

Title: THE CONSEQUENCES OF OVERBORROWING IN FOREIGN CURRENCY:
ISTANBUL APPROACH

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Abstract:

Turkey, like many East Asian countries, turned toward the London Approach after the two consecutive financial crises in November 2000 and February 2001. After these crises, non-performing loans in the Turkish banking sector have increased sharply. So, the need for a general scheme for corporate debt restructuring became obvious in order to pull the economy out of financial crisis. Accordingly, the small and medium sized firms in a recoverable financial distress begun to benefit from a “debt restructuring process” within the framework of the *İstanbul Approach*. The main objective of this paper is to investigate the factors, in terms of financing strategies in the era of financial liberalization, that discriminate the financially fragile firms (within the *İstanbul Approach*) from financially safer ones, in Turkish context. The results of the empirical study are consistent with the existent literature. The probability of bankruptcy increases as the ratio of total debt to total assets and the ratio of financial expenses to total debt increase.

Keywords: Bankruptcy, emerging market, financial fragility, financial distress.

I. Introduction

In recent decades, the sophistication of international finance is highly increased. Increase in the international capital flows has become one of the important causes of many countries' high growth. Within this new order of the international financial system, several problems

may inevitably arise in some regions of the world. But unfortunately, it is not so easy to presume and prevent such regional problems having potential to affect other countries.

An abundant literature explores the link between financial liberalization and financial crises. Likewise, the relationship between financial development and economic growth has been searched by many researchers. Nevertheless, the connection between financial liberalization and financial fragility and corporate financing strategies has not yet been investigated intensively. The reason of such a gap in the literature, can it be explained by the myopia of the economists? In other words, the tendency of most of the economists to relate the financial crises to the sharp changes in prices in financial markets for bonds, equities and foreign exchanges, is it the main problem? Fortunately, the financial crises particularly faced by East Asian countries, in 1997, that exhibit a different picture, difficult to explain with conventional theories, helped the economists to concentrate on different explanations of crises. One of them hold by several researchers recently is a micro-level explanation contrary to macro-level ones. This approach puts the corporate sector and its leverage as the central issue in currency crises. As it is claimed by Buiters (1998); *“undisciplined lending over a number of years by foreign financial institutions, undisciplined borrowing by domestic financial intermediaries and by non-financial corporations directly, had resulted in extremely fragile financial balance sheets throughout the emerging market economies that were struck by the crisis.”*

Starting from this point of view, the main objective of this paper is to investigate the factors, in terms of financing strategies in the era of financial liberalization, that discriminate the financially fragile firms from financially safer ones, in Turkish context. The Turkish context provides us a very prominent setting since after the famous financial crisis of Turkish economy, at the beginning of 2001, several companies (financial & non-financial) found themselves unable to repay their debt for a variety of reasons, including mismanagement, unsound financial practices and especially “excessively high leverage”. Moreover, local currency devaluation made it harder for some companies with debts denominated in foreign currencies to repay loans. Such a context providing us to easily discriminate fragile firms from relatively safer ones will also be an important setting for testing the theories of economists willing to bring a micro-level explanation to financial crises.

The plan of this paper is organized as follows: The next section, section II, reviews the literature on three distinct but related areas. More precisely, the literature survey on currency

crises and the role of capital flows on the financial fragility of the firms and on the role of corporate financial policies of firms in currency crises are presented in this section. In order to understand the contextual framework of our empirical study, in the section III, we focus on the description of the last decade's currency crises occurred in Turkey. The methodological design of the empirical study takes place in section IV. Section V presents the empirical results of this paper.

II. Literature Review

II.1. Currency Crises and The Role of Capital Flows

Market crises can be considered as “recurring events” of market economies since the “Tulipomania” faced by Netherlands in 1630. The increasing incidence of financial crises in the 1990s particularly (European Exchange-Rate-Mechanism countries: 1992-1993, Latin America: 1994-95, Southeast Asian countries: 1997-1998) has led to increasing work in this area. Most of these financial crises, which occurred in many countries, may also be called as “currency crises”, defined by Bris, Koskinen and Pons (2002) as “*the event in which either a government or a central bank decides to let its previously fixed currency float or administratively devalues it.*”

