TÜRKİYE CUMHURİYET MERKEZ BANKASI

RESEARCH NOTES IN ECONOMICS

Assessment of Bail-in for Turkish Banking Sector[1]

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Abstract: After the global financial crisis, a new resolution tool, bail-in is introduced by the Financial Stability Board (FSB) to manage the orderly resolution of failing financial institutions. Bail-in is a framework that creditors and shareholders bear the cost of resolution and taxpayers are not exposed to loss. In this article, we analyze the Turkish bail-out and assess the bail-in capacity of the Turkish banking sector considering the public cost caused by 2000-2001 crises as a base scenario. We conclude that bail-inable instruments compared to total liabilities have increased since the beginning of 2000s and they would be enough to protect taxpayers from loss if a similar size of public cost occurs as in 2000-2001 crises. In addition, the scope for the bail-in and the assessment of the resolution authority for the inclusion and exclusion of instruments will also have an effect on the loss absorption capacity of Turkish banks.

Özet: Küresel finansal krizden sonra finansal kuruluşların sistemli bir şekilde çözümlemeye tabi tutulabilmesi için Finansal İstikrar Kurulu (FSB) tarafından yeni bir çözümleme aracı olarak içsel çözümleme (bail-in) ortaya konmuştur. İçsel çözümlemenin amacı çözümlemede ortaya çıkan zararın borç verenler ve hissedarlar tarafından paylaşılmasıdır. Bu çalışmada 2000-2001 krizinin maliyetleri dikkate alınarak ülkemiz bankacılık sektörünün içsel çözümleme kapasitesi incelenmiştir. Krizden itibaren içsel çözümleme kapsamında kullanılabilecek araçların arttığı ve benzer büyüklükte bir kriz olması durumunda bankacılık yükümlülüklerinin çözümleme maliyetlerini karşılamada yeterli olabileceği sonucuna varılmıştır. Buna ek olarak, çözümleme otoritesinin içsel çözümleme çerçevesine dahil edilecek ve çerçevenin dışında bırakılacak araçlara ilişkin değerlendirmesi de bankacılık sektörünün zarar karşılama kapasitesine etkide bulunacaktır.

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1. Introduction

Turkey experienced severe financial crises in November 2000-February 2001 period. Weak growth performance, high public sector imbalances, unsustainable domestic borrowing, high and volatile inflation, rising concerns about the current account deficit, increasing interest rates in late November 2000 can be cited as characteristics of that time. On the other hand, rapid capital outflows, sharp decrease in stock prices, loss of credibility in the Stabilization Program, sharp currency depreciation also depict the path of Turkey during the two crises.

Naturally, these crises were destructive. The economy shrank by 5.7 percent in 2001. Unemployment rate rose from 7.7 percent in 1999 to 10.3 percent in 2002. More dramatically, due to huge losses of state and private banks taken over by the Savings and Deposit Insurance Fund (SDIF), public debt to Gross Domestic Product (GDP) rose from 38 percent in 2000 to 74 percent in 2001.

Similar situation appeared after the recent global financial crisis in the developed economies. The crisis has had widespread and severe disruption on the financial system. The banking sector faced significant losses and in many cases banks' access to liquidity and funding was heavily restricted, which had a significant impact on the real economy as it constrained banks' ability to operate. During the financial crisis some governments intervened to support their largest banks through bail-out, in order to allow the financial system to continue to function. However, bail-out of the large banks was costly and considered as a burden to the tax payers by the governments.

Following the financial crisis, the Financial Stability Board (FSB) developed a set of principles for managing the failure of systemically important financial institutions. The 'Key Attributes' of effective resolution regimes sought to ensure that firms could be resolved without disrupting the financial system, without interrupting the critical services they provide and without requiring public sector support. In this respect, a new resolution tool, named bail-in was developed.

In this paper, we study the loss absorbency capacity of the Turkish banks and analyze what could have happened in the presence of bail-in during the 2000-2001 crises.

2. Turkish Bail-Out

Turkish banking sector was relatively less affected by the global crisis compared to the advanced and other emerging market economies due to comprehensive reform programme adopted subsequent to the financial crisis in 2001. However, before the 2000-2001 crises, Turkey had a very fragile small scale banking system. The Turkish banking sector was supporting public finance rather than corporate sector, had weak deposit to credit transformation, low concentration with new entries into the sector, and also weak risk management culture (BRSA, 2010). The banking sector had been deregulated and granted deposit insurance without effective supervision (Akyüz and Boratav, 2003). It had become the main instrument of government financing, putting short-term borrowing from depositors and investors into government debt (EC, 2009). In 2000, more than half of the interest earning assets of private banks consisted of domestic government securities, making the bank's earnings highly dependent on high-yielding treasury bills (Özatay and Sak, 2002). Since the banking sector was highly reliant on foreign funding, the banks were vulnerable to sudden capital reversals. Especially, private banks increasingly relied on borrowing abroad and resident foreign exchange deposits for investment in Turkish treasury bills, as almost two thirds of the liabilities were denominated in foreign currencies (Akyüz and Boratav, 2003). Besides the FX risk, banks in the sector were facing a large structural maturity mismatch. Private commercial banks were unable to borrow long-term in domestic currency while lending to the government and companies in relatively longer terms. As a result of fluctuations experienced in financial markets and shrinking economy during 2000-2001 the banking sector asset size has decreased by 12.6 percent on TL basis in real terms and 22.7 percent on US dollar (USD) basis (BRSA, 2010). As a result, 22 banks were transferred to the SDIF. The cost of re-structuring of these private banks and public banks was 53.6 billion USD, almost one fourth of the 2002 GDP (BRSA, 2010).

3. A New Resolution Tool: Bail-in

The recent global financial crisis has led many governments to provide support for the failing systemically important banks with the aim of preserving financial stability in their economy. Government interventions allowed the financial system continue to function and prevented the domino effects that could arise from failing banks that would have caused severe damage to the real economy. However, the global financial crisis has revealed that government bail-outs are highly costly. According to the IMF estimates (2014a), the median of the public debt to GDP increased by 18 percentage points as a result of government interventions during 2007-2011. In addition, government interventions such as credit

guarantees, asset purchases and direct capital injections to failing banks lead to an increase in moral hazard even though they protect the financial system from adverse effects. The expectation that banks will be bailed-out by the governments encourages banks to take more risk and create an implicit subsidy that provides an advantage in cost of funding. Therefore, creditors provided funds to the banks at lower rates compared to the situation where there is no expectation of government support. According to the IMF estimates, the funding advantage is 15 basis points in the USA, 20-60 basis points in the UK, and 60-90 basis points in the Euro Zone (IMF, 2014b).

Developing effective and reliable resolution regimes for bank defaults is important to reduce the burden on public and break the negative cycle between public debt and banking crisis (Zhou et al., 2012). After the global financial crisis, an extensive reform agenda has been established by international bodies, a key element of which is resolution. In this context, the FSB has issued the Key Attributes for effective resolution regimes in October 2011 and revised it in October 2014. The aim is to resolve failed financial institutions without using public funds, interrupting the critical services provided by financial institutions, and disrupting the financial system (FSB, 2014). In this respect, under the FSB's key attributes, a new resolution tool named "bail-in" was developed.

3.1 What is Bail-in?

In simple terms, bail-in is a framework where creditors and shareholders bear the cost of resolution and taxpayers are not exposed to loss. Main objective is to mitigate the default risk of stressed institution by restructuring its liabilities. In order to absorb losses and to recapitalize the firm, the claims of shareholders and unsecured creditors are converted into equity and/or written down based on the creditor hierarchy in the solvency law. Moreover, bail-in is an important step to end the "too-big-to-fail" problem. It can avoid the losses that taxpayers bear and reduce potential moral hazard due to government interventions. However, the implementation of bail-in might have key implications for banks and creditors. Since the expectation that too-big-to-fail banks will be bailed-out creates an implicit subsidy to banks in terms of funding advantage; banks may face higher funding costs particularly for unsecured funding. This may lead banks to change their funding strategy. They may tend to issue more secured debt and fund themselves with short-term maturities. However, this tendency could be constrained if domestic regulators require their banks to hold minimum amount of bail-inable liabilities as a percentage of total liabilities. Also, there could be contagion risks in the implementation of bail-in as financial institutions invest in the debt instruments issued by another bank. Additionally there could be legal and operational complexities in the bail-in process particularly when internationally active banks default and

liabilities to a foreign counterparty need to be bailed-in. In this sense, domestic resolution frameworks should provide cross-border enforceability of bail-in.

Bail-in implementation necessitates that banks have enough bail-inable financial instruments on the liability side. In this regard, the FSB has introduced an international standard of Total Loss Absorbency Capacity (TLAC) for global systemically important banks (G-SIBs). Although TLAC is a global standard, EU sets a minimum requirement similar to TLAC for all the EU banks (Appendix 1). That is to say, internationally and domestically, rules are coming into place in order to ensure that banks have enough liabilities for loss absorption and recapitalization in the event of default. Similarly, the Title II of Dodd-Frank Act of USA provides the Federal Deposit Insurance Corporation (FDIC) with new powers to resolve Systemically Important Financial Institutions (SIFIs) by establishing orderly liquidation authority (OLA). The Title II of the Act requires that the losses of any financial company will not be borne by taxpayers but by common and preferred stockholders, debt holders and the other unsecured creditors.

3.2 How Does Bail-in Work?

A simple bank balance sheet is shown below as an example to illustrate the bail-in mechanism.

Initial Balance Sheet			
Cash	TL 10	Secured Liabilities	TL 100
Securities	TL 90	Deposits	TL 60
Loans	TL 100	Unsecured Liabilities	TL 25
		Subordinated Debt	TL 5
		Equity	TL 10

Let us suppose that the bank has a loss of TL 12 due to NPLs. Then, the bank does not have the adequate capital to continue its functions and enters into resolution. Equity and subordinated debt initially absorb losses. Since the loss exceeds the equity, TL 2 of subordinated debt will be written down.

Step 1. Loss Absorption			
Cash	TL 10	Secured Liabilities	TL 100
Securities	TL 90	Deposits	TL 60
Loans	TL 88	Unsecured Liabilities	TL 25
		Subordinated Debt	TL 3
		Equity	TL 0
		Equity is wiped out and TL 2 of subordinated debt is written	

In the second step, the bank should be recapitalized to continue its activities, to restore market confidence, and to meet minimum capital requirements. The capital position of the bank is improved by converting the remaining subordinated debt (TL 3) and some of the unsecured liabilities (TL 7) into equity.

Step 2. After Bail-in			
Cash	TL 10	Secured Liabilities	TL 100
Securities	TL 90	Deposits	TL 60
Loans	TL 88	Unsecured Liabilities	TL 18
		Equity	TL 10
		TL 3 of subordinated debt and TL 7 of unsecuredliability are converted into equity	

3.3. Bail-in vs. Bail-out:

The bail-in policy is recently introduced by the FSB and there is not much empirical evidence on its inner workings and its effectiveness contrary to the bail-out policy which is widely studied in the literature. It is clear that the cost of a bail-out is born by tax payers who sometimes bear the cost of the wrong decision of other people, the shareholders and creditors of a bank with respect to an investment in which they have no benefit and interest. Bail-in prevents this and moves the burden from the innocent tax-payers to shareholders and creditors. Another important issue is the moral hazard created by bail-out. Knowing that taxpayers will bail-out banks that are considered too big or too interconnected to fail, bankers will tend to invest in a riskier way (Bagus et al., 2014). On the other hand, bail-out makes government the shareholder of a bank. The existence of government as a major shareholder may cause inefficiency due to possible political distortions in decision making process. In

addition when the government becomes the major participant in the banking system as in the case of Turkish bail-out then the system faces the problem of optimal exit strategy of the government.

In practice, the difference between a bail-out and a bail-in was first realised by the events took place in 2012-2013 during the Greek Cypriot Administration of Southern Cyprus financial crisis. Two South Cypriot banks were exposed to a haircut of upwards of 50 percent in 2011 during the Greek government-debt crisis, leading to fears of a collapse of the Southern Cypriot banks. €10 billion bail-out was announced by the Troika of ECB, IMF and European Commission in return for Southern Cyprus agreeing to close its second largest bank, the Laiki Bank. The Southern Cypriots had to agree to levy all uninsured deposits there, and possibly around 40 percent of uninsured deposits in the Bank of Southern Cyprus. No insured deposit of €100k or less was to be affected. The levy of deposits that exceeded €100k was termed a "bail-in", to differentiate it from a bail-out because of the depositor fund levy. The Bank of Southern Cyprus executed the depositor bail-in on 28 April 2013. On 28 June 2013 the Council of the EU announced procedures for future bank resolutions that come quite close to a standard bail-in. The intention was to create a mechanism to pre-empt banking crises and to resolve banks in an orderly way, minimizing the costs for taxpayers, i.e. minimizing bail-outs. In outline, national resolution authorities have the power to sell the assets of troubled banks, set up bad banks, and employ bail-in measures (Bagus et al., 2014).

4. Does Bail-in Work in Turkey?

In this section, we question the loss absorbency capacity of the Turkish Banks and analyze what could have happened in the presence of bail-in during the 2000-2001 crisis. In our analysis, we consider the deposit banks in Turkey, which are subject to the resolution regime set in the Banking Law No. 5411.

4.1. Background for Analysis

We focus on the standard on minimum requirement for own funds and eligible liabilities (MREL) of EU when determining eligible instruments for bail-in, since TLAC is a global standard for G-SIBs only.

Resources transferred to banks under the control of SDIF between the period of 2000 and 2003 (17.5 billion USD, approximately) is considered as total cost of crisis for the taxpayers (BRSA, 2010). This implicitly ignores the capital injections to the public banks as they are not taken into resolution. As the benchmark level, we use the ratio of total cost of

crisis for the taxpayers to average total liabilities of the banking sector between 2000-2003, which is equal to 10 percent.

4.2. Possible Scenarios

We assume that total shareholders' equity, subordinated debt, securities issued, the payables to banks and commercial deposits to some extent are bail-inable. We consider four scenarios to assess the bail-inable instruments in the balance sheet.

In scenario A, only subordinated debt and total shareholders' equity are counted as bail-inable. **In scenario B**, 50 percent of the payables to banks (assuming the rest is secured), issued securities, subordinated debt and total shareholders' equity are considered as bail-inable. Residual maturity of the bail-inable instruments is also important for ensuring that loss absorption capacity of the bank does not deteriorate during the resolution. For that purpose, **in scenario C**, we assume that 50 percent of payables to banks with more than 1- year maturity and issued securities with more than 1-year maturity qualify for inclusion in bail-in in addition to subordinated debt with more than 1-year maturity and total shareholder's equity. Uninsured deposits with 1 year residual maturity may qualify for inclusion in bail-in in the European regulation. Therefore, **in scenario D**, we assume commercial deposits with more than 1 year maturity and more than 250,000 TL contribute to the loss absorption and recapitalization capacity of the bank in addition to the items in the scenario C. This requires two assumptions since there is no breakdown of the deposit data based on maturity and amount together. That is why we assume that that the share of commercial deposits more than 250,000 TL over total commercial deposit is same at all maturities.

4.3. Analysis

After 2002, the bail-inable instruments have increased significantly as a percentage of total liabilities through the diversification of sources of funding by banks. Moreover, even in the most conservative scenario (A), bail-inable instruments to total liabilities ratio hovers around the benchmark level of 10 percent (Appendix 2). In scenario B, the bail-inable instruments are more than enough to cover such losses after 2002. The spread between scenarios C and D shows that the contribution of commercial deposits to loss absorption capacity is limited. The increase in the instruments more likely to be included in bail-in can be attributed to financial deepening and strong capital position of banks with stricter regulations and higher profitability. In recent years, the bail-inable instruments to total liabilities ratio shows a gradual increase and it is around 23 percent during 2015 based on scenario B. In all four scenarios, loss absorption capacity of Turkish banks is well above the 10 percent

benchmark level based on the 2000-2001 Turkish financial crisis and 8 percent floor in MREL.

Figure 1. Bail-inable Instruments Versus Resources Transferred (percent of total liabilities)

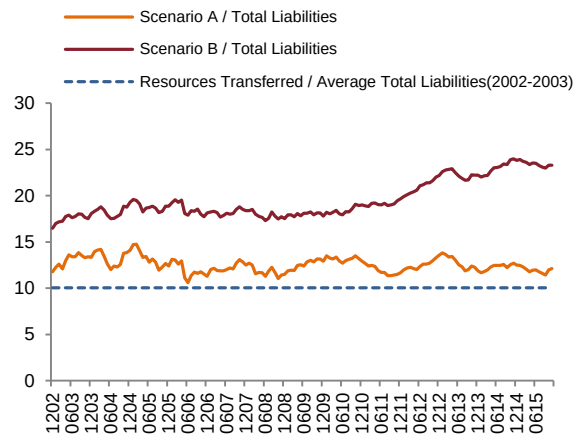
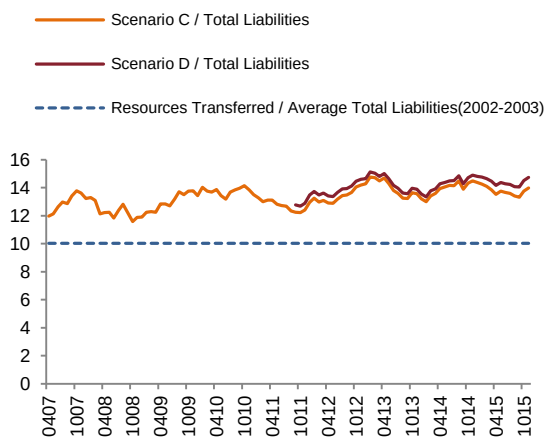


Figure 2. Bail-inable Instruments Versus Resources Transferred (percent of total liabilities)



Source: BRSA
Last Data: November 2015

In order to take into account the riskiness of asset portfolios, the bail-in capacity is also analyzed compared to the Risk Weighted Assets (RWAs). The bail-inable instruments are adequate according to scenario B. However, when the restrictions on the amount and maturity are implemented (scenarios C and D) or when the certain instruments are excluded (scenario A) the bail-in capacity seems to be inadequate to cover a shock similar to the 2000-2001 crises (Figure 3-4). A possible explanation for this result is the increase in the RWAs. The introduction of Basel II and Basel III has affected the RWAs of banks. The other reason is that the share of loans in the balance sheet increased in exchange of decrease in the share of securities portfolio which mostly consists of Treasury bonds having zero risk weight. Still, under scenario C, which is arguably most comparable to TLAC based on maturity and eligibility criteria, the capacity is adequate in terms of RWA (16.7 percent as of November 2015) compared to minimum international TLAC requirement (16 percent to be met as of 1 January 2019).

Figure 3. Bail-inable Instruments Versus Resources Transferred (percent of RWAs)

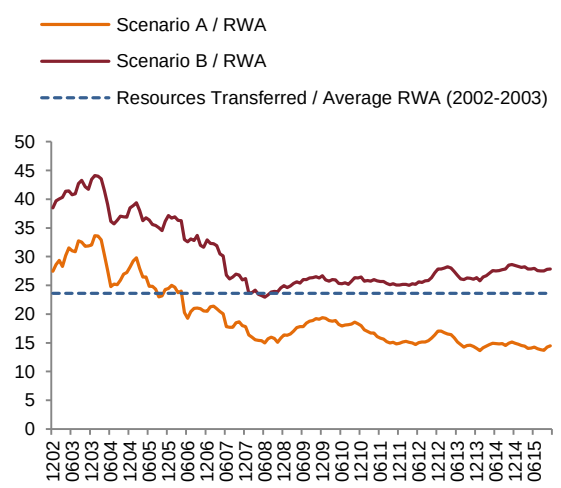
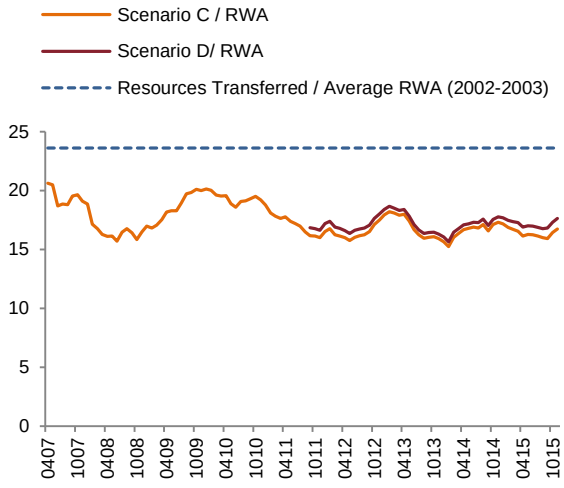


Figure 4. Bail-inable Instruments Versus Resources Transferred (percent of RWAs)



Source: BRSA
Last Data: November 2015

5. Conclusion

This study assesses the loss absorption capacity of Turkish banks. We take the ratio of resources transferred to banks taken into resolution as a result of 2000-2001 crises to total liabilities as the benchmark level. We conclude that bail-inable instruments compared to total liabilities have increased since the beginning of 2000s and they would be enough to protect taxpayers from loss if a similar size of public cost occurs as in 2000-2001 crises. Moreover, the minimum requirement of 10 percent of bail-inable liabilities as a percentage of total liabilities would be appropriate for Turkish banking sector if a MREL like regulation is implemented. Despite the deposit-based liability structure, Turkish banks could meet this benchmark level.

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Appendix

1. TLAC vs. MREL

TLAC is a global standard for G-SIBs to ensure that they have the loss absorbing and recapitalization capacity necessary to continue to provide critical functions without using taxpayers' funds in the event of default. TLAC has two components. It consists of minimum capital adequacy requirement of 8 percent defined in the Basel capital standards and additional loss absorbing instruments with some eligibility criteria in addition to the minimum capital requirement. As of 1 January 2019, minimum TLAC of G-SIBs must be at least (i) 16 percent of the RWAs and (ii) 6 percent of the Basel III leverage ratio denominator. As of 1 January 2022, these ratios will be raised 18 percent and 6.75 percent respectively.

MREL, on the other hand, is like a domestic counterpart of TLAC. The Bank Recovery and Resolution Directive (BRRD) in EU establishes bail-in as a resolution tool and requires that EU banks should have enough liabilities which are eligible for bail-in. Therefore, MREL is introduced. While necessary amount of loss absorption is determined on a case-by-case basis as a result of the assessment of resolution authority, MREL has a floor proposed in the EBA final draft regulatory technical standards of 8 percent of total liabilities. This means that 8 percent of total liabilities of banks should be bailed-in in resolution before other measures are applied. Therefore, it is ensured that banks will have a contribution to loss absorption and recapitalization to some extent in resolution.

Although TLAC requirements apply to G-SIBs and MREL to EU banks, both have the common objective: banks should have sufficient liabilities to ensure the continuation of critical functions during resolution. Below table summarizes the similarities and differences in both standards.

	MREL	TLAC
Scope	EU Banks	G-SIBs
Objective	Maintain critical functions in the event of failure without recourse to public funds	Maintain critical functions in the event of failure without recourse to public funds
Eligible instruments	Equity, subordinated debt, unsecured liabilities	Equity, subordinated debt, unsecured liabilities with residual maturities over 1-year
Excluded instruments	Insured deposits, short term deposits, liabilities arising from derivatives, debt instruments with derivative linked features etc.	Covered deposits, secured liabilities including covered bonds, liabilities to institutions, excluding entities that are part of the same group, with an original maturity of less than seven days etc.
Pillar 1 vs Pillar 2	Pillar 2 requirement set on a case-by-case basis.	Pillar 1 requirement of between 16 percent and 20 percent of risk-weighted-assets.
Denominator	Total liabilities and own funds of each institution	Risk-weighted-assets and leverage
Come into force	1 January 2016	1 January 2019

2. Banks Transferred to SDIF

Table 1. Resources Transferred			
Banks Transferred to SDIF	**Date of Transfer**	**Amount Transferred (Million USD)**	**Amount Trasferred (Million TL)[1]**
Bank Kapital T.A.Ş	27.10.2000	60	41.15
Etibank A.Ş.	27.10.2000	1,571	1,077.35
Demirbank T.A.Ş.	06.12.2000	1,913	1,298.69
Ulusal Bank A.Ş.	28.02.2001	481	442.85
İktisat Bankası T.A.Ş	15.03.2001	1,992	2,006.01
Kentbank A.Ş.	09.07.2001	1,126	1,464.97
EGS Bank A.Ş.	09.07.2001	335	435.85
Bayındırbank A.Ş.	09.07.2001	765	995.29
Sitebank A.Ş.	09.07.2001	31	40.33
Tariş Bank A.Ş.	09.07.2001	65	84.57
Toprakbank A.Ş.	30.11.2001	498	734.04
Pamukbank T.A.Ş.	19.06.2002	2,814	4,399.41
T. İmar Bankası T.A.Ş	03.07.2003	5,933	8,253.81
Total		**17,584**	**21,274**

[1]CBRT forex buying USD/TRY rates are used.
Source: Bloomberg, BRSA

Total Assets (2002-2003)	211,986.15
Total RWAs (Average 2000-2003)	90,115.43
Benchmark Level (%)	**10.04**
Benchmark Level For RWAs (%)	**23.60**

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