomberg, 2015). Turkish banks take advantage of paying fewer reserve requirements through this borrowing behaviour and Turkish banks record these loans in 1-3 years' maturity.

Any sudden change in international liquidity conditions leads to an FX funding problem which is a very dangerous situation for the Turkish banking system. The Turkish banking system should focus on creating core liabilities for financing their assets.

This paper finds out that

- The Turkish banking system depends more on non-core liabilities
- FX non-core liabilities are more than TL non-core liabilities
- Short term non-core liabilities are more than long term non-core liabilities
- Long term FX non-core liabilities are slightly more than short term FX non-core liabilities.

4. Conclusion

Developed countries used a loose economic policy after the global crisis and it encouraged huge capital inflows into emerging markets. The Turkish banking system took advantage of foreign capital inflows during/after the global crisis. Turkey has experienced significant credit growth and credit volatility. It has been shown that the main source of the credit growth in Turkey between 2010 and 2015 has been the high level of non-core liabilities in the Turkish banks' balance sheets. This paper is the first study in which term structure and composition of non-core liabilities are examined in Turkey. Non-core liabilities in the Turkish banking system have significantly increased after the global crisis and non-core liabilities have been the main source of credit growth. It is apparent that FX denominated non-core liabilities are greater than TL denominated non-core liabilities, short term non-core liabilities are more than long term non-core liabilities and long term FX non-core liabilities are slightly more than short term FX non-core liabilities in the Turkish banking system. Non-core liabilities have been growing dramatically in the Turkish banking system. Most of the non-core liabilities are medium-term foreign exchange denominated liabilities. This system is very susceptible to national or international liquidity problems.

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