

## V. SPECIAL TOPICS

### V.1. Relationship Between Interest Rate Corridor and Loan-Deposit Spread

The rising global liquidity due to monetary easing in advanced economies and the uncertain environment in the global economy has caused volatile capital flows to emerging markets. These global conditions have the potential to cause excessive credit growth and fluctuations in exchange rates. In parallel to these developments, in order to mitigate macro-financial risks stemming from global imbalances, the Central Bank of the Republic of Turkey (CBRT) designed a new monetary policy framework. In the new framework the CBRT has started to observe certain variables such as credit growth and exchange rate, and addressed rapid credit growth a significant importance as part of financial stability. Liquidity management tools, reserve requirement ratios and short-term interest rates have been jointly used in order to achieve credit growth consistent with economic Fundamentals.

The CBRT has developed and implemented new policy instruments in order to support financial stability besides price stability. One of the new instruments developed under the new policy framework is interest rate corridor. The use of interest rate corridor in Turkey differs from the other central banks adopting traditional inflation targeting regime. Under the traditional inflation targeting regime the interest rate corridor is defined as a symmetric and narrow band around the policy rate and used not to allow the market rates significantly deviate from the policy rate. In other words the interest rate corridor has a passive role in the standard inflation targeting regime. However, the interest rate corridor is used as a very active policy instrument in the current system of CBRT. The width of corridor can be adjusted in need and divided asymmetrically around the policy rate. In this policy set-up the interest rate corridor enables the CBRT to react rapidly against the volatility in capital flows. An addition, the corridor may change the loan strategy of banks by adjusting the spread between loan and deposit rates. This special topic summarizes the empirical results of the study by Binici, Erol, Kara, Özlü and Ünalmiş (2013) and provides some empirical evidence about the effect of interest rate corridor on interest rate of loans, deposits and the spread.

#### The Use of New Policy Instruments

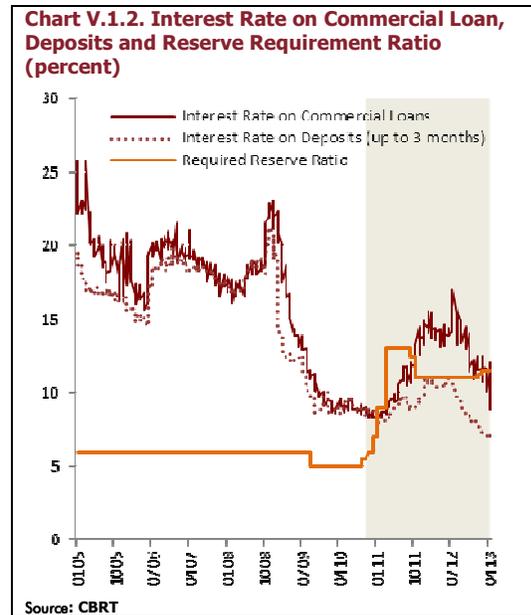
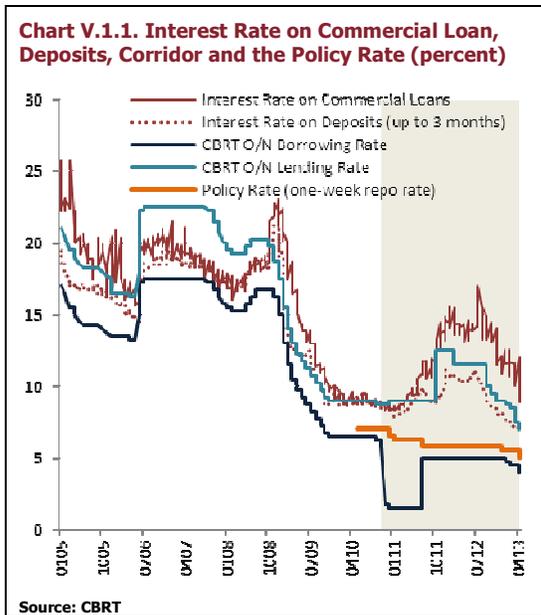
The CBRT has used interest rate corridor actively since the end of 2010. At the first stage, the corridor was used to enable the exchange rate to behave in consistent with the economic fundamentals. Towards the end of the 2010, the imbalances in both domestic and external demand have put a risk on financial stability and thus the CBRT widened the interest rate corridor downwards in order to limit short-term capital flows. Required reserve ratios are increased in order to slowdown the surge in credit volume together with the deterioration in the financing quality (Figure V.1.1 and Figure V.1.2). The CBRT widened the interest rate corridor downwards in order to limit short-term capital flows by reducing the risk-adjusted TL returns through increasing volatility in the short-term rates, and increased the required reserve ratios in order to slow down credit growth.<sup>3</sup> The use of

<sup>3</sup> See Binici, Erol, Özlü ve Ünalmiş (2013) for the effect of unconventional monetary policy tools on credit growth.

interest rate corridor together with the active liquidity management strengthens the effect of the rise in reserve requirement ratios.

The upper bound of the corridor has been actively used since the end of 2011. The CBRT raised the upper bound of the corridor in October. Though this decision aimed to mitigate the adverse effects of sharp decrease in capital flows due to the deepening of Euro crisis, it also affected the credit market. The active use of interest rate corridor together with the liquidity management has a significant role in the slowdown of credit growth to more reasonable levels which is consistent with financial stability.

Despite the fact that the need for interest rate corridor to be used for controlling capital flows and exchange rate volatility has been reduced by the active use of reserve option mechanism throughout 2012, the experiences in 2011 and 2012 imply that the interest rate corridor can also be effectively used to control credit growth in need. Under the policy framework adopted during this period, the relation between the corridor and the interest rates on both loans and deposits becomes important in order to understand the new policy framework implemented by the CBRT. Besides, the analysis about these relations would enable us to understand the potential of interest rate corridor to be used as macro-prudential policy too.

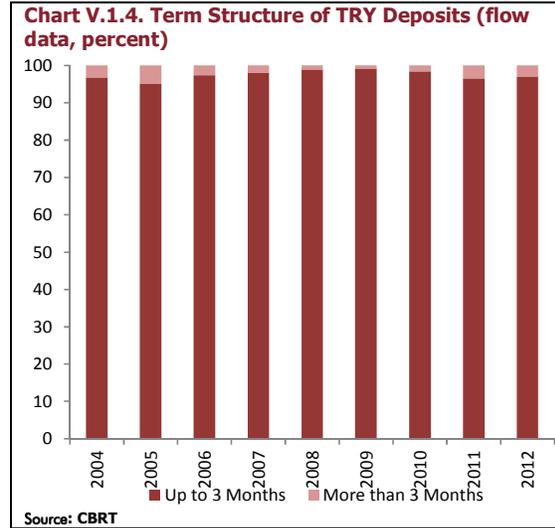
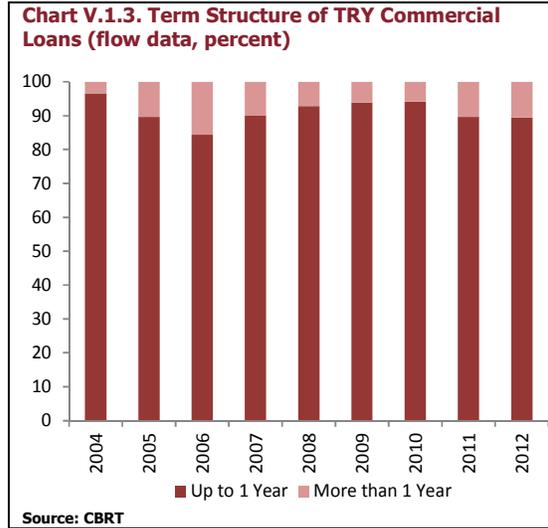


The loan-deposit spread is an important indicator for credit conditions. Wide spread indicates that risk-appetite for lending is low and credit conditions are tight. During periods of expansionary economic activity credit conditions loosen, competition among banks intensifies and the spread narrows. On the other hand during periods of contractionary economic activity the cycle is reversed. The procyclical behavior of credit supply amplifies the business cycles and hence strengthens the volatility in economic activity (Agenor and Da Silva, 2013). Asymmetric interest rate corridor has the potential to smooth the excessive fluctuations in the cycle by affecting credit and deposit rates via different channels and hence to be used as a macro-prudential policy tool. This study focuses on the

interaction of interest rate corridor and the new liquidity management strategy with the interest rates on commercial loans, deposits and the spread. In this study, in context, the effect of new policy instruments on interest rates of commercial loans and deposits is investigated and the determinants of the spread between loan-deposit rates are discussed.<sup>4</sup>

### Term Structure of Commercial Loans and Deposits

Interest rates on commercial loans reported by the Turkish banking sector are classified as “less than 1 year” and “more than 1 year” maturity buckets.<sup>5</sup> The term structure of interest rates on commercial loans denominated in Turkish lira indicates that newly granted commercial loans in Turkish lira are concentrated on less than 1 year. On the other hand, the anecdotal evidence indicates that very short-term and frequently renewed commercial loans have high proportion in the newly granted commercial loan volume. This implies that the average maturity of commercial loans might be less than 1 year. Hence, compared to consumer loans interest rates on commercial loans are expected to be more sensitive to short term interest rates and liquidity policy. Similarly, newly opened or renewed deposit accounts concentrate around 3 months maturity (Graph V.1.4).



In sum, it is expected that banks evaluate market developments and monetary policy decisions on the same scale when they set rates on Turkish Lira denominated commercial loans-deposits and consequently the spread between them. Hence, rates on commercial loans and deposits have been used in this study to evaluate the effect of interest rate corridor on loan-deposit interest spread, consumer loans have been excluded because it is affected by the term structure of market interest rates. In other words, it is focused on loan-deposit interest rate spreads which has the high potential to be affected by CBRT’s liquidity policies.

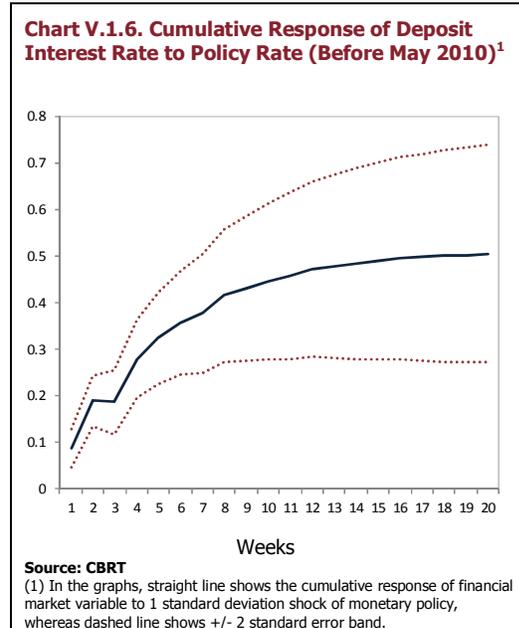
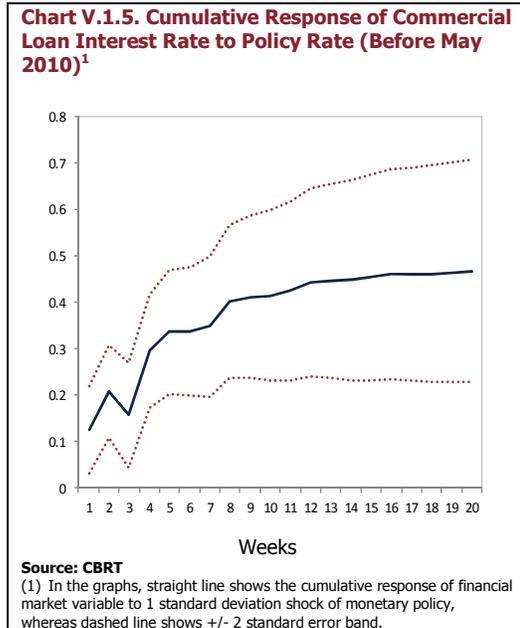
### The Effect of CBRT’s Policies on Loan-Deposit Interest Rates: Time Series Analysis

While overnight borrowing rate has been used as the policy rate up to May of 2010 due to excess liquidity in the market, after this period with suitable technical adjustments, one week repo

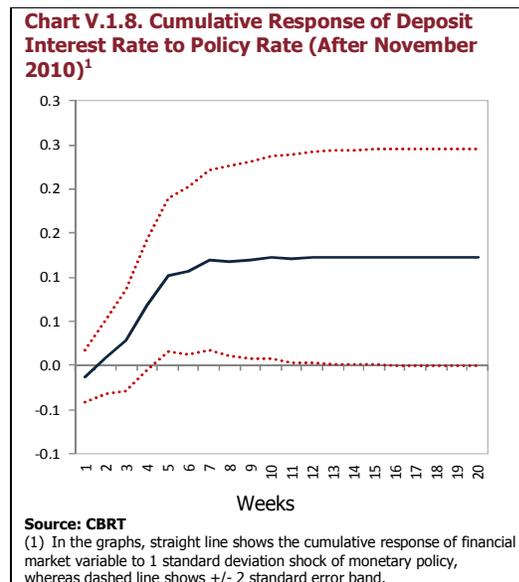
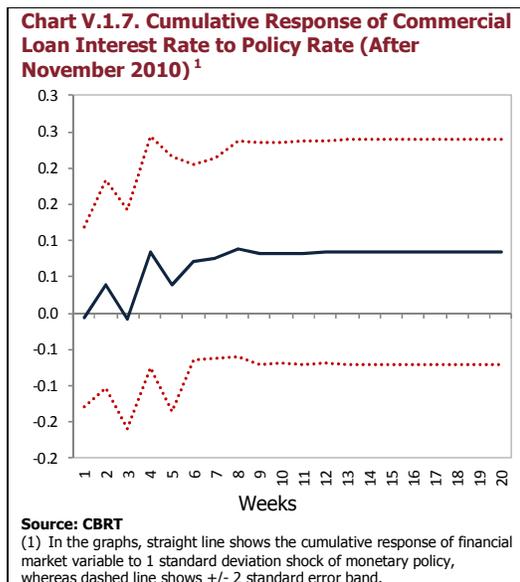
<sup>4</sup> It could be argued that reserve requirement can be used by the central bank to achieve the same purpose. But the cost effect of reserve requirement may be limited (Kara, 2012). To achieve a certain level of rise in interest rates, considerable rise in reserve requirement ratio may be needed. This requires a large withdrawal of liquidity and difficult to implement in practice.

<sup>5</sup> Detailed information with respect to term structure of loans is not available.

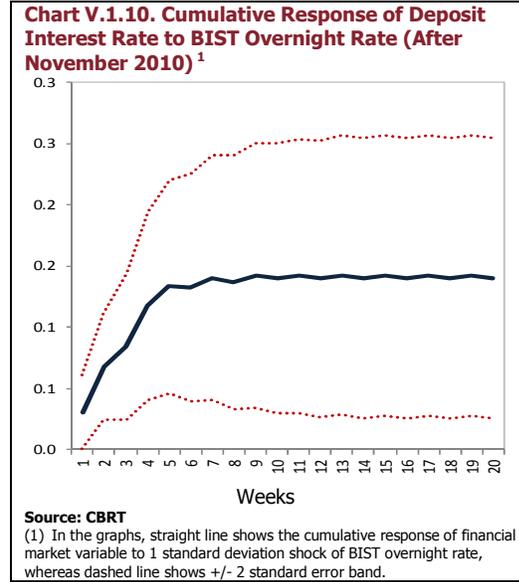
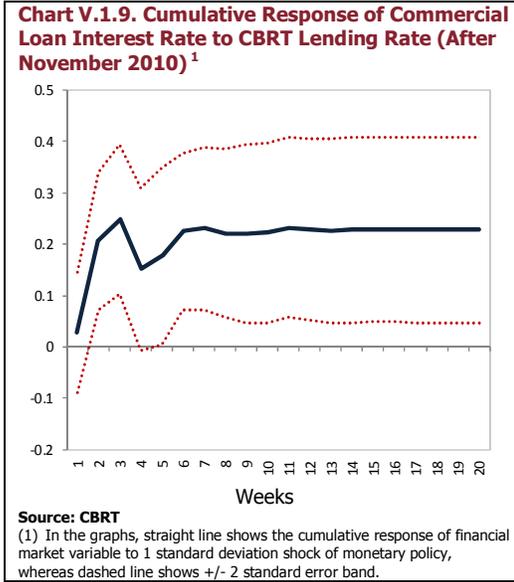
rate has been adopted as the policy rate in accordance to changes in liquidity conditions. This operational change has created a new operational environment where the interest rate corridor is used actively via overnight borrowing, lending and weekly repo rates are used for different purposes. Policy instrument variety has been increased as of last quarter of 2010 by adopting asymmetrical interest rate corridor and reserve requirements; parameters of interest rate corridor have become important to reflect the stance of monetary policy. This can be seen impact-response functions which were obtained from VAR analysis for 2 sub-periods (Graph V.1.5-10).



According to the results of unrestricted VAR estimation, in the first period covering before May of 2010, it is seen that both rates on commercial loans and deposits react to overnight borrowing interest rate significantly, strongly and similarly (Graph V.1.5-6). Consequently, in this period, it could be argued that that it is not possible to affect commercial loan – deposit interest rate spread by changing the policy rate.



In the period between May of 2010 and November of 2010, CBRT varied its toolbox of monetary policy instruments gradually. After November of 2010, it was clearly declared at the Monetary Policy Committee meetings that new monetary policy framework is adopted. Therefore, impulse-response functions for November 2010 and afterwards are presented at the Graph V.1.7-8. At this period, it is seen that the reaction of rates on commercial loans to 1 week repo rate has become statistically insignificant, the one for deposit rates to be weakly significant.



For the period analyzed, the reason for insignificant reaction of commercial loan interest rate and weak reaction of deposit interest rates to policy rate is due to the increasing variety of policy instruments in this period. As a matter of fact, when upper bound of interest rate corridor (CBRT overnight lending rate) used instead of policy rate, it is seen that interest rates on commercial loans react to the upper bound of the corridor significantly (Graph V.1.9). Similarly, deposit interest rate react to overnight market interest rate in Istanbul Stock Exchange (BIST) significantly compared to the policy rate (Graph V.1.10). This situation caused by the reduction of short-term liquidity supplied by CBRT and the rise in volatility of short-term interest rates which increased the importance of short-term market rates for funding costs of banks.

The preliminary findings thus far signal that it would be useful to closely investigate the effect of new monetary policy instruments on the transmission to market interest rates and consequently the spread between commercial loan and deposit interest rates. Since the period of analysis is short, it is important to provide more supportive evidence using panel data to have sound assessment of relationship between policy instruments and interest rate spread.

### Panel Data Results

For the period of analysis covering November 2010-December 2012, bank level data for 13 major deposit banks with large share in the industry is considered.<sup>6</sup> For those banks, the response of interest rates on commercial loans, deposit and the spread between two rates to monetary policy decisions are evaluated. To provide more reasonable analysis between interest rates and monetary

<sup>6</sup> The share of those banks in total banking sector is above 90 percent.

policy decisions, flow data on deposit and loan rates are used. Since flow rates indicate the rates applied to the newly issued deposit and loan account on a given week, they are expected to reflect the effect of monetary policy changes on pricing decision more timely. Since the period under consideration is relatively short, the use of flow data becomes more important.

For model estimation, weekly loan and deposit data are averaged for given month, and the spread between loan and deposit rates are constructed from monthly data. For monetary policy variable monthly average of daily data, and for non-performing loans monthly balance sheet data is used. Using these data, the following dynamic panel model is estimated:

$$\Delta Y_{it} = \beta_0 + \beta_1 \Delta Y_{it-1} + \beta_2 \Delta RR_{it} + \beta_n (\Delta X_t) + \varepsilon_{it}$$

In this model,  $Y_{it}$  indicates commercial loan or deposit interest rates,  $RR_{it}$  is required reserve rates,  $X_t$  vector includes monetary policy variables such as policy rate, upper corridor and lower corridor rate. During the period of analysis, the required reserve rates vary based on maturity, thus it differs across banks. To capture persistency in commercial loan and deposit interest rates, and dynamic adjustment, the lagged value of dependent variable is included as right hand side variable, and to remove the inconsistency in parameter estimates, generalized method of moments (GMM) of Arellano and Bond (1991) is used as estimation method. Given the endogeneity problem introduced by the lagged dependent variable, further lags of dependent variable are used as instruments.

Dynamic panel model estimation results are presented in Table V.1.1. The active use of CBRT's interest rate corridor and required reserves has positive and statistically significant effect on commercial loan rates. During the period of analysis, CBRT's has let the overnight rate to fluctuate within the corridor, which introduced interest rate risk for the commercial banks. The empirical evidences indicate that banks have been cautious in pricing the interest rate risk, and the sensitivity of commercial loan rate to upper corridor rate is high. While having small magnitude, the required reserve rates also have significant effect on loan rate. The effect of required reserve rates on loan rates works through liquidity and cost channel which reduces the appetite of bank lending, and which in turn leads the banks to reduce credit supply by increasing loan rates to limit their interest rate risk exposure. Similarly, required reserves have impact on deposit interest rates. During the period of increase in required reserve rates, the need to raise more permanent funding might be the driving force behind the rise in deposit rates.

**Table V.1.1. Commercial Loan and Deposit Rates Estimation Results\*  
(November 2010-December 2012)**

	Commercial Loan Rate (1)	Deposit Rate (2)
Commercial Loan Rate (t-1)	-0.013 (0.068)	
Deposit Rate (t-1)		0.384*** (0.037)
Policy Rate	0.673 (0.455)	0.915*** (0.113)
Upper Corridor	0.128** (0.050)	-0.003 (0.011)
Lower Corridor	0.768*** (0.182)	0.267*** (0.022)
Required Reserves	0.090** (0.045)	0.042*** (0.011)
Constant Term	0.136*** (0.045)	0.027*** (0.008)
Number of Observations	338	338

\*Dynamic panel (Arellano and Bond, 1991; GMM) estimation results are presented. All variables are in first difference form (basis point). Standard errors are given in parenthesis and adjusted for heteroskedasticity.  
\*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

Another observation from the estimation results from Table V.1.1 is that the commercial rates are more affected by upper corridor while deposit rates are more sensitive to the policy rate. These evidences are consistent with the time series analysis results from previous section. Given that the interest rate corridor affects loan and deposit rates differently, within the new monetary policy framework, it suggests that the CBRT could also affect the spread between two rates if needed. Therefore, to test examine the sensitivity of loan-deposit spread to the monetary policy variables and other intermediation cost variables, a dynamic panel model for spread is estimated (Table V.1.2). The same methodology for estimating loan and deposit rates is utilized when estimating interest rate spreads, however since spread is a stationary series, by definition, the explanatory variables are in level rather than first difference, and the relevant variables are chosen based on the estimation results from Table V.1.1. In this context, as monetary policy variable, the margin between "upper corridor and policy rate" and "the width of corridor" are used to proxy for the intermediation cost and funding uncertainty. On the other hand, as an intermediation cost indicator, the required reserve rates, and as an important performance and risk indicator, the non-performing loan (NPL) rates are also used as explanatory variable for the spread model.

Empirical findings indicate that both interest rate corridor and required reserves affect the spread between loan and deposit rates (Table V.1.2). As expected from times series analysis in Figure V.1.1 and estimation results from Table V.1.1, the difference between upper corridor and policy rate have significant effect on loan-deposit spread. As shown in Table V.1.1, this is due to the response of loan rate to the upper corridor, and that of deposit rate to the policy rate and overnight market rates. The sensitivity of loan rate to the liquidity condition is to large extent considered to be due to short maturity and revolving loans. In other words, commercial loan rates are more sensitive to short term market conditions and uncertainty in funding cost. These results indicate that interest rate corridor could be an effective instrument for controlling credit supply and to affect total demand when needed.

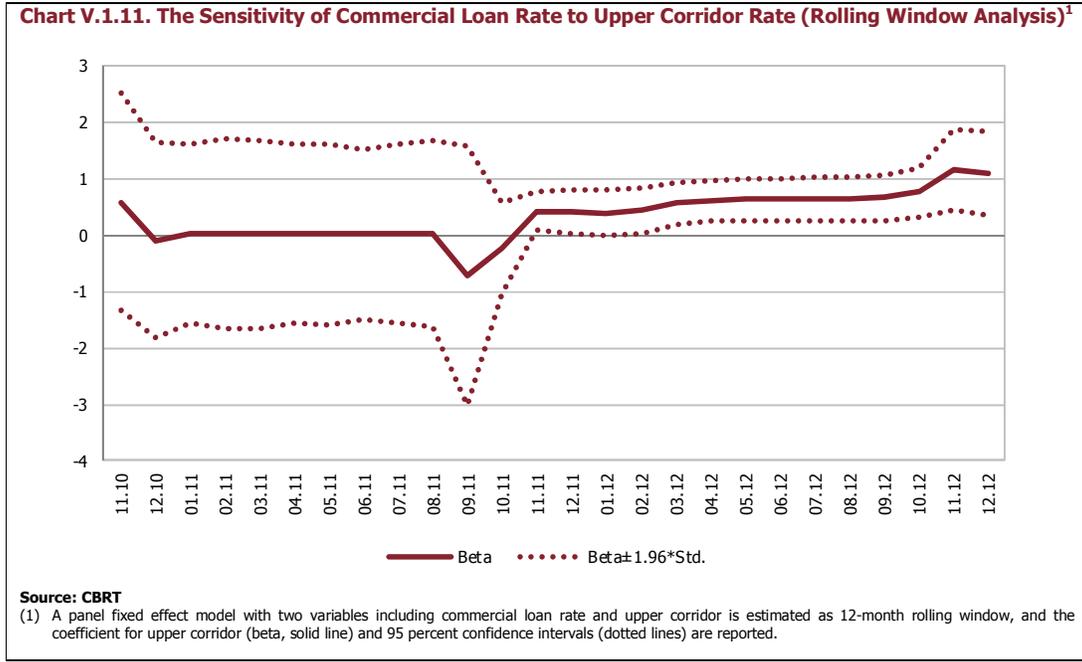
**Table V.1.2. Commercial Loan-Deposit Rate Estimation Results\*  
(November 2010-December 2012)**

	(1)	(2)
Loan-Deposit Rate Difference (t-1)	0.758*** (0.035)	0.768*** (0.032)
Upper Corridor-Policy Rate Difference	0.128** (0.049)	0.113*** (0.041)
Width of Interest Rate Corridor	-0.044 (0.047)	
Required Reserves	0.085*** (0.026)	0.079*** (0.025)
NPL Ratio	0.546** (0.255)	0.540** (0.261)
Constant Term	-0.041 (0.309)	-0.223 (0.244)
Number of Observations	338	338

\*Dynamic panel (Arellano and Bond, 1991; GMM) estimation results are presented. Except NPL ratio, all variables are in level, and to proxy for flow variable, NPL ratio is in first difference (basis point). Standard errors are given in parenthesis and adjusted for heteroskedasticity. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

### **When did the Sensitivity of Commercial Loan Rate to Interest Rate Corridor Start?**

While commercial loan rates are found to be very sensitive to the upper corridor in previous section, to have better assessment of policy tools, the question of when this sensitivity has started becomes important. Accordingly, to show the time varying sensitivity of commercial loan rate to upper corridor rate, two-variable panel model is estimated. The model is estimated as 12-month rolling window, and November 2010 is selected as starting period as the new monetary policy framework became apparent. The beta coefficient for upper corridor and 95 percent confidence interval is plotted in Figure V.1.11. The sensitivity of commercial loan rates to upper corridor is small and statistically insignificant until end of 2011, and after that time the coefficient becomes positive, statistically significant and displayed an increasing trend. These results indicate that the sensitivity of commercial loan rate to upper corridor has started as the CBRT started using the interest rate corridor actively since the last quarter of 2011. In fact, during this period, the CBRT implemented an active liquidity policy by reducing the market liquidity at times, and increasing the funding uncertainty. As shown in a study by Binici, Erol, Özlü and Ünalımsı (2013), the increase in upper corridor rate with active liquidity management policy has contributed to a significant slowdown in credit growth.



## Conclusion

In line with the increase in the importance of financial stability after the global financial crisis, the CBRT has restructured its monetary policy strategy according to the characteristics of the new era, and diversified its policy instruments. The analysis results in this study indicate that the recent policy instruments used by the CBRT had been highly effective on loan and deposit rates. Using multiple instruments enabled the CBRT to have varying effects on different interest rates. In this context, as an important credit supply indicator, the CBRT could also influence the loan-deposit spread. Since the loan-deposit spread has a potential to be used as a macro-prudential instrument, it increases the importance of findings in this study. Because the interest rate spread is often stretched in times of rapid economic growth, and competition among banks increases, which in turn leads to rapid expansion of credit. In such periods, preventing (or limiting) contraction in loan-deposit spreads would tighten the credit supply and thereby make important contribution to financial stability.

The findings in this study indicate that the asymmetric interest rate corridor as one of the policy tools developed by the CBRT, as opposed to the conventional inflation-targeting regime, could be used as macroprudential policy tool, if required, by influencing loan-deposit spread. Having policy instrument to influence interest rate spread and therefore credit supply through spate channels enables the CBRT to mitigate the trade-off between price and financial stability, in other words, the CBRT could sustain financial stability without compromising price stability.

**References:**

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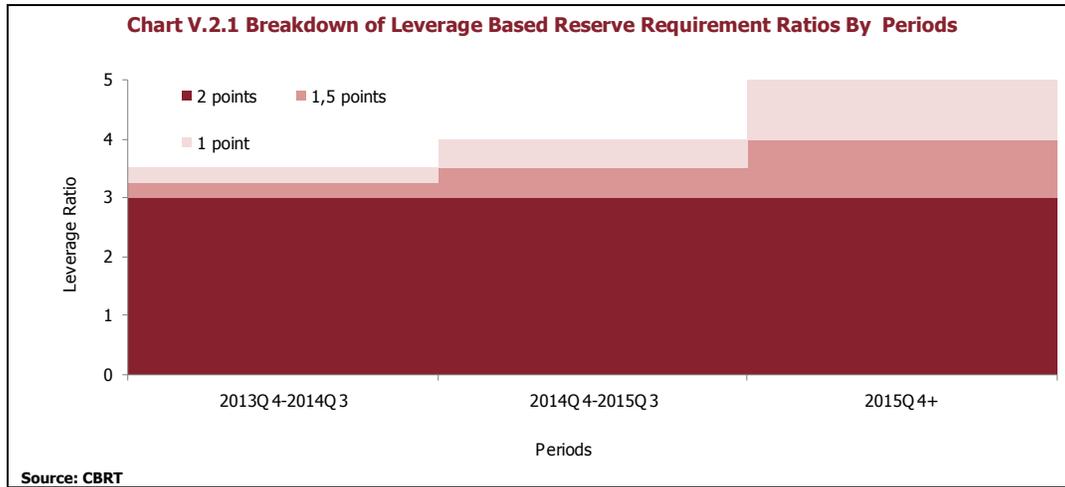
## V.2. Leverage Based Reserve Requirements

Extremely high debt level in the financial system is one of the main reasons of the last global financial crisis. Economic literature shows that leverage is cyclical, triggers financial cycles. Capital adequacy ratio, which aims to enhance banks' soundness, might be insufficient to assess financial risks due to the calculation method of risk weights. In this context, by ensuring the use of Basel III leverage ratio along with the Basel II capital adequacy ratio as a supportive instrument, it is aimed to limit the accumulation of risks that emanate from extreme leverage in the banks and the financial system as a whole.

As per the Basel III, the leverage ratio will be calculated as the ratio of Tier 1 capital to the sum of assets and off-balance sheet items that is calculated by using certain weights. The Basel Committee set the 2011-2012 period for supervisory monitoring, and the 2013-2017 period for reporting by the banks' to the authorities. In 2015, banks are expected to announce their leverage ratios, and the transition period until 2017 is contemplated to be the testing of leverage ratio of 3%, set as the minimum ratio. The mandatory leverage ratio rule will get the final shape based on the results of the parallel run and three Quantitative Impact Studies (QIS) and will be effective from 1 January 1 2018 at an international level.

As for the Turkish banking sector, higher asset growth is associated with higher leverage (Binici, Köksal; 2012). The leverage ratio for the Turkish banking sector has hovered around 8 percent since 2005. In order to avert the risks that might stem from operating under high indebtedness before they emerge, the "leverage based reserve requirements (LBRR)" in which banks that raise the indebtedness to excessive levels compared to the current circumstances is subjected to additional reserve requirements, was introduced on December 26, 2012 and put into effect in gradual way as a countercyclical and macro-prudential policy tool. This policy has been effective in 2013 for monitoring purposes.

The leverage ratio used as a structural monetary policy tool by CBRT, is calculated by dividing the sum of tier-1 capital to total liabilities and off-balance sheet items with certain consideration ratios (tier-1 capital/ (Total Liabilities+ Off-Balance Sheet Items)). According to the leverage-based reserve requirements policy, firstly, an additional reserve requirement of 1 to 2 percent in three stages is imposed on the banks having an average 3 to 3.5 percent leverage ratio in the last quarter of 2013 to be effective as of 2014. In the following years, the upper limit of the leverage ratio, for which the additional reserve requirement ratio, is to apply, will be raised to 5 percent gradually, and will be kept at that level.



Leverage ratio is calculated based on the monthly data of the financial statements, but is based on the average of the months in a given quarter. Reporting will be made within 3 months following the calculation period, and starting from the reporting related to the last quarter of 2013, the banks in the given range will maintain additional reserve requirements for 6 reserve requirement periods following the first maintenance period at the 4th calendar month.

**Table V.2.1. Reporting of Leverage Based Reserve Requirements and Maintenance**

Calculation Period (Average Leverage Ratio)			Reporting Period (Until last reserve requirement reporting period)			Maintenance Period (Six Reserve Requirement Periods)		
Oct.13	Nov.13	Dec.13	Jan.14	Feb.14	Mar.14	Apr.14	May.14	Jun.14
Calculation Period (Average Leverage Ratio)			Reporting Period (Until last reserve requirement reporting period)			Maintenance Period (Six Reserve Requirement Periods)		

Source: CBRT

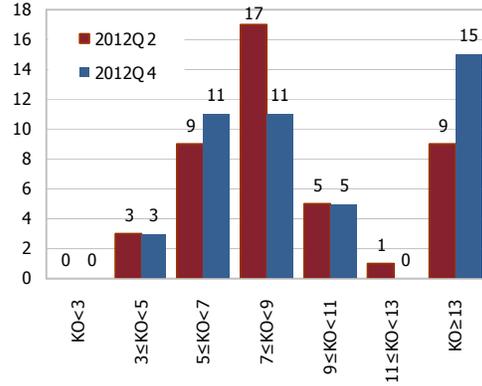
The average leverage ratio for banking sector was 7.65 percent as of fourth quarter of 2012, reported in April 2013, and it is seen that banks have limited their indebtedness level by increasing their leverage ratios after the announcement of the regulation (Chart V.2.2). In the same period, the average leverage ratios of the majority of banks have been greater than 7 percent. Only three banks' leverage ratio is within the range of 3 to 5 percent (Chart V.2.3).

Chart V.2.2 Banking Sector Leverage Ratios (%)



Source: CBRT

Chart V.2.3 The Breakdown of Banking Sector Leverage Ratios.



Source: CBRT

With the LBRR implementation, a sharp fall in leverage ratios will be prevented prior to leverage ratio regulation which will be effective in 2018 as per the timetable of the Basel III and by restraining bank indebtedness the implementation will contribute to financial stability.

#### References:

Binici, Köksal, 2012. "Is the Leverage of Turkish Banks Procyclical?", Central Bank Review 12/2.

CBRT, 2012 Monetary and Exchange Rate Policy.

CBRT, 2013 Monetary and Exchange Rate Policy.

### V.3. Structural Reforms in the Global Banking System

The work on the reformation of the global financial system, which started after the crisis with the initiative of the G20 Leaders, has been underway since 2009. The main focus of these reforms has been the regulations on capital and liquidity. These reforms, which have been laid out in order to increase the quantity and quality of bank capital, to put a cap on leverage and to introduce new standards on liquidity, did not require a modification in banks' business models, but instead aimed at making them more resilient against risks stemming from their current activities. Although there is international consensus that the implementation on a global scale of these new regulations (Basel III) supported by effective supervision will contribute to healthier banks, concerns have emerged in a few countries, especially in those that were affected the worst by the crisis, that these new regulations may not be sufficient to prevent future crises. Therefore, in the US, UK and the European Union, various proposals have come to the order regarding structural reforms of the banking sector. While some of these proposals aim to move banks' business units that carry out complex and risky transactions to separate legal entities, others aim to completely prevent banks from engaging in such transactions.

Before the crisis, particularly in advanced economies, it was believed that the universal banking model, which offered a number of products and services under the same roof, was more beneficial for the economy as it provides such advantages as economies of scale and distribution of risk across different business units. As a matter of fact, in the process of financial liberalization that started in 1970s, restrictions on banks' scope of activities had been loosened in many jurisdictions. It was believed that the systemic risk that could emerge as a result of banks' rapid growth and their increasing complexity could be mitigated thanks to market discipline and more sophisticated risk management techniques. However, this belief proved to be unfounded when the crisis revealed that large banks had concentrated their business too much on trading activities by working with high leverage and investing in risky instruments. It became evident that business models pursued by these banks caused conflicts of interest, distorted market discipline and contributed to the emergence of systemic risk. Furthermore, the sheer size of these banks and their interconnectedness in the system made their rescue with public funds inevitable when they face failure and this imposed a heavy burden on tax payers.

The new opinion emerged in light of the lessons derived from the crisis was to revise the universal banking model so that the high-risk banking activities with speculative nature could be separated from those that are low-risk and critical for the functioning of the economy. By this way, retail banking activities would come under protection by being separated from investment banking activities. Expected key benefits of the intended separation are as follows:

- Ensuring that the losses occurred due to high-risk activities will not be borne by protected activities
- Ensuring that high-risk activities will not be able to benefit from the subsidies (e.g. deposit guarantee schemes, central bank facilities etc.) designed for the protected activities
- Increasing the transparency of banks and facilitating their management and supervision by making them smaller and simpler

- Reducing the conflicts of interest that could emerge between high-risk activities and traditional banking activities
- Decreasing the banking sector's capacity to exert pressure on regulators and policy makers on issues that contradict with public interests by ensuring that the sector consists of smaller but a higher number of banks
- Protecting tax-payers against losses of the financial sector by making high-risk banking activities devoid of implicit or explicit government guarantees.

Although their motives and objectives are similar, the structural reform proposals put forth in the US, UK and the EU contain some differences in terms of their scope and flexibility. While the Volcker Rule that will take effect in the US is rather strict and has a narrow scope, Liikanen Report's proposals that are on the agenda in the EU have a wider coverage and are more flexible. As for the UK, the proposals laid out in the Vicker's Commission Report have an even wider scope compared to the EU proposals and the restrictions it entails are more detailed, as well.

**Table V.3.1. Comparison of the Structural Reform Proposals**

	<b>Liikanen Report</b>	<b>United Kingdom</b>	<b>USA</b>
<b>Holding company with banking and trading subsidiaries</b>	Permitted	Permitted	Not permitted
<b>Deposit taking institution dealing as principle in securities and derivatives<sup>1</sup></b>	Not permitted (but other group companies may do so)	Not permitted (but other group companies may do so)	Not permitted
<b>Deposit taking institution investing in hedge funds and private equity</b>	Not permitted (but other group companies may do so)	Not permitted (but other group companies may do so)	Not permitted
<b>Deposit taking institution providing market making services</b>	Not permitted (but other group companies may do so)	Not permitted (but other group companies may do so)	Permitted
<b>Deposit taking institution's non-trading exposures to other financial intermediaries</b>	Unrestricted	Restricted	Unrestricted
<b>Higher loss absorbency rule<sup>2</sup></b>	Yes, via leverage ratio for trading business that exceeds size threshold	Yes, as add-on to the conservation buffer for UK ring-fenced bank	For SIBs with substantial US footprint
<b>Size threshold for application</b>	Yes, applies to all banks with trading books larger than EUR100 billion, or trading assets more than 15-25% of balance-sheet	Yes, applies to all banks and building societies with deposits greater than GBP 25 billion	No
<b>Enacted into law?</b>	No	Scheduled for completion by 2015	Yes
<b>Implementing regulations finalized?</b>	No	No	No
1: U.S. federal government and agency securities, debt and securities issued by US state and municipal governments and government sponsored enterprises, and derivatives on these securities are exempt from proprietary trading restrictions of the Volcker Rule.			
2: The Dodd-Frank act subjects US banks with assets in excess of USD 50 billion to more stringent prudential requirements. Similar requirements have been proposed under the recent Intermediate Holding Company proposal, for non-US banks with more than USD 50 billion in global assets that have a systemically important presence in the US.			
Source: "Creating a Safer Financial System: Will the Volcker, Vickers, and Liikanen Structural Measures Help?" IMF Staff Discussion Note, May 2013			

According to policy makers, if the proposed structural reforms are realized, the probability of systemic risk will be reduced and the main function of the banking system, which is to channel funds from depositors to investors, will be protected. However, representatives of the banking sector, especially those that are in the advanced economies where these proposals are on the table, argue that abandoning the universal banking model will bring some disadvantages. Some of those are listed below:

- Increased operational burden and cost of banking activities due to higher number of institutions in the financial system and additional reporting requirements new regulations will impose
- Possible migration of restricted activities to outside the banking system or to institutions just below the regulatory thresholds, thereby causing systemic risk to move to the other parts of the financial system rather than to disappear
- Possible migration of investment banking activities to some emerging market countries where such restrictions are not in place causing them to be adversely affected by the ensuing capital flows and experience difficulties in regulation and supervision of these activities

- Deterioration in global liquidity conditions of capital markets and upward pressure in yields due to proposed restrictions on US banks' securities trading activities
- Loss of benefits provided by the diversity of products and services and efficiency losses due to banks' inability of effective capital and liquidity allocation among its subsidiaries

To conclude, this issue will remain one of the important items on the international regulatory agenda in the near future.

**References:**

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Dodd-Frank Wall Street Reform and Consumer Protection Act <http://www.sec.gov/about/laws/wallstreetreform-cpa.pdf>

High-level Expert Group Report on reforming the structure of the EU banking sector, October 2012. [http://ec.europa.eu/internal\\_market/bank/docs/high-level\\_expert\\_group/report\\_en.pdf](http://ec.europa.eu/internal_market/bank/docs/high-level_expert_group/report_en.pdf)

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## V.4. Global Legal Entity Identifier (LEI) System

One of the significant problems supervisory authorities faced during the global financial crisis was their inability to accurately understand the interconnections and parent-subsidary relations among financial institutions that carry out transactions in increasingly integrated financial markets. Therefore, a consensus has been achieved among market players and government authorities for establishing a global system that will make it possible to uniquely identify parties to financial transactions and understand the relations among them.

It is anticipated that the establishment of such a system, which will strengthen the global financial data infrastructure, will contribute to financial stability in many respects. Main benefits expected from the system are, for financial institutions, a better understanding of the counterparty risks and for supervisory authorities, an ability to better measure micro and macro risks accumulating in the financial system. Additionally, this system is expected to be beneficial in other areas such as, assessment of contagion that may arise during a crisis, resolution of failing financial institutions and prevention of unjust gains by way of manipulation. Finally, improving the quality of internal and external reporting by both banks and supervisors, reducing operational risk and increasing efficiency are other potential benefits of this system.

At the G20 Leaders' Summit that was held in Cannes in November 2011, the FSB was instructed to start working towards creating a Global Legal Entity Identifier System. In order to carry out this task, FSB established an Expert Group, which also includes private sector participants, and published its recommendations in June 2012 in its report titled "A Global Legal Entity Identifier for Financial Markets"<sup>7</sup>. G20 Leaders endorsed this report at the Los Cabos Summit in the same month and tasked FSB to make the system working by March 2013.

After the Charter of the Regulatory Oversight Committee, which lays the legal and operational foundations of the LEI system, was endorsed by the G20 Finance Ministers and Central Bank Governors in November 2012, application process began for membership to the Regulatory Oversight Committee (ROC), which is the highest executive body of the LEI system. All national authorities that endorse the charter are eligible for membership to the ROC. Turkey is represented at the ROC by one member each from the Banking Regulation and Supervision Agency, Capital Markets Board and the Undersecretariat of the Treasury. As of May 20, 2013, ROC is composed of 29 members and 12 observers from a total of 41 countries, which are represented by 61 national authorities, as well as representatives from 6 international financial institutions.

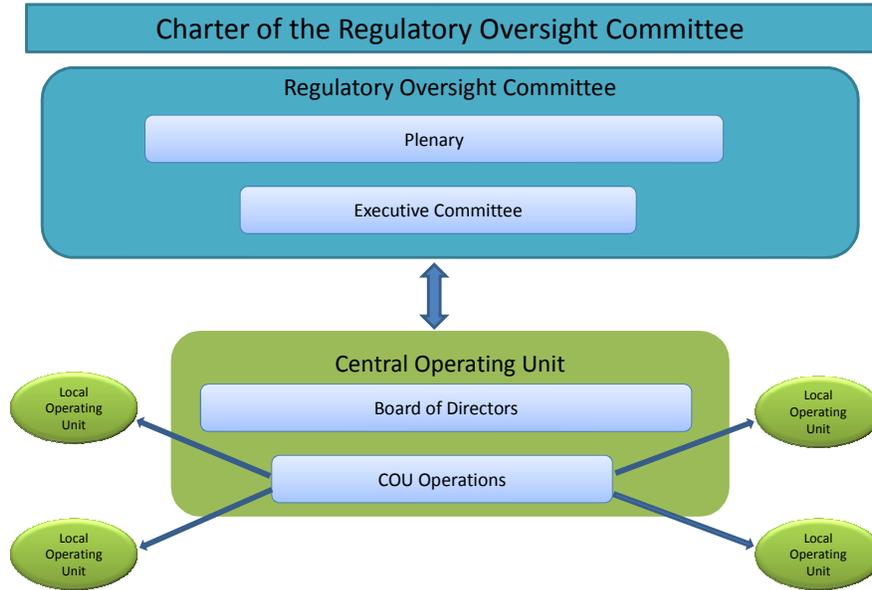
### **What is the Global Legal Entity Identifier System?**

The Global Legal Entity Identifier System has a three-layer structure. The ROC, which is on top, is responsible for the well-functioning of the system according to the rules and principles laid out in the ROC Charter. The Central Operating Unit, which is in the middle, carries out the operational coordination of all the elements of the system. Local Operating Units, which are at the bottom, are responsible for assigning the legal entity identifiers at the member jurisdiction level.

<sup>7</sup> [http://www.financialstabilityboard.org/publications/r\\_120608.pdf](http://www.financialstabilityboard.org/publications/r_120608.pdf)

Decisions of the ROC are taken at the ROC Plenary with the participation of all ROC members. The Executive Committee, which reports to the ROC Plenary is composed of a subset of its members and it is responsible for the implementation of ROC's decisions. The Central Operating Unit, which has been established as a non-profit foundation under Swiss Law, is responsible for the centralization and consistency of the LEI data that have been registered and maintained by the Local Operating Units in each member country. Central Operating Unit is managed by the Executive Committee. The Local Operating Units, which will be functioning in member jurisdictions, are responsible for registering every legal entity that is a party to financial transactions, assigning a LEI to each one according to certain rules and maintaining the data associated with those LEIs.

**Figure V.4.1. Organizational Structure of the Global Legal Entity Identifier System:**



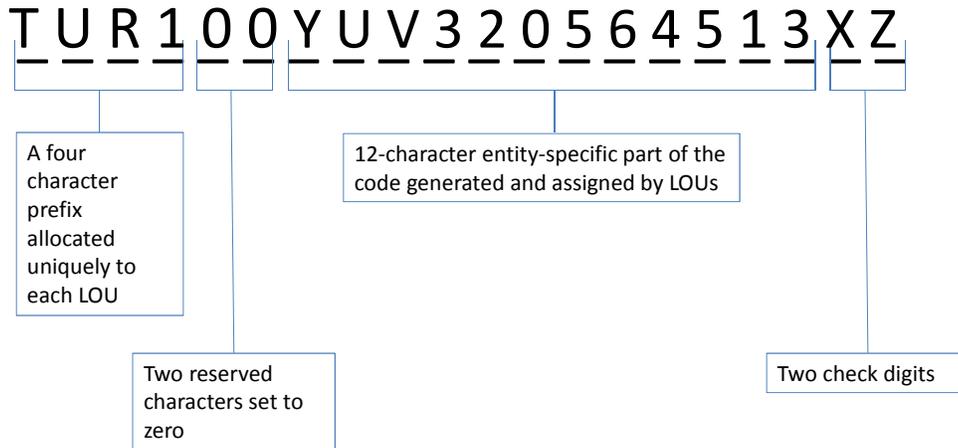
Legal Entity Identifier is a 20-character alphanumeric code that has been defined by the International Standards Organization in its standard no. ISO 17442. The following set of reference data attributes are regarded as the minimum set of information that should be available at the launch of the LEI:

- The official name of the legal entity
- Name of the business registry where the legal entity is registered
- Business registry ID of the legal entity
- The address of the headquarters of the legal entity
- Name of the country where the legal entity is established
- Corporate ownership and relationships (phase 2 of the project)

The first four characters of the 20-character code are allocated for use by the Local Operating Units (LOUs). Next are two reserved characters set to zero. The twelve characters that follow represent the code that will be generated and assigned to each legal entity engaging in financial

transactions in a given jurisdiction by the relevant LOU. The last two characters will be used as control digits.

**Figure V.4.2. Sample Legal Entity Identifier\*:**



\* Letter and numbers depicted in the sample are imaginary.

It is expected that the Global LEI System will start functioning in 2013 after Local Operating Units have been established in member jurisdictions and that the benefits it will bring in terms of the supervision of systemically important financial institutions will contribute greatly to both domestic and global financial stability.

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- Fifth Progress Report on The Global LEI Initiative, Ocak 2013.  
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[http://www.financialstabilityboard.org/publications/r\\_120608.pdf](http://www.financialstabilityboard.org/publications/r_120608.pdf)
- Charter of the Regulatory Oversight Committee for the Global Legal Entity Identifier (LEI), November 2012. [http://www.financialstabilityboard.org/publications/r\\_121105c.htm](http://www.financialstabilityboard.org/publications/r_121105c.htm)

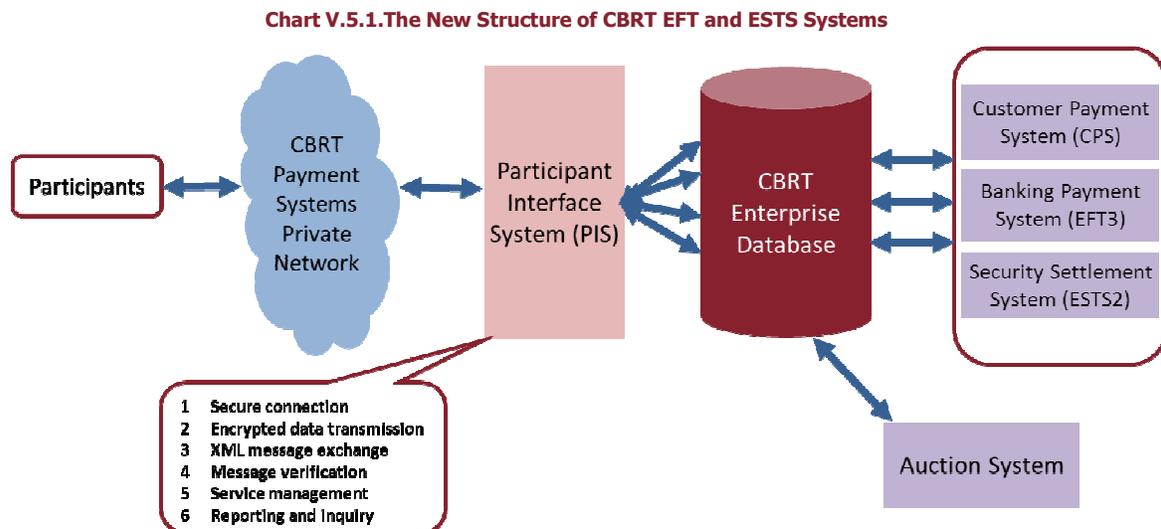
## V.5. Restructuring Projects of Payment Systems

A payment system is a set of instruments, procedures and rules that ensures clearing and settlement for fund transfers arising from transfer orders among three or more participants. Safe and efficient functioning of payment systems is one of the most important components for sound operation of financial system and successful implementation of monetary policy. Flawless functioning of national payment system in the markets is very important to maintain financial stability. This brings a heavy responsibility for central banks who is in charge of implementations of this system.

According to the CBRT Law Nr.1211, the CBRT is responsible for the oversight of payment systems in Turkey. The Law stipulates the fundamental duties and powers of the central bank, including:

“... to regulate the volume and circulation of the Turkish lira, to establish payment, securities transfer and settlement systems, to set forth regulations to ensure the uninterrupted operation and oversight of the existing or future systems, to determine the methods and instruments, including electronic environment for payments.” Within the framework of this responsibility, CBRT closely monitors the worldwide and domestic developments and best practices and assesses the feasibility of these developments.

In this context, it was agreed to restructure the TIC-RTGS so as to react quickly in case of urgent needs, diminish risk posed by low value customer payments over the time-critical and large value payments, reduce costs and make the system more flexible by using more advanced technologies. Accordingly, the CBRT has prepared a restructuring project of payment systems with using its own human and technical resources. This strategy which is partly applied in the year of 2012 and remaining part will be planned to complete in 2013, is composed of below elements:



## I. Participant Interface System (PIS)

Participant interface system acts as an intermediary between the CBRT and corporate payment system operations and is a standardized, safe, secure and continuous system that is based on XML messages. It came into operation on November 1, 2012.

## II. Electronic Funds Transfer System

Electronic funds transfer system was decomposed into customer payment system which concentrates on customer payments and banking payment system which concentrates on time critical and systemically important interbank payment transactions, on December 7, 2012.

### i. Customer Payment System (CPS)

Customer payment system which was designed for customer payments and constitutes around 98 percent of the total payments as of end-2012, came into operation on December 7, 2012. With this system, messages related to customer payments to account or name, government payments, rental payments, salary payments and credit card payments are processed through real time gross settlement principle and are finalized immediately if there is enough fund in the accounts of participants.

### ii. Interbank Payment System (EFT3)

Interbank payment system is a high value payment system in which interbank payments, CBRT money market payments, payments regarding banks' treasury operations and corresponding banking payments are done. In this system, the high value and systemically important payments are processed in accordance with real time gross settlement principle.

Analyzing the interbank and customer to customer TL fund transfer statistics for the first four months of 2013, it can be noticed that 82.9 percent of the customer payments has a value below 5 thousand Turkish Liras. (Table V.1).

**Table V.5.1. January 1, 2013-April 30, 2013 Statistics of Customer to Customer and Interbank Turkish Lira Transfers**

01.01.2013-30.04.2013	Interbank (number)	Interbank (%)	Customer to Customer (number)	Customer to Customer (%)
0-5.000 TL	130.683	16,63	60.345.904	82,91
5.000-10.000 TL	16.944	2,16	4.229.608	5,81
10.000-25.000 TL	22.378	2,85	3.761.219	5,17
25.000-50.000 TL	17.932	2,28	1.992.714	2,74
50.000-100.000 TL	23.583	3,00	1.159.309	1,59
100.000-500.000 TL	84.550	10,76	1.002.971	1,38
500.000-1.000.000 TL	51.174	6,51	130.853	0,18
1.000.000- TL	438.619	55,81	162.688	0,22
Toplam	785.863	100,00	72.785.266	100,00

Source: CBRT

**III. Security Transfer and Settlement System (ESTS2)**

Security Transfer and Settlement System that is scheduled to start operation on July 2013 is going to be integrated with CBRT EFT-ESTS system and going to operate complying to delivery versus payment principle as it is today.

In the last stage of the restructuring strategy of payment systems, it is planned to renew EFT3 and ESTS2 systems using the software that CBRT has developed so as to make payment systems more flexible, modern and efficient.

**IV. Auction System**

Auction system is a system in which data flows relating to CBRT and Treasury auctions that are processed within CBRT system is realized. It started to operate on October 1, 2012.

It is thought that restructuring of payment systems that is estimated to be completed in mid-2013 would build a modern structure that brings new operational aspects in the banking system and financial sectors of Turkey.

## V.6. Trade Repositories

After the recent financial crisis, it has been addressed that despite the growing volume of the transactions in over-the-counter derivatives (OTCD) market and the risks emerging from these transactions, (OTCD) market was not monitored effectively. In this context, the G20 Leaders committed that all OTCD contracts should be reported to trade repositories ("TRs") in order to mitigate systemic risk and market abuse in the OTC derivatives markets.

To this end, Financial Stability Board (FSB) stated in various reports that the data of OTCD transactions has to be collected by TRs and the market regulators, central banks and prudential supervisors must have effective and practical access to the TR data.

On the other hand, in the report published in April 2012, Committee on Payment and Settlement Systems (CPSS) and International Organization of Securities Commissions (IOSCO) introduced fundamental recommendations and principles that will enable effective and easy access of relevant authorities to the data stored by TRs

Subsequent to works and initiatives mentioned above, first draft of the committee report on "*Authorities' access to trade repository*" prepared as a guide the TRs and authorities regarding the access to TR data was published on 27 March 2013 by CPSS and IOSCO.

There are significant reasons to keep the data collected at TRs accessible to competent authorities. The recent financial crises exposed some concerns regarding the transparency of the transactions in the OTCD market. During the crisis, the lack of available data hindered the assessments of risks resulting from the build-up of unsustainable exposures that led to collapse or near collapse of major financial institutions and prevented the authorities to make necessary interventions and carry out their mandates effectively. It is clear that increasing the transparency of data strengthens the stability of financial markets by enhancing the ability of authorities to monitor and detect risks.

At this point, it has been assessed that well-functioning and organized TRs will enable the data to be collected and recorded and increase the transparency of OTCD transactions for the relevant authorities by centralizing the access to data. Therefore, they will play an important role in maintaining financial stability and protecting against market abuse. It is also expected that in the derivatives market, with a considerable number of participants, TRs will put the standards into practice on reporting and presentation of all participant's transactions.

The importance of TRs gradually increases as a part of the commitment made by G20 leaders and aimed at improving transparency in OTCD markets. In recent years, regulation works on determining and developing TRs' functions has gained momentum in order to promote and maintain financial stability. Many countries either implement G20 commitments when reporting data on OTCD transactions or continue to work on implementing. In this context, authorities in some countries, even if they are resident in different countries have the right to request data from TRs and TRs are legally obliged to fulfill these demands. Relevant authorities have begun to obtain data from TRs that obtain the data from reporting agencies and that made the access to data faster instead of traditional way of

obtaining the data from separate agencies by their own and so that effectiveness of the authorities has increased.

The draft report establishing the framework for authorities to access data follows a functional approach. Functional approach describes typical data access needs in terms of the mandate(s) that authorities are responsible for carrying out.. In other words, instead of the designing the in terms of authorities, the data access need is designed in the context of the mandates that the authorities should perform.

In this context, authorities' need for the data collected at TRs is determined according to following mandates:

2. Assessing systemic risk
3. General macro-assessment
4. Conducting market surveillance and enforcement
5. Supervision of market participants
6. Regulation, supervision, and oversight of Financial Market Infrastructures
7. Planning and conducting resolution activities
8. Implementing monetary policy and function of lender of last resort

Central banks typically conduct monetary policy to achieve broad macroeconomic objectives. They rely on a broad range of data to inform their monetary policy decisions including a wide array of data on financial markets and statistics on the prices of goods, services, materials and labor. They may also need OTCD data in order to broadly understand the risks in financial markets and this information could be useful to support financial stability.

On the other hand, central banks are ultimate providers of liquidity in their respective currencies. In deciding whether to lend to a particular institution, they would consider a number of questions including the nature of the liquidity need, the types of collateral available to pledge to secure the loan, and solvency of the borrower. It is also significant that in an emergency situation, they may need to consider whether the loan is necessary to address potential systemic consequences. Central banks' access to data has the importance in terms of understanding the effects in case of proving liquidity and evaluating the potential knock on effects if liquidity is denied.

In addition to all these, central banks may need the access to TR data within the frame of their responsibilities on regulating and supervising Financial Market Infrastructures.

**References:**

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