In order to explain the reasons of the crises, several models have been developed by economists following the seminal paper of Krugman (1979). According to one view, although the macroeconomic performances of some countries in the region were worsened in the mid 1990's, the extent of the crisis could not be imputed only to the macroeconomic imbalances, but instead to the panic of domestic and international investors (Stiglitz, Sachs, Geddes, 1998). The other view, on the other hand, is based on the belief that the crisis was a reflection of the structural and policy distortions in the countries of the region. According to the economists supporting this view, the macroeconomic imbalances have activated the crisis in 1997, then the market overreaction has caused the depreciation of the local currencies, asset prices and economic activity (Corsetti, Pesenti, Roubini, 1999a; Krugman, 1998). Many supporters of this second view tried to evaluate the crisis by taking into consideration exclusively the “conventional currency crisis theory”. The models of this theory are “the canonical first-generation crisis model” and “the second generation crisis model”. The former suggests that a government with persistent money-financed budget deficits be assumed to use a limited stock of reserves to peg its exchange rate. Accordingly, such a policy may become

unsustainable since investors, estimating the inevitable collapse, probably generate a speculative attack on the currency (Flood and Garber, 1984; Krugman, 1979). Although this model accounted well for many of the currency crises in the 1970s and also for the 1982 developing-country debt crisis, it failed to explain crisis such as Chile (1982), Europe (1992-93), Mexico (1994-95) and Southeast Asia (1997-98) (Kibritçioğlu, et al., 1999). The “second generation” crisis model, on the other hand, is based on the following logic: “*defending a parity is an expensive policy for a government (e.g. requires higher interest rates)*” (Obstfeld, 1986; Obstfeld, 1994). If investors believe that this policy won’t work, they will inevitably generate a speculative attack on a currency either as a result of a future deterioration in fundamentals, or purely through self-fulfilling prophecy. So, according to “second generation” crisis model, multiple equilibriums exist in the foreign exchange markets and policy makers may shift from one to another depending on the weights they assign to conflicting targets in their objective function (Obstfeld, 1994; Ertuna, 2001). The emphasis on macroeconomic and financial fundamentals as determinants of currency crises can be considered as the common point of both models (first and second generations) (Glick, Reuven and Rose, 1998).

According to some economists (for example, Corsetti et al, 1999b and 1999c; Kaminsky and Reinhart, 1999 and 2000; Radelet and Sachs, 1998; Krugman, 1999), neither the “first-generation” nor the “second-generation” models are relevant in explaining the recent crises in Asian countries. Following the Asian experience, another crisis model is emerged: “third generation crisis model”. This approach integrates explicitly the role of the imbalances in the financial sector on financial and currency crises. Third generation crisis models accentuate the financial fragility for explaining the crises of emerging economies during the 1990s. According to these models, in order to prevent crises, transparency of information and banking surveillance are crucial. In general, they put emphasis on good governance in ensuring the stable financing of emerging economies.

Above and beyond these different views, in order to understand properly the causes of the crises, the role of the capital movements has to be analyzed profoundly. The capital movements cover capital inflows as well as outflows. Capital inflows can be considered as positive entries in balance of payments. These positive entries can occur as either asset entries or liabilities entries. While the asset entries represents a reversal of earlier capital outflow by

residents including capital flight reversal, the liabilities entries is an increase in non-residents' exposure in a country.

In fact, capital mobility is one of the objectives of global capitalism. It is assumed that if the private capital can flow easily across borders, investment efficiency increases on a global scale. Theoretically, free movement of capital will, before all, be beneficial for developing countries where the supply of domestic resources is very limited. Through capital inflows, such countries may improve their living standards as a result of increased investment and faster economic growth. However, the possible threats that capital mobility carries in case of excess inflows and sudden outflows also have to be considered properly. Capital inflows in unexpectedly huge amounts may complicate the management of monetary policy and the inflation control as well as it may create difficulties for exchange rate stability and export competitiveness. Such dangers are very important especially for countries whose macroeconomic policies are inappropriate and/or whose financial sectors are vulnerable to macroeconomic imbalances. For instance, after a depressing period of high inflation and public intervention in Britain in the 1970's, an industrial restructuring and fiscal consolidation program were undertaken in the early 1980's. This change in the economic expectations for Britain attracted capital inflows, increased consumption, and induced a sudden increase in residential and commercial real estate in the late 1980's, which ended in the bust of the early 1990's. There are lots of analogous examples from emerging countries. For example, the policy reforms such as trade liberalization, privatization, deregulation of domestic industry, etc. adopted by Chile in the mid-1970's provoked massive capital inflows through 1981, in turn, a financial crash and economic downturn during 1982-1983 occurred. Similarly, in Mexico after 1988, a wide-ranging reform package attracted large capital inflows, which triggered the financial downturn in 1995. Afterward, Argentina faced with a depression in the aftermath of a reform program during which it borrowed extensively (McKinnon and Pill, 1997).

II.2. The Role of Corporate Financial Policies of Firms in Currency Crises

The corporate financial policies, in other words, the policies about the capital structure or the debt structure of a firm can be considered as one of the most analyzed issues of empirical finance literature. Following the seminal paper of Modigliani and Miller (1958), which shows under what conditions capital structure is irrelevant, many different theories and empirical studies emphasized the existence of an optimum capital structure. The emergence of new

theories against the theory of Modigliani and Miller stems from the unrealistic assumptions¹ of Modigliani and Miller. The new theories emphasized the important determinants of the capital structure such as tax effect, bankruptcy costs and financial distress, agency costs and information asymmetry.

Although there are many theoretical and empirical studies on the corporate financial policies and on the capital structure, the literature review shows that the role of “financing strategies” on “the financial fragility” of firms during the crises is not abundantly treated until now. Among few studies on this area, we can mention those of Bris and Koskinen (2002), Bris, Koskinen and Pons-Sanz (2002), Aghion et al. (2001) and Krugman (1999). In these studies “the corporate sector and its leverage” are considered as the central issue in currency crises.

Krugman (1999) and Aghion et al. (2001) have studied firms having sticky output prices and debt denominated, at least partially, in a foreign currency. In their models, they report a causal relationship between currency depreciation and financial distress of corporations. An opposite view is reported by Bris and Koskinen (2002). They note that if the cash flows of a firm are denominated in a foreign currency and its costs are in nominally rigid domestic-currency, a currency depreciation may prevent financial distress of this firm even its debts are denominated in foreign currency. How can we explain these contrasting views? These different studies show that currency depreciation is either advantageous or disadvantageous for the firms. Bris, Koskinen and Pons-Sanz (2002) state that this situation stems from the “exposure- position” of firms in terms of currency depreciation. The authors divide the companies as “negative exposure companies” and “positive exposure companies”. While the first group consists of exporting firms, the second group represents not only the importing firms but also the firms financing themselves with foreign debt. Bris, Koskinen and Pons-Sanz (2002) have tested the profitability and financial fragility of several firms from 20 countries by using this “exposure” criterion and they found that though the profitability decreases for all companies before a currency crisis, the impact is more profound for the negative exposure companies. Some of the findings of these studies are as follows:

- Leverage increases after a currency depreciation (Aghion et al., 2001; Krugman, 1999)

¹ Some of these assumptions are as follows: (1) Capital markets are frictionless (2) Individuals can borrow and lend at the risk-free rate (3) There are no costs of bankruptcy (4) There are no agency costs, etc. (Copeland and Weston, 1992, p:439)

- Leverage increases after a currency depreciation in fixed exchange rate countries (Bris and Koskinen, 2002; Bris, Koskinen and Pons-Sanz, 2002)
- Firms either suffer or benefit from a currency depreciation depending on their exchange rate exposure. (Bris, Koskinen and Pons-Sanz, 2002; Aghion et al., 2001; Krugman, 1999)
- *Negative exposure companies*² have higher leverage than the *positive exposure companies*³ prior to a currency crisis (for countries with fixed exchange rates) (Bris, Koskinen and Pons-Sanz, 2002).
- *Negative exposure companies* increase their leverage more than *positive exposure companies* prior to a currency crisis (for countries with fixed exchange rates) (Bris, Koskinen and Pons-Sanz, 2002).
- *Negative exposure companies* become more fragile financially before a currency depreciation (Bris, Koskinen and Pons-Sanz, 2002).
- Profitability decreases for all companies before a currency crisis, but the effect is more pronounced for the negative exposure companies (Bris, Koskinen and Pons-Sanz, 2002).
- Companies that benefit from a currency depreciation have higher leverage than companies that are harmed by the depreciation. The results are almost the opposite for the sample of non-fixed exchange rates countries in all respects: In general, *positive exposure companies* fare worse than *negative exposure companies* (Bris, Koskinen and Pons-Sanz, 2002).
- Fixed exchange rate economies display increasing corporate leverage prior to a currency depreciation, particularly among companies that benefit from currency depreciations (Bris, Koskinen and Pons-Sanz, 2002).

In the finance literature, the impact of “exchange rate exposure”, especially on the relationship between the exchange rate variability and the firm value or stock returns, is intensively searched (e.g. Choi and Prasad, 1995; Bartov and Bodnar, 1994; Bodnar and Gentry, 1993). Adler and Dumas (1984) define the “exposure” as “*the amounts of foreign currencies which represent the sensitivity of the future, real domestic-currency (market) value of any physical or financial asset to random variations in the future domestic purchasing*”

² companies whose stock returns decrease when the domestic currency appreciates with respect to the USD (exporting firms)

³ companies whose stock returns increase when the domestic currency appreciates with respect to the USD (importing firms and firms financed with large amounts of foreign debt)

powers of these foreign currencies, at some specific future date". Nydahl's (1999, p:244) "exchange rate exposure" typology contains transaction exposure and translation exposure. While the first one "*arises from the possibility that future incomes (or costs) from a contract denominated in foreign currency change between the date when a firm commits to a transaction and the actual transaction date*", translation exposure "*is the difference between assets and liabilities that are exposed to currency fluctuations*".

III. Description of the currency crises in Turkey

Turkey as a developing country experiencing financial and economic crises since 1960 provides a prominent setting for our empirical study. The liberalization process of Turkey started almost 20 years ago along with a stabilization program that had been developed according to neoclassical model. The program adopted by Turkish government in 1980 was, as a whole, a new program aiming not only the stabilization with export-led recovery but also the liberalization of the Turkish economy. The execution, which started with foreign trade continued with domestic financial market and foreign capital movements. The opening of the capital account brought about negative influences on financial intermediation, savings, investment, growth and foreign debt. Especially, after 1984, external capital movements began to liberalize substantially. In this year, external financial flows were partially deregulated. Then, in 1989, the biggest change was occurred with the Decree No:32. This decree was a very important step toward financial liberalization since due to this decree the following permissions were realized (Esen, 2000):

- Turkish residents were allowed not only to buy foreign exchange from financial institutions including banks but also to buy securities abroad and to transfer the foreign exchange required to purchase such securities abroad.
- Non-residents were allowed not only to buy and sell Turkish securities but also to transfer income and sales proceeds of these securities abroad through financial institutions including banks.
- Turkish commercial banks were permitted to extend credits denominated in foreign currency to foreign trade companies.

By taking into consideration our perspective in this paper, we will present in the following paragraphs, the role of the international capital flows in the crises of the last decade (1994, 2000, 2001).

III.1. 1994 crisis

In early 1994, a severe currency crisis occurred in Turkey. The most important point that differentiates this crisis from those in European countries, Mexico and Southeast Asian countries was the fact that in Turkey, the exchange rate system was a managed float rather than fixed float (Kibritçioğlu, et al., 1999, p:9). We can claim that 1994 crisis was the result of the failure of an exchange rate-based stabilization program followed up by Turkish government. As Bibbee (2001) from OECD Observer said: *“Just 14 months into a three-year programme to end decades of high inflation, the government was forced in February to abandon the currency peg that had been the anchor of its strategy, sparking an immediate devaluation of its currency, the lira, by around 30%. The programme had started out with unprecedented political backing, achieved impressive initial results and was widely believed to have a far better chance of success than many previous internationally supported programmes for Turkey. So what went wrong?”* The search of the answer to this question is crucial for the hypothesis-generation phase of our study.

The significant macroeconomic imbalance for the first half of the 1990s was the following: Current account deficit financed by short-term inflows which were receiving very high returns.

The serious consequences of such an unsustainable macroeconomic imbalance coupled with inappropriate policies were observed in the foreign exchange markets. According to the point of view of some economists, adoption of the “financial liberalization” policy was premature in Turkey. Thus, this policy aggravated the fragility of the macroeconomic equilibriums. What happened in Turkey after the financial liberalization in 1989? Turkey became an attractive target region for the capital inflows by reason of high real interest rates. An important portion of the inflows of foreign capital to Turkey was in the form of short term off-shore borrowing (Celasun, p:17). This situation led to an overvaluation of the Turkish Lira. This overvaluation of the Turkish Lira after the “financial liberalization” deteriorated the competitive power of Turkish products on the foreign markets. Consequently, exports were

decreased while the imports were increasing. Moreover, the tariff reductions in 1989 along with the appreciation of the currency caused current account deficit. The sharp increase in the exchange rates and the interest rates (Table 1) and the open position of the banking system, which was around 5 billion dollars in December 1993, heightened the demand for dollars (Kibritçioğlu, et al., 1999).

Table 1
EXCHANGE RATES and INTEREST RATES
(1991-1994)

	1991	1992	1993	1994
Interest Rates (annual simple average, %)				
G-bonds	72,1	75,4	85,0	137,0
T-bills (3-month)	87,0	96,0	86,0	170,0
Exchange Rates				
USD (annual average)	4170	6888	10986	29670
USD (annual average change as of December, %)	73	68	63	170
Deutsche Mark	2509	4418	6627	18474
Deutsche Mark (annual average change as of December, %)	55	74	52	192

Source: The Banks Association of Turkey (1998), “Banks in Turkey”, p:vii

This situation brought about one of the most serious depressions of Turkish economic history. Along the 1994 crisis, the confidence towards the Turkish financial system was completely broken down. There was a run from the TL. Accordingly, the level of deposits decreased enormously. The banks, with large open positions in terms of foreign exchange, moved towards foreign exchange market. Consequently, The Central Bank of Turkey decided to intervene the foreign exchange market for preserving the parities. In spite of the intervention of the Central Bank, the parities were disturbed and the USD/TL parity, which was around 14500 at the first day of 1994, reached 35000 by the end of April 1994.

This catastrophic situation of Turkish economic and financial situation of Turkey brought about the liquidation of three commercial banks (Marmara Bank, TYT Bank, Impexbank) with the decision of the government (Şenver, 2001, p: 22). Thereafter, Savings Deposits Insurance Fund (SDIF) decided to increase the level of “deposit insurance” to %100.

Turkey, like many other developing countries, has experienced a surge in capital inflows in the 1990’s. These inflows were massively short term, speculative, and destabilizing.

III.2. 2000 & 2001 crises

The crises that started in Turkey in November 2000 and aggravated in February 2001 can be considered as a consequence of the distortions in the real sector and the financial sector at the same time. These crises, occurred in a financially liberal environment, are stimulated by the unsustainable policy followed up by governments. The Turkish lira came under pressure toward the end of 2000 as a result of continuous budget deficits and extreme inflation that remained at 60 percent in 2001.

What was the macroeconomic background in 2000 and why was it unsustainable? The essential feature of the macroeconomic policy was the exchange rate-based stabilization (ERBS) program defended by the government and supported by IMF. The fundamental goals of this program, which was to last for three years, were as follows (Erçel, 1999):

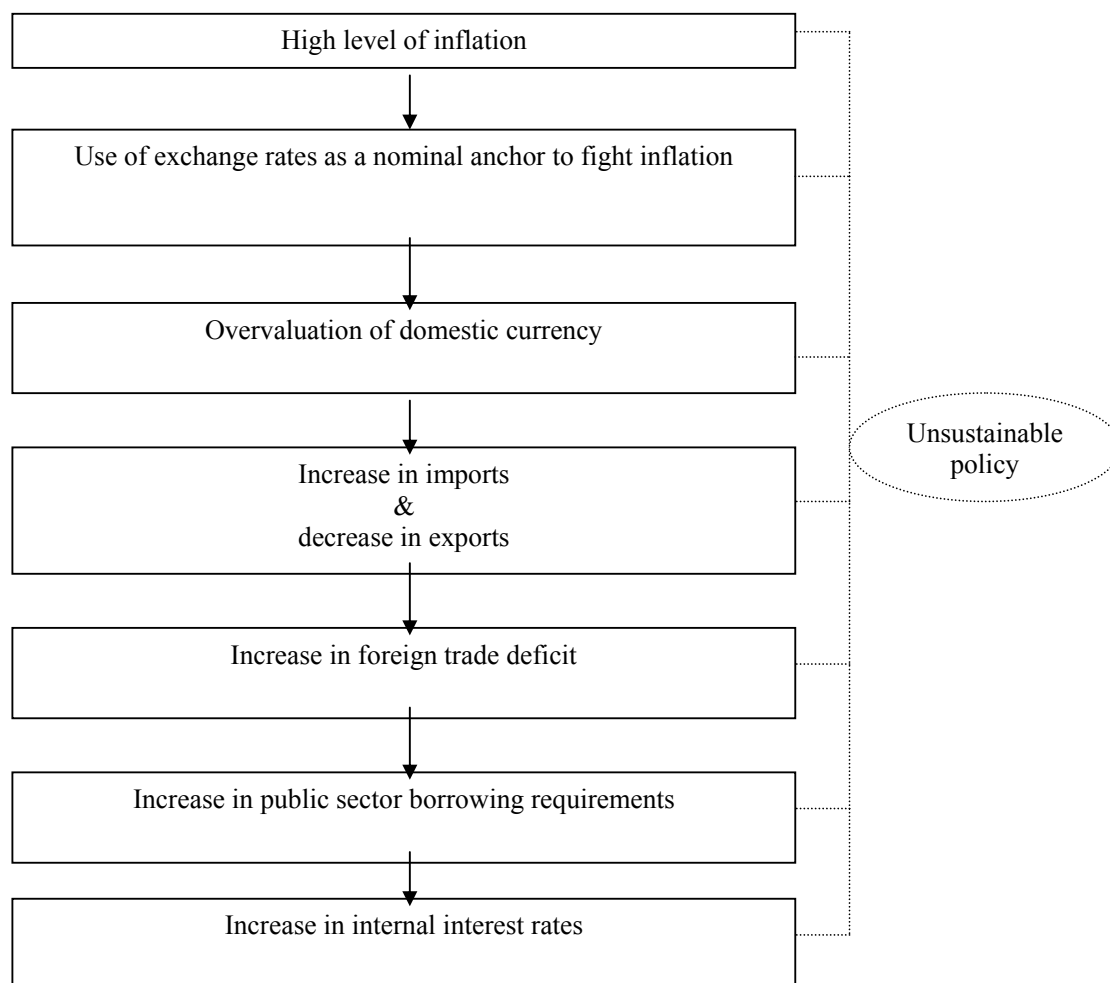
- To bring down the consumer price inflation to 25 percent by the end of 2000, 12 percent by the end of 2001, and 7 percent by the end of 2002, via simultaneous implementation of consistent, powerful, credible, and persistent fiscal, income, monetary, and exchange rate policies, all supported by relevant structural reforms,
- To reduce real interest rates to plausible levels,
- To increase the growth potential of the economy,
- To provide a more effective and fair allocation of the resources in the economy.

In the Turkish context, among the consequences of this program defended by the government the followings could be pointed out (Gökkent and Amiel-Saenz, 2003, p:3):

- A current account deficit to the tune of 4.83% of GNP financed by capital flows in terms of foreign portfolio investment.
- Increase in consumption; durable goods sales up by 23.7% year-on-year.
- Credit boom (up by 60% year-on-year in nominal terms and 15.1% in CPI adjusted terms).
- A burst stock market bubble (-38% year-on-year in 2000 in nominal terms).

Our tentative to figure out the unsustainable policy followed up by Turkish government gave the following set of causal relationships (Figure 1).

Figure 1



Such an unsustainable economic policy described by Ertuna (2001) was the main cause of the crisis that is occurred in Turkey in 1994. But analysis of the recent 2000 and 2001 crises bring us to almost same reasons.

Though their reasons were similar, the intensity of the consequences of 1994 crisis and of the recent 2000 and 2001 crises were not the same. For instance, while the number of failed banks after the 1994 crisis was only three (Marmara Bank, TYT Bank, Impexbank), the last crisis, which can be considered as the worst one that the Turkish Republic had ever witnessed, had severe consequences. The most obvious impact was on the banking sector where successive cases of financial fragility took place. As a consequence of the latest financial crisis, the number of banks operating in Turkey hit the lowest (61) for the last decade (Table 2).

Table 2
NUMBER OF BANKS OPERATING IN TURKEY (1991-2001)

YEAR (end of year)	DEVELOPMENT & INVESTMENT BANKS (state + private + foreign)	STATE-OWNED COMMERCIAL BANKS	PRIVATELY-OWNED COMMERCIAL BANKS	COMMERCIAL BANKS UNDER DEPOSIT INSURANCE FUND	FOREIGN COMMERCIAL BANKS	TOTAL
1991	10	8	26	-	21	65
1992	12	6	31	-	20	69
1993	12	6	32	-	20	70
1994	12	6	29	-	20	67
1995	13	5	32	-	18	68
1996	13	5	33	-	18	69
1997	13	5	35	1	18	72
1998	15	4	36	2	18	75
1999	19	4	31	8	19	81
2000	18	4	28	11	18	79
2001	15	3	22	6	15	61

Source: The Banks Association of Turkey

The heavy impact of 2000-2001 crises was not only on the financial sector but also on the real sector. However, naturally, the level of the heaviness of the impact was not the same for all of the companies.

III.3. İstanbul Approach

As it is explained in the previous subsections, consecutive crises in 1990's and the crises in East Asia and Russia rendered extensively fragile the non-financial sector as well as the financial sector in Turkey. Last hit was in November 2000 and then in February 2001. The negative impact of 2000-2001 crises on the real and financial sectors was more severe. The pressure of the high level of indebtedness on several firms created a real insolvency problem. The financing of long-term investments with short-term funding (6 months-1 year) produced an inevitable credit crunch. The resolution of this problem was necessary in order to prevent a bigger and macro level economic disaster. In order to realize it, the brainstorming activities took place in The Union of Chambers of Commerce, Industry, Maritime Trade and Commodity of Exchanges of Turkey (TOBB), Turkish Industrialists' and Businessmen's Association (TÜSİAD) and in several civil organizations. First method, which is proposed was to establish "asset management companies"; but, there was no consensus on this suggestion. So, an extensive analysis is conducted by "The Council of Financial Production and Counseling" on the models adopted in similar situations in the world. The discussions on

the alternatives about the resolution brought about the İstanbul Approach (*İstanbul Yaklaşımı*). This approach, which is designed by The Banks Association of Turkey and approved by Banking Regulation and Supervision Agency (BRSA) is indeed the other expression of the “Financial Restructuring Agreement”. İstanbul Approach is very similar to “London Approach” which is “*a non statutory and informal framework introduced with the support of the Bank of England for dealing with temporary support operations mounted by banks and other lenders to a company or group in financial difficulties, pending a possible restructuring*”⁴(Armour and Deakin, 2000, p:14).

“London Approach”, initially designed by Bank of England in the 1970s and updated in 1990s, is a set of non-binding principles to guide debt restructuring process (Meyerman, 2000a). In the mid-1970s, UK economy was characterizing by industrial recession, high inflation and rising unemployment. In such a situation, many UK industrial companies were found themselves into serious financial difficulty. At these days, Bank of England was chosen to become actively involved in company *workouts*⁵ through coordinating the discussions among banks and other parties with an exposure to a company in difficulty. By doing so, the main objectives of Bank of England were:

- *“to minimise the losses to banks and other parties from unavoidable company failures by patient and coordinated workouts;*
- *to avoid companies being put unnecessarily into receivership or liquidation; and to preserve viable jobs and productive capacity wherever possible. The underlying aim was to create a means to support companies whose problems were generally thought to be curable through a period of financial rehabilitation; and,*
- *to prevent failure of attempts to provide financial support for companies because their bankers could not agree the terms on which it would be provided.”* (Kent, 1997, p:3).

The London Approach, initialized by Bank of England in the 1970s, was very effective during the recession period of the early 1990s in UK. However, the term “London Approach” was used until the early 1990s. Thereafter, Bank of England decided not to formalize the restructuring framework out of concern that foreign banks might challenge strictly formalized

⁴ British Bankers Association (1996), “Description of London Approach”, mimeo, London

⁵ The term “workout” describes a non-statutory agreement to extend financial support to a company, which, without this support, would have to cease trading. Alternative terms used are “support operation”, “intensive care”, or “corporate rescue” (Kent, 1997, p:2).

rules in court. So, the “London Approach” is renamed as “London Rules” (Meyerman, 2000b). Many firms continued to survive thanks to their bankers and other creditors who decided to restructure the debts in the framework of “London Rules”. It is worthwhile to note that the “London Approach” or “London rules” does not assure the continued existence of a firm in difficulty. Furthermore, this approach can only be efficient as long as it is supported by banks.

Turkey, like many East Asian countries, turned toward the London Approach after the two consecutive financial crises in November 2000 and February 2001. After these crises, non-performing loans in the Turkish banking sector have increased sharply. So, the need for a general scheme for corporate debt restructuring became obvious in order to pull the economy out of financial crisis. This approach introduces a legal and organizational framework to allow the restructuring of bad loans involving more than one lender. The small and medium sized firms in a recoverable financial distress may benefit from a “debt restructuring process” within the framework of the *Istanbul Approach*. Eligibility criteria depend especially on borrowers' capacity to generate enough cash to pay back the loan. In order to conduct this plan, the following groups need to be created:

- a consortium of banks to deal with every borrower
- a coordination secretariat
- arbitrators' board to resolve disputes.

Turkiye Sinai Kalkinma Bankasi (TSKB) act as the Coordination Committee for Istanbul Approach.”

As of August 2003, a total of \$5 billion of loans were restructured (Akçakoca, 2000). Furthermore, as of August 2004, the total number of firms in the financial restructuring process within the framework of *Istanbul Approach* is 326. While 217 of these firms are large-size, 109 of them are small-size (Table 3).

Table 3

NUMBER OF FIRMS IN THE FINANCIAL RESTRUCTURING PROCESS

	Number of firms in the financial restructuring process	a) Large size firms	b) Small size firms
July 2002	80	(8 Group of companies) 53	27
August 2002	48	(5 Group of companies) 46	2
September 2002	34	(4 Group of companies) 27	7
October 2002	7	2	5

November 2002	7	(1 Group of companies) 4	3
December 2002	35	(2 Group of companies) 33	2
January 2003	5	(2 Group of companies) 4	1
February 2003	3	0	3
March 2003	12	(4 Group of companies) 11	1
April 2003	13	(4 Group of companies) 12	1
May.03	52	(1 Group of companies) 14	38
June 2003	3	(1 Group of companies) 2	1
July 2003	5	0	5
August 2003	4	0	4
September 2003	0	0	0
October 2003	3	0	3
November 2003	0	0	0
December 2003	0	0	0
January 2004	10	(2 Group of companies) 9	1
February 2004	0	0	0
March 2004	1	0	1
April 2004	1	0	1
May 2004	1	0	1
June 2004	2	0	2
August 2004	0	0	0
Total	326	(34 Group of companies) 217	109

Source: Banks Association of Turkey (www.tbb.org.tr/turkce/mevzuat/fyy/aylikraporlar.xls)

Although the number of firms whose debts are restructured within the framework of *Istanbul Approach* is publishable monthly and regularly by The Banks Association of Turkey, the names of these firms are confidential. Only the firms that are quoted in the Istanbul Stock Exchange are obliged to announce their “debt restructuring” process to public (in the annexes of their financial statements). An interview, conducted by ourselves, with the authorities from TSKB have shown us that the “debt restructuring” process consist of several meetings (between the firm and several banks) that occur behind firmly closed doors.

The implementation of “London Approach” in Turkey after the 2001 crisis in the name of “İstanbul Approach” appears to be an important strategy hold by the regulatory authorities for future stability of Turkish economy. Company failure sometimes occurs because a company is incapable to resolve temporary financial difficulties though its long-term potential and solvency may be reliable. Compelling such companies in distress into liquidation, particularly if the crisis is triggered by the factors at micro and/or macro factors beyond their control, represents a major cost to economy mostly in the form of unemployment and misallocation of capital. Therefore, “financial restructuring” can be considered as a viable strategy in such circumstances.

III.4. Synthesis

As Wyplosz (2001) demonstrates, financial liberalization seems to be considerably more destabilizing in developing countries compared to developed ones. Wyplosz (2001) claims also that *“developing countries tend to go through a boom-bust cycle, especially in the case of external liberalization”*. The case of Turkey that we tried to describe briefly can be summarized, from the “financial liberalization” perspective, as follows:

In Turkey, financial liberalization opened up new but relatively riskier opportunities for the real and financial sectors. Dramatic increase in risk-taking was mainly the result of the lack of adequate supervision and regulation, coupled with full deposit insurance since 1994. As it is stated by Mc Kinnon and Pill (1997), the presence of deposit insurance may lead banks to lend excessively and aggressively, which in turn sends a falsely optimistic signal to nonfinancial firms and households. The role of explicit or implicit guarantees in the creation of moral hazard problem is analyzed by several researchers (e.g. Pesenti and Tille, 2000; Demirgüç-Kunt and Detragiache, 1997, Barth and Brumbaugh, 1994a; Barth and Brumbaugh, 1994b). Moral hazard refers to the engagement of banks in excessively risky borrowing and investment with the expectation that the authorities will intervene if a financial distress occurs. The existence of such a post security, may lead not only the local financial intermediaries but also the foreign investors to overlend with little regard to the riskiness of the projects. From this point of view, it can be said that a fixed exchange rate regime is inherently unstable and may create itself a collapse. The reason of such a consequence is that due to the stability of the pegged exchange rate, financial institutions may fail to notice currency risk, and may borrow excessively in foreign currencies without hedging their exposures. As a consequence, if a currency comes under speculative attack, defending the exchange rate through manipulating interest rates may be damaging since higher interest rates contribute to the fall down of a fragile banking sector (Pesenti and Tille, 2000). Furthermore, if, simultaneously, foreign capital inflows and domestic consumer credit are not sufficiently controlled, the moral hazard may affect the banks much more severely as the Chilean and Mexican experiences attest (McKinnon and Pill, 1997).

In the same way, in Turkish economic system, the emergence of short external positions as a result of large capital inflows created a highly vulnerable economic system. Such a situation, coupled with unstable economic and financial policies, is followed by sudden capital outflows with an extensive impact on the exchange rate. This Turkish reality was similar to the crises faced by most of the emerging countries (Calvo et al., 1996; Wyplosz, 2001). Besides,

Turkish case is proving also the ideas generated by several researchers such as Dooley (1996), Demirgüç-Kunt and Detragiache (1998) and Rossi (1999). In these researches, it is shown that especially the countries, characterized by lack of an appropriate bank regulation and supervision, by poor institutions and by an ubiquitous corruption, suffer from the adverse effects of financial liberalization.

III. Empirical Specification

The focus of the empirical study is to investigate the factors, in terms of financing strategies in the era of financial liberalization, that discriminate the financially fragile firms from financially safer ones, in Turkish context.

At this point, it is crucial to clarify the following points:

- Based on the literature review, we assume that a firm is a financially fragile one if it fails on its promises to creditors. In Turkey, the firms, which restructure their debts within or beyond the framework of *İstanbul Approach* match our definition of financial fragility⁶.
- Since we focus on the “corporate financing strategies” in the era of currency crisis, the proxies of these strategies will be chosen accordingