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A Case of Liquidity Risk: Demirbank

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Abstract

Liquidity risk is the possible loss of funds as a result of not being able to find the required amount of funds at an appropriate cost when needed or not being able to sell a financial asset at the required time and price. Briefly, it is the risk of maturity mismatch of cash inflows and outflows. Banks that use the short-term funds they collect in long-term assets are exposed to such a risk. Despite international regulations, it is observed that even in banks with sufficient capital levels, problems arise in the management and liquidity due to the change in risk appetites of different financial institutions in different periods. After the World War II, and especially with the effect of the liberalization policies of the Democratic Party in Türkiye, which was in ruling between 1950-1960, 24 new banks were established. In the case of Demirbank, which resulted to took over by the Savings Deposit Insurance Fund (SDIF) in 2000, especially all the process until the transfer of the bank to the fund, is a lesson to learn on liquidity risk management. In this article it is aimed to shed light on a period in Turkish banking history, the theoretical framework and the regulatory and supervisory processes and the reactions of related institutions.

Keywords: Banking, Liquidity Risk, Banking Crisis, Demirbank

Introduction

Liquidity risk is the possible loss of funds as a result of not being able to find the required amount of funds at an appropriate cost when needed or not being able to sell a financial asset at the required time and price. Briefly, it is the risk of maturity mismatch of cash inflows and outflows. Use of the short-term collected funds in long-term assets are cause to such a risk at banks.

Despite international regulations, it is observed that even in banks with sufficient capital levels, problems arise in the management of market risk and funding liquidity due to the change in risk appetites of different financial institutions in different periods. After the World War II, and especially with the effect of the liberalization policies of the Democratic Party, which was in power between 1950-1960, 24 new banks were established in Türkiye (Akgüç, 1992). Demirbank, one of the important banks of the Turkish banking system in such an environment, was established on September 7, 1953 under the leadership of Cıngıllıoğlu family from Kayseri and Ziya Alaçam, Akbank's first General Manager (Coşar, 1999: 17). From its establishment in 1953 until the decision of the Banking Regulation and Supervision Board on December 6, 2000, its management and supervision was taken under control by the Savings Deposit Insurance Fund (SDIF) as the eleventh bank, it rose to the fifth rank among the largest private banks in the Turkish banking system. The advertising motto "Demirbank wishes you a good day" was frequently heard on radio programs throughout the period it continued its activities, and the bank was adopted as a symbol of Anatolian entrepreneurs.

The bank, follows a controlled growth by avoiding risk from its foundation in 1953 until the end of the 1980s, then entered a period of rapid growth with the transfer of management from father Nuri Cıngıllıoğlu to son Halit Cıngıllıoğlu. Especially during the 1994 financial crisis, the bank, realised a high profit from the yield of government debt securities and repeated this strategy increasingly after it entered retail banking activities since 1997. However, in November 2000, as the interest rates started to rise rapidly with the economic crisis, the profit gradually turned into a loss.

In 1994 and after, Demirbank, as the bank holding the highest treasury bond and bills in Turkey, beared the risk of the state. The fact that it opened a high amount of bonds position with the loan it received from the interbank market caused the lending banks to cut their credit limits because they thought that Demirbank

would face a credit risk. In this period, the liduidating the bonds portfolio of other banks, caused the value of the bonds in Demirbank's assets depreciated and the overnight interest rates increased to 300% per night and then to 700%. The losses arising due to liquidty risk, increased exponentially every day and exceed shareholders' capital. Bank could not fulfill the obligations in due time, and therefore, the authorization to operate in the Central Bank's markets has been revoked, unable to provide resources, thus falling into a liquidity crisis and this situation has started to persist, the rights of the depositors and the trust and confidence of the financial system. The management and supervision of Demirbank T.A.Ş., which poses a threat to its stability, has been transferred to the Savings Deposit Insurance Fund.

The case of Demirbank, until its management was taken under control as the eleventh bank by the Savings Deposit Insurance Fund on December 6, 2000 which reached the fifth place in the Turkish banking system, are including important lessons to learn in the management of liquidity risk. In this article, in order to shed light on a period in Turkish banking history and to set an example in risk management practices, especially liquidity management, the events experienced in the process until the bank's control taken by the SDIF, the theoretical framework of the factors that cause the risk in its historical process, and then the regulatory and regulatory framework discussed in a perspective that will also include the reactions of supervisory institutions. In this article it is aimed to shed light on a period in Turkish banking history, the theoretical framework and the regulatory and supervisory processes and the reactions of related institutions.

1. The Demirbank Case: Before Transfer To The Sdif

The Turkish economy, which opened up foreign trade with the Turgut Özal government, financed the high public deficits through the commercial banking system in the 1980-2001 period, effectively limiting the amount of credit that the financial system could allocate to the private sector. Private sector's borrowing opportunities were restricted due to the financial crowding out due to high public sector borrowing requirement and excessively high real interest rates, real sector firms preferred high-yield public debt instruments instead of investing, thus private sector investments decreased (Ministry of Development, 2014).

In the 1990s, the share of foreign exchange and capital market transactions and government bonds/treasury bills earnings in total income and profits of banks increased, exceeding 40% in 1993. In 1993, banks made TL placements in Turkey by borrowing widely from abroad, and they made great profits by expanding their open positions.

These transactions had an important role in the formation of the crisis at the beginning of 1994, and also played an important role in the difficulty of banks during the crisis. Deposit withdrawals from banks accelerated during the crisis, and despite the April 5 decisions, the atmosphere of insecurity that dominated the financial sector did not disappear. Despite the rise in deposit rates, withdrawals from banks continued, and the banking activities of TYT Bank, Marbank and Impexbank were suspended. These developments completely destroyed the trust in the banking sector, the government went to the bank bailout, and then all deposits were guaranteed by the state (Coşar, 1999: 165). Demirbank, which started retail banking operations in 1993, in this environment where the funding of the public sector began to be predominant in bank assets, achieved significant success in personal deposits as well as mortgage and vehicle loans, managed the process successfully and even became the only bank to renew its syndicated loan of 30 million dollars, which was due on April 16, 1994. (Coşar, 1999: 166). In fact, besides the management success of the bank in this period, the conditions of the period and the competitive structure also had an impact, but this success caused the bank management to act with the perception that they would repeat the same success in the next crisis, resulting in the bank taking a greater risk and transferring the bank to the SDIF.

In this period, with the increasing number of customers and business volume in retail banking, it quickly rose to the position of the most important bank in Turkey and increased its equity from TL700 billion to TL1.2 trillion in 1994. With the power of high liquidity, Demirbank started the construction of the new head office building in Istanbul Levent in the same year. Great care was taken in the construction of the 19-storey building, which was moved in 1999, and it cost 30 million dollars in total. The bank, which successfully operated the treasury bills and bond auctions in 1995 and 1996 with high liquidity, made extraordinary profit from public domestic debt securities in this period. This new headoffice building has also been the symbol of the success of the bank in the 1999-2000 period. The change in the need for public borrowing in 1999, 2000 and 2001, when the crisis was experienced, can be seen in the table below. In 2001, the ratios of

domestic debt stock/GDP and domestic debt stock+public external debt/GDP were 68% and 95%, respectively.

Table 1. Domestic Debt Stock

	Unit	1999	2000	2001
Government Bonds	Trillion TL	19.684	34.362	102.128
Treasury Bills		3.237	2.049	20.389
Total		22.921	36.411	122.517
Domestic Debt Stock/GDP	%	29	29	68
Domestic Debt Stock + Public External Debt/GDP		52	53	95

Source: www.tbb.org.tr

In such a period when the need for public borrowing increased, Demirbank, as one of the largest deposit banks, took a big risk by undertaking the task of easing the burden of the state. As I have stated before, the success of the bank in 1994-1996 and the profitability of government securities caused it to act against the philosophy of "do not put all your eggs in one basket", which is one of the cornerstones of risk management.

Table 2. The Banks Transferred to SDIF

Years	State	Private	Foreign	Development and Investment	Transferred to SDIF
1999	4	31	19	19	8
2000	4	28	18	18	11
2001	3	22	15	15	6

Source: www.tbb.org.tr

In the financial crisis in which 8 banks in 1999 and 11 banks in 2000 were transferred to the SDIF, Demirbank was transferred as the 11th Bank at the end of 2000. Prior to the crisis period, when SME and retail banking had just begun, corporate loans had a place in bank portfolios, but the high interest rate investment in treasury bills and government bonds, which were guaranteed by the banks, caused the banks to prefer government debt securities (GDS’s) compared to the stock market and other securities. Contrary to today, in this period, 70% of Demirbank's assets consisted of treasury bills and government bonds, 20% were loans, and the bank controlled 18% of the GDS’s stock in the market.

It was also recorded in the latest reports of the Sworn Banks Auditors that the bank is at risk regarding this issue. It has been pointed out that it is not possible for the bank to maintain its profitability with the decrease in the domestic debt requirement or the decrease in interest rates in the long term, and therefore, more emphasis should be given to policies regarding loans, which is one of the main functions of banking (TMSF, 2009).

In the middle of August 1999, the earthquake that occurred in the Marmara Region, where a significant part of industrial production was carried out, increased the uncertainty in the economy and caused the expectations to worsen. While the Marmara earthquake directly affected industrial production negatively with the damage it caused in production facilities and infrastructure, in addition to the loss of labor and working days it caused, it also negatively affected domestic demand, especially consumption expenditures, with the uncertainty it created in the economy (TCMB, 1999: 50).

At the end of 1999, due to the increasing need for financial resources, a stand-by agreement was signed with the IMF (which is constituted a significant part of the government's borrowing in these periods) and the agreement with the IMF created a positive effect in the markets. While the stock market saw 20 thousand

points in January, the transaction volume reached 2.2 billion dollars. The interest rates applied by banks to both deposits and loans began to decrease rapidly, and the interest rates fell to the lowest levels of the last 20 years (Hürriyet, 1999).

Despite the positive environment created by the stand-by agreement at the end of 1999, due to increase in the value of the Turkish Lira, current account deficit and imports are increased. Besides, as a result of the increasing liquidity demand of banks in November 2000, financial markets started to fluctuate and by the arrest of businessmen and bank managers, the government crisis combined with the liquidity crunch and caused a deep banking crisis. In this period, while the stock market regressed to 1999 levels, high increases were observed in interest rates, and 7 billion dollars of foreign exchange outflow was realized from Turkey during this crisis period. After the measures taken to prevent the crisis did not work, additional support of 10.4 billion dollars was provided from the IMF at the beginning of December (Kaya, 2019).

Demirbank made a profit by buying GDS’s in 1995 and 1996, when it had high liquidity before, but in 1999, it started to collect low-interest bonds with the thought that it would catch the same profit again. Since the interest rates of GDS’s are very high, borrowing in a short term and buying GDS’s has become an important source of income for banks. In this period, in case of any fluctuation, the inability to convert GDS’s into cash and the inability to meet short-term liabilities also meant exposure to a liquidity crisis. Since public banks carried the duty losses of applying subsidies on behalf of the treasury, some banks had to borrow large amounts of short-term (1-7 days) debts, as they financed high interest-low exchange rates or high long-term interest with short-term lower-interest borrowing. Demirbank, with its large asset size, went beyond the legal limits and used its foreign exchange position opportunities to the fullest, even though it held 10% of the entire domestic debt on its own, it was using the funds it collected from the interbank market in the short term (Eken ve Kale, 2017).

Demirbank, as the bank with the highest public securities portfolio in Turkey, also carried the risk of the state. However, Demirbank's entry into a high amount of government bonds position with the loan it received from the interbank market, and the lending banks' thinking that Demirbank would face a credit risk caused them to close their credit limits. The bank, on the other hand, became unable to maintain its position when the liquidity of the bank, which followed the cost reduction strategy by following the aggregate cost strategy by buying more of the goods whose price had decreased, instead of following a stop-loss strategy to reduce negative positions. In this environment, other banks' selling their bonds caused the bonds in Demirbank's portfolio to depreciate and the overnight interest rates to rise to 300% and then to 700%, the lending bank with 37-40% interest, first to fund itself with 74% and then 300%, and eventually resulted in rapid capital extinction. In order to see the extent of the liquidity crisis, it is important to noted that the overnight rates increased to 7.500% a few months later, even after the Demirbank case.

During the transfer to the SDIF, Demirbank's asset size was 3.163 trillion TL, its total deposit was 2.429 trillion TL and its paid-in capital was 206 trillion TL, and the bank announced a net profit of 64 trillion TL at the end of the third quarter of the year. Although Demirbank was transferred to the SDIF due to its inability to manage the liquidity risk correctly, in the instability environment created by the high interest and low exchange rate policy as well as the negative consequences of banking sector’s in the same period, Türk Ticaret Bankası, Bank Ekspres, Interbank, Yurtbank, Egebank A.Ş., Sümerbank A.Ş., Esbank T.A.Ş., Yaşarbank, Etibank and Bank Kapital were also transferred to the SDIF (NTV, 2000).

The rights of the depositors, whose losses arising from the funding exceed their own funds, who do not fulfill their obligations in due time and whose authorization to operate in the Central Bank's markets have therefore been revoked, who cannot obtain funds from the Central Bank and the banking system, who therefore fall into a liquidity crisis and whose continuation of this situation has begun to persist, The management and supervision of Demirbank T.A.Ş., which poses a threat to the trust and stability of the financial system, has been transferred to the Savings Deposit Insurance Fund in accordance with the 3rd paragraph of the 14th article of the Law No. 4389 (PWC, 2020).

As a result of these developments, Cıngıllıoğlu family lost first Demirbank and then Nationalbank consecutively. The owner of Demirbank, Cıngıllıoğlu family, lost their second bank, Nationalbank, on February 27, 2001, about 3 months after Demirbank was transferred to the SDIF. The period regarding the transfer of the bank to the SDIF was clarified by the statement given on behalf of Halit Cıngıllıoğlu after the

information given for Demirbank in Hürriyet's news on October 9, 2002, "Failed banks took $246 from every Turkish citizen's pocket". Demirbank, which was the largest official market maker bank in GDS's until November 2000, received a foreign syndication loan of 110 million dollars in the same month, in addition to the highest rating in the banking sector with a 'B plus' rating made by Standard and Poor's in the same month.

Demirbank, which was the largest official market maker bank in GDS's until November 2000, received a foreign syndication loan of 110 million dollars and got the highest rating in the banking sector with a 'B plus' rating made by Standard and Poor's in the same month. This loan was shown as a proof of the strength of Demirbank's financial structure in the folloing days, until the fluctuation in the markets, and again in November 2000, Demirbank, which had a gross profit of TL76.7 trillion, according to Halit Cıngıllıoğlu, rose as a result of the manipulative attempts of some domestic and foreign banks. Since the Central Bank was late in reducing the interest rates, it went into trouble like the whole banking systemIn his statement, Cıngıllıoğlu summarized the developments in this process as follows: "The Central Bank stated that the Treasury's debt securities would no longer be funded declaration resulted liquidity insufficiency at Demirbank from time to time and almost served the purposes of competitor banks' manipulative attempts. Later, the Central Bank changed this attitude and started to provide unlimited funding again" (Hürriyet, 2002).

Table 3. Chronology of the 2 Weeks Before Transfer to the SDIF

Date	Events
20th November, 2000	Istanbul Stock Exchange (ISE) fell by 7.1%, foreign investors started to short position in their portfolios in the stock market. While there was an outflow of 7 billion dollars in a short time, interest rates rose. Rumors about Demirbank began to spread. Increasing foreign exchange demand and rising interest rates created a liquidity shortage especially in public banks.
22nd November, 2000	The rumors that some banks would be seized in the market caused panic and the average overnight interest rates rose above 100%.
28th November, 2000	While the ISE fell by 9%, overnight interest rates rose around 240%. The Central Bank sold 7.4 billion dollars of foreign exchange between November 17 and December 5, 2000.
29th November, 2000	The government and the economy management discussed the fluctuation in the markets, and emergency aid package negotiations were held with the IMF.
30th November, 2000	After the Central Bank announced that it would not provide funds to the market within the framework of the IMF program in response to the increasing liquidity need, interest rates rose and the demand for foreign currency fell.
4th December, 2000	As of November 15, the decrease in the ISE-100 index has reached 45%.
6th December, 2000	The control of Demirbank was taken by the SDIF. The announcement that USD10.4 billion will come from the IMF relieved the markets. The government announced that it has converted the deposit guarantee of TL100,000 into 100% passive guarantee.

Source: BRSA

2. The Demirbank Case: After Transfer To The Sdif

Demirbank was also funding the bond portfolio, which it held in its portfolio before the transfer to the fund and which it secured as collateral against risks, from the Central Bank. Despite similar claims regarding

primary dealer banks, the rapid suspension of the funding of Demirbank's portfolio by the Central Bank caused Demirbank to be unable to fulfill its obligations and paved the way for it to be transferred to the SDIF within three days.

In official reports, it was explained that Demirbank's loss was calculated by two different methods as of the date of transfer to the SDIF. It is stated that one of these methods is based on the calculation of the Treasury bills in hand with the accumulated interest, and as a result of the calculation made with this method, the loss is TL290 trillion. Since the shareholders' equity of the bank reached TL208 trillion on the date of transfer, there was no capital deficit in the bank according to the calculation made with this method. In the second method, the unrealized figure was calculated by taking into consideration the market conditions instead of the accumulated interest, and according to this figure, the loss of the bank was determined as TL440 trillion. This loss, which stemmed entirely from the Treasury bill as a result of the rise in interest rates in the market, occurred in the two weeks between November 22nd and December 5th. In determining the additional loss figure, an additional $80 million was spent on overdue loans, but most of them could be collected later.

In the annual general meeting held by the BRSA in 2000, taking into consideration the fact that the loss figure in the transfer of Demirbank to the SDIF is lower than the equity, the fact that it originates entirely from the Treasury bills due to the manipulative attempt in the market, and that the asset quality is very high due to the fact that the loans given by the bank to its own group are below 1%. All former managers and Halit Cıngıllıoğlu who served in the year were approved in the annual general meeting. It was transferred to the SDIF due to the 3rd section of the 14th article of the Banks Law, not from the 'liquidate accounts' but from the management weakness (Hürriyet, 2002).

In the first phase (ten-month period) after the transfer to SDIF until the bank was acquired by HSBC, the bank's management were changed and TL 275 million loss was paid to the bank.

In the second phase, the financial situation was determined and rehabilitation studies were carried out. In this context, first of all, Demirbank's legal reserve liabilities have been reduced to zero, the interest that has arisen or will arise due to its failure to fulfill its legal reserve obligations has been abolished, the outstanding reserves for deposits kept by the CBRT have been returned to the Bank, the penal interest arising from the Bank's failure to meet the foreign exchange position ratio has been abolished, and the bank has been exempted from interest due to this reason. GDS amount of TL 3.1 billion has been transferred to be accounted as a reserve (BDDK, 2020: 44).

In the third and final phase, the bank was put up for sale, negotiations were carried out with HSBC as of July 19, 2001, and with the decision of the SDIF Board of Directors dated September 19, 2001, Demirbank's shares are worth less than USD350 million, of which USD150 million is equity and USD200 million is goodwill. Real estate, subsidiaries and individual and corporate loans that are not accepted by HSBC It has been decided to transfer the SDIF, and other assets and liabilities, including cash loans and deposits, to transfer Kentbank and other SDIF banks that may be deemed appropriate.

Table 4. Chronology of the 6 Weeks After Transfer to the SDIF

7th December, 2000	By issued government bonds, additional capital injected to 10 banks that is controlled by SDIF in order to meet their capital requirement obligations.
13th December, 2000	The decision of the Ministers Cabinet on the restructuring and privatization of the government's public banks was published.
18th December, 2000	An additional letter of intent was given to the IMF.
28th December, 2000	USD2.8 billion of the aid to be provided by the IMF was transferred to the Treasury accounts.
8th February, 2001	Regulation on Internal Audit and Risk Management Systems of Banks has been published.
10th February, 2001	The Regulation on Measurement and Evaluation

	of Capital Adequacy of Banks has been published. The operating license of İhlas Islamic Finance has been cancelled.
21st February, 2001	The tension between the President and the Prime Minister in the National Security Council has turned into an economic crisis with the effect of the sensitivity in the markets since November. While the overnight interest rates rose to 7500%, the ISE index decreased by 18.1%.
22nd February, 2001	The government allowed free float the value of TL.
23rd February, 2001	CBRT Chairman Gazi Ercel resigned.
26th February, 2001	Undersecretary of Treasury Selçuk Demiralp resigned.
2nd March, 2001	Kemal Derviş became the Minister of State for the Economy.
3rd March, 2001	BRSA President Zekeriya Temizel resigned.
14th March, 2001	Minister of Economy Kemal Derviş announced the General Strategy of the National Program at a press conference.
17th March, 2001	Engin Akçakoca was appointed as the Chairman of the BRSA.
14th April, 2001	Kemal Derviş, Minister of Economy, announced the Transition to a Strong Economy Programme.
30th April, 2001	The decree of the Ministers Cabinet on the principles and procedures of liquidation of duty loss receivables of Ziraat Bank, Halk Bank and Emlak Bank has been published. As of this date, TL23.6 billion special issue treasury bonds were issued against the duty loss receivables of the state banks.
29th May, 2001	With the amendment made in the Banking Law, the terms of office of the BRSA vice president and Board members has expired.
7th June, 2001	With the decision of the Ministers Cabinet, the vice president and members of the BRSA were appointed.
18th June, 2001	Treasury GDS clearing operation was realised.

Source: BRSA

3. Theoretical Framework Of Demirbank's Liquidity Risk

In this period, Demirbank controlled 18% of the total GDS stock in the market and it was observed that the concentration risk reached a significant level. Despite the risks it carries, Demirbank was seen as a nationally and internationally reputable bank that did not have any financial problems until November 22, 2000, the first day of the crisis. As a result of the problems that started in mid-October in the money markets and became more evident on November 22-24, 2000, the stock value of the securities used by Demirbank for borrowing decreased and its borrowing ability decreased with the rise in interest rates.

As of November 21, 2000, the value of GDS stock held by the Bank was around TL 3.5 billion, while TL 2.9 billion of this amount was funded through repo. A significant portion of the Bank's remaining GDS stock has been given as collateral in order to be able to transact in the money markets due to legal obligations. The funding of these securities, which are not in free use, could be made with very short-term deposits. On November 21, 2000, rumors began to spread that the bank, which had a large amount of GDS in its portfolio, would make a sale due to the liquidity shortage. In addition, the spread of rumors that two big

banks had cut the credit lines to Demirbank in this process, escalated the tension in the markets and triggered the currency crisis (BDDK, 2010).

The incident that Demirbank was exposed to in November 2000 is essentially a liquidity crisis. With the change in market conditions in a very short time, the bank became unable to meet its short-term liabilities with its assets. The Bank's asset structure, which adopts a policy of placing GDS, which is considered a risk-free asset in terms of credit risk, in its asset management was exposed to interest rate risk, which turned into a liquidity risk in the crisis. In this respect, the reasons leading to the transfer of Demirbank to the SDIF and the transfer process differed from other banks transferred to the Fund.

Although there is a directly proportional relationship between risk and return, increasing the risk in order to obtain higher returns also increases the risk of default. Therefore, one of the main problems of banks is to optimize their return according to risk while allocating their resources among income generating instruments. Liquidity risk can be defined as the lack of cash and cash equivalents in businesses, or the risk that assets cannot be sold at a reasonable price in order to obtain cash specifically, or that funding cannot be found in the market at reasonable costs (Banks, 2013).

Maturity ladder mismatch between asset and liability items of the balance sheet, deterioration in asset quality, increase in non-performing receivables, decrease in profit and resource, economic and financial crises can be counted among the main reasons that cause liquidity risk in banks. Depending on the concept of liquidity risk, three types of concepts can be defined. These are central bank liquidity, market (asset) liquidity and funding liquidity.

- *Central Bank Liquidity:* It refers to the ability of central banks to provide liquidity to the financial system in case of need. This concept is measured by the amount of liquidity that central banks provide to the economy, such as the liquidity that the central bank provides from the monetary base to the financial system (ECB, 2009: 12).
- *Market (Asset) Liquidity:* Asset liquidity risk is the risk that an asset cannot be quickly converted into cash at its fair value in the market, and this risk constitutes the systematic and non-diversifiable side of liquidity risk (ECB, 2009: 15).
- *Funding Liquidity:* It is the risk that in which banks are able to meet their due liabilities on time and without any delay by keeping the difference between the maturity ladder mismatch and the resources and assets they manage (ECB, 2009: 19).

In this context, it is seen that, theoretically, Demirbank is exposed to three types of liquidity risk prior to the transfer to the SDIF. With November 2000 crisis, the bank's liquidity and income-expense balance deteriorated due to the interest-sensitive balance sheet composition, and significant increases occurred in expense items due to the increase in the funding cost of GDS due to the increase in the interest rate. The depreciation of government securities, which are legally considered liquid and zero risk, due to the high interest rate environment, was reflected in the profit and loss statement as a dematerialized expense item.

As the interest rates rose to very high levels in the November crisis, the bank had to pay a total of TL2.8 billion (USD4.1 billion) directly, creating a resource of TL798 million as a result of the buyback auction held by the CBRT in order to make the said payments. was able to provide the remaining amount mainly through deposit and repo borrowing.

Excluding all speculative discussions in the case, the bank's total resource is TL5.2 billion, 46% of the total resource consists of repos and 37% of deposits, on the other hand, up to 90% of repo and deposits are funded in very short terms and the sensitivity of the bank to daily interest rate fluctuations can be clearly seen. If we look at the development of the consolidated balance sheet in the last one-year perspective, the comparative consolidated balance sheet of Demirbank for the years 1999-2000, which was prepared by the independent audit firm, is as follows:

Table 5. Demirbank T.A.Ş. Consolidated Balance Sheet (1999-2000)

ASSETS	31st December, 2000	31st December, 1999
	Billion TL	Billion TL

1.	CASH AND CASH EQUIVALENTS			45,475		31,183	
	A.	Cash	10,723		4,637		
	B.	Effective	34,092		26,466		
	C.	Other	660		80		
2.	BANKS			471,569			310,803
	A.	CBOT	9,159		14,608		
	B.	Other Banks	462,410			296,195	
		1)Domestic banks	60,040		86,138		
		2)Foreign banks		402,370			210,057
3.	RECEIVABLE FROM OTHER FINANCIAL INSTITUTIONS			-		-	
4.	INTERBANK MARKET			10,550		500	
5.	FINANCIAL ASSETS AT FAIR VALUE (Net)			805,178			485,208
	A.	Government Debt Securities	559,598			213,617	
	B.	Equity Securities		193,938			-
	C.	Stocks	51,519		83,301		
	D.	Other	123		188,290		
6.	LOANS			1,604,535		672,475	
	A.	Short-Term	1,215,505		489,896		
	B.	Mid and Long-Term	389,030			182,579	
7.	FACTORING RECEIVABLES			-		-	
8.	LEASING RECEIVABLES (Net)			-		-	
	A.	Leasing Receivables	-		-		
	B.	Earned Incomes (-)	-		-		
9.	RECEIVABLES IN LEGAL FOLLOW UP (Net)			(26,103)			-
	A.	Legal Follow Up		67,237		6,632	
	B.	Reserved Allowences (-)		(93,340)			(6,632)
10.	INTEREST AND INCOME DISCOUNTS			(102,913)		272,272	
	A.	Loans	112,833			19,235	
	B.	Securities	(241,802)		248,717		
	C.	Others	26,056		4,320		
11.	LEGAL RESERVES		886		58,225		
	A.	Provisions For Deposit		886		58,225	

	B.	Government Bonds Account for Legal Reserves	-	-
	C.	Other	-	-
12.	MISCELLANEOUS RECEIVABLES		2,707	5,582
13.	NON-CONSOLIDATED ASSOCIATES (Net)		920	7,920
	A.	Financial Associates	920	2,746
	B.	Non-financial Associates	-	5,174
14.	NON-CONSOLIDATED SUBSIDIARIES (Net)		36,298	-
	A.	Financial Subsidiaries	2,199	-
	B.	Non-financial Subsidiaries	34,099	-
15.	NON-CONSOLIDATED SECURITIES (Net)		210,019	158,994
	A.	Stocks	892	427
	B.	Other	209,127	158,567
16.	TANGIBLE ASSETS (Net)		116,666	55,188
	A.	Book Value	151,086	70,295
	B.	Accumulated Depreciations (-)	(34,420)	(15,107)
17.	CONSOLIDATION GOODWILL (Net)		-	29
18.	OTHER ASSETS		15,583	44,127
TOTAL ASSETS			**3,191,370**	**2,102,506**
LIABILITIES			**31st December, 2000**	**31st December, 1999**
			Billion TL	**Billion TL**
1.	DEPOSITS		2,405,886	1,325,975
	A.	Savings Accounts	566,074	8,070
	B.	Foreign Currency Deposit Accounts	1,127,116	619,193
	C.	Gold Deposit Accounts	3,473	16,613
	D.	Banks Savings Accounts	406,916	658,113
	E.	Other	302,307	23,986
2.	INTERBANK MONEY MARKET		33,936	13,200
3.	FUNDS BORROWED		500,652	377,162
	A.	CBOT Borrowings	-	-
	B.	Borrowings From Other Institutions	500,652	377,162

		1) Domestic Banks and Other Institutions		27,116		20,043	
		2) Foreign Banks and Other Institutions		473,536			357,119
		3) Capital Equivalent Liabilities		-		-	
4.	FACTORING LIABILITIES		-		-		
5.	LEASING LIABILITIES (Net)			4,983		667	
	A.	Leasing Liabilities	5,768		1,261		
	B.	Postponed Leasing Expenses (-)		(785)		(594)	
6.	ISSUED SECURITIES (Net)		-		-		
	A.	Bills and Bonds		-		-	
	B.	Asset Backed Securities		-		-	
	C.	Other	-		-		
7.	INTEREST AND EXPENSE DISCOUNTS			74,998		19,766	
	A.	Deposits		42,887		13,413	
	B.	Borrowings	12,819		4,436		
	C.	Other	19,292		1,917		
8.	TAXES, DUTIES, DUTY AND PREMIS PAYABLE			47,313		14,628	
9.	IMPORT TRANSFER ORDERS			8		5	
10.	MISCELLENEOUS BORROWINGS			12,357		23,212	
11.	PROVISIONS		158,667			78,217	
	A.	Reserve for Employee Benefits		2,753		2,588	
	B.	Loans Provisions		137,274			6,984
	C.	Tax Provisions		8,400		68,645	
	D.	Insurance Technical Provisions (Net)			-		-
	E.	Other	10,240		-		
12.	SHARES OUT OF THE GROUP			31,553		7,543	
13.	OTHER LIABILITIES			6,250		6,361	
14.	SHAREHOLDERS' EQUITY			328,972			117,558
	A.	Paid-in Capital		275,000			85,000
		1) Nominal Capital	275,000			85,000	
		2) Unpaid Capital (-)	-		-		
	B.	Extraordinary Reserves		16,461		12,419	
	D.	Revaluation Fund	21,364		10,117		
	E.	Revaluation Differences		-		10,022	

	F.	Negative Consolidation Goodwill (Net)	8,609	-
	G.	Exchange Rate Change Differences	7,538	-
15.	PROFIT OR LOSS		(414,205)	118,212
	A.	Profit or Loss of the Current Year	(414,205)	115,838
		1) Share of The Group	(408,362)	115,148
		2) Share out of The Group	(5,843)	690
	B.	Profit or Loss of the Previous Year	-	2,374
		1) Share of The Group	-	1,571
		2) Share out of The Group	-	803
TOTAL LIABILITIES			**3,191,370**	**2,102,506**
OFF BALANCE SHEET TRANSACTIONS				
1)	Guarantee Notes and Warranties		1,218,448	571,973
2)	Commitments		2,173,185	1,392,854
3)	Transactions Related to Foreign Exchange and Interest Rates		1,257,272	1,572,363
TOTAL			**4,648,905**	**3,537,190**

Source: PWC

Although the methods of measuring and reducing the liquidity risk are constantly developing with the effect of the crises, it is seen that especially during the crisis periods, the central banks cannot make the distinction between the banks that have liquidity problems and the bankrupt banks, and they are stuck only between funding and market liquidity. For this reason, central banks have to decide on providing funds to the financial sector, but the effectiveness and efficiency of this decision is always a matter of debate (ECB, 2009: 20).

4. Reactions Of Regulatory And Supervisory Institutions

At the end of 2000, the share of GDS in the securities portfolio decreased to 68%. However, between February and September 2001 it rapidly increased to 94% and right after in December 2001, decreased to 10%, while the share of bonded securities increased from 5% to 90% (Aloğlu, 2005).

The transfer of 25 banks to the SDIF between 1999-2001 means billions of dollars loss when the money spent for their improvement as well as their liquidation is taken into consideration. Due to reduce the systemic risks, the BRSA which is authorized to regulate the internal systems and capital adequacy ratio of banks with the Law No. 5411, has made improvements in this context and still continues to do so.

In order to prevent deepening the crisis, a series of preventive measures were taken in November and December 2000. Besides, in order to alleviate the exchange rate and liquidity pressure, it was supported by the additional reserve facility within the scope of the stand-by arrangement. In this context, the fluctuations in the financial markets were partially eliminated and the foreign exchange reserves of the Central Bank increased by approximately USD4 billion. However, the fact that the interest rates remained at high levels compared to the pre-crisis period further deteriorated the financial structures of the public banks, which are needed excessive overnight borrowing, and the banks within the scope of the SDIF, which have a large amount of GDS in their portfolio (BDDK, 2010: 21).

In the first phase of the November currency crisis, the Central Bank loosened the limit set for Net Domestic Assets and injected liquidity into the banking system with the open market operations (OMO) as of November 22nd, in order to overcome the liquidity squeeze and prevent the rise in interest rates in the money markets.

Despite the increase in liquidity with these measures, a permanent decrease in overnight interest rates could not be achieved, and the increase in TL liquidity resulted in a further increase in the pressure on the Central Bank's international reserves. Upon these developments, the Central Bank announced on November30th that it would return to the net domestic assets ceiling rule.

During this period, the legal regulation that will allow the privatization of Ziraat Bank, T. Halk Bank and T. Emlak Bank entered into force on 25 November 2000. In addition, on December 6th 2000, the Government took some decisions on strengthening the banking sector, accelerating privatization and relations with the IMF. In this context, it was announced that the loans extended to the banking sector would also be guaranteed by the government. It is stated that this guarantee will be managed by the SDIF and the Government will provide sufficient financing to the SDIF for this purpose. With these measures, a relative improvement was achieved in the markets and social reactions such as deposit rush were prevented (BDDK, 2010: 25).

The regulations made by regulatory and supervisory institutions within 6 months after Demirbank's transfer to the SDIF are given in the table below:

Table 6. Regulations After Crisis

Regulation on Internal Audit and Risk Management Systems of Banks	February 8th, 2001
Regulation on Measurement and Evaluation of Capital Adequacy of Banks	February10th, 2001
Decision of the Council of Ministers No. 2001/2312 on the principles and procedures of liquidation of duty loss receivables of Ziraat Bank, T. Halk Bank and T. Emlak Bank.	April 30th, 2001
Law No. 4651 Amending the CBRT Law	May 05th, 2001
Law No. 4672 Amending the Banking Law	May 12th, 2001

Source: BRSA

In order to bring the economy back to a sustainable growth environment after the crises; public deficits were reduced and the pressure of the public on financial markets was alleviated. In order to make macroeconomic stability permanent, structural reforms were carried out that complement and strengthen the steps taken in 1999.

In this context; The Banking Regulation and Supervision Agency and the Agricultural Restructuring and Support Board were established, the low-interest loan support provided by Ziraat Bank and Halk Bank was structured, and a project was initiated within the framework of the transition to the direct income support system in agricultural support. The law giving autonomy to the Agricultural Sales Cooperatives Unions was approved. Draft laws regarding the restructuring of social security institutions and individual pensions have been prepared, 25 in-budget and 2 extra-budget funds have been closed, a constitutional amendment allowing international arbitration has been carried out, legal arrangements have been made to prevent the communication and energy sectors from being a state privilege. It was granted the status of a company and a regulatory institution was established in the communication sector. New regulations have been introduced to enable banks to work more transparently and effectively. The realization of structural reforms and the restoration of macroeconomic stability necessitated the use of outsourcing. With a new letter of intent given to the IMF on May 3rd, 2001, the economic policies determined for the remainder of 2001 and for 2002 were announced. The mentioned program is a continuation of the program supported by the stand-by arrangement with the IMF at the end of 1999.

Within the framework of the 18th stand-by signed with the IMF, improving the financial system and accelerating the structural reforms were the main priorities. The main purpose of the program was to eliminate the instability caused by the crisis and to create a framework that would ensure sustainable growth by reducing inflation in the long run. With the program; It is aimed to restructure the banking sector in a way that will establish a solid relationship with the real sector, to put the public finances in a strong balance in the future and to create the legal framework that will allow for structural reforms. In the macroeconomic and financial system reforms, which were carried out intensively in the 2001-2005 period, it was possible to use external resources to a large extent.

With the Regulation on Internal Audit and Risk Management Systems of Banks, which was published on February 8th, 2001 and entered into force on risk management in the post-crisis period, procedures for banks to establish an effective internal audit system and to create an effective risk management system that will enable them to manage the risks they will face principles are determined. Following the effective functioning of the mentioned systems, within the framework of this Regulation, risk-based monitoring of the banking system on the basis of activities is aimed. Since July 2001, banks report their activities and organizational preparations within the framework of the Regulation on a quarterly basis, these reports are regularly evaluated and developments are closely monitored.

In order to strengthen these regulations, the Law No. 4743 on Restructuring of Debts to the Financial Sector and Amending Certain Laws, which was prepared in order to resolve the problem of bad assets in the banking sector and to strengthen the eroded capital structures of private banks, entered into force on January 31st, 2002. By the law in question; (1) providing titular and/or supplementary capital support to private deposit banks under certain conditions and for one time only, (2) supporting the establishment of asset management companies in order to resolve the non-performing loans of banks and to bring their assets into liquidity, and (3) Three new instruments were developed, namely, encouraging the restructuring of the sector's debts to the financial sector on a voluntary basis (Istanbul Approach). In addition, with the aforementioned law, important regulations have been provided for public banks, SDIF and BRSA (BDDK, 2010: 63).

Conclusion

The Demirbank case contains important lessons regarding the management of liquidity risk in Turkish banking history. Demirbank, which was among the largest private banks in the Turkish banking system from its establishment in 1953, until its management and supervision was transferred to the Savings Deposit Insurance Fund as the eleventh bank on December 6th, 2000, with the decision of the Banking Regulation and Supervision Agency. The banks' loss is equally unfortunate for our country and our banking system. Liquidity risk is considered among the risks that banks are frequently exposed to, although it is possible to incur losses as a result of the inability to find the required amount of funds at an affordable cost when needed, or the inability to dispose of a financial asset at the required time and price. Although it is closely monitored and managed by the banks. Government domestic debt securities, which had an important place in bank placements in the 1990-2000 period, were the most important source of public finance in this period, and the high interest rate they provided, combined with the political instability of the period, caused the liquidity risks to be experienced at a high and repetitive rate. Particularly from 1994 to December 2000, Demirbank assumed the risk of the state as the bank with the highest public debt securities in Turkey. With the loan it obtained from the interbank market, it entered a high amount of GDS position and as a result of the depreciation of the bonds in its hands, the overnight interest rates were raised to 300%, then 700%, it started to fund itself with high interest, which caused its capital to run out quickly.

The destruction of GDS placement in Demirbank case, which is accepted as a risk-free asset in terms of credit risk in asset management, can cause on the bank's capital in terms of the size is a lesson to learn. The bank's deteriorated asset structure as a result of high earnings expectation and risk concentration created interest risk as well as liquidity risk during the crisis. The aggressive growth of the bank, which has followed a conservative asset-liability management policy for many years, to increase its market share in a risky period, has caused the Cıngıllı group and its experienced managers to become insensitive to risks, although its main business is banking. In this respect, the reasons leading to the transfer of Demirbank to the SDIF and the transfer process differed from other banks transferred to the Fund. However, at different times, it causes banks to disappear rapidly in different centers of the world, sometimes through insensitivity to risk

and sometimes through ethical violations -although it is well known that banking does not forgive mistakes in risk management. It is thought that the main reason for the emergence of this result is the motivations behind banks and their managers accepting high risks for the sake of high returns, rather than the inadequacy of the written rules or laws.

Risk management practices are constantly evolving in parallel with the crises experienced and the losses of billions of dollars. However, reasons such as the pandemic that causes increased uncertainty, geopolitical risks, or the opportunities and threats brought by digitalization, as well as the financial instruments that change day by day, diversify the risks that financial institutions are exposed to and complicate their management, making it easier to learn from experience, to follow change and possible risks proactively and to reduce it to acceptable levels with risk-reducing measures before the risk arises.

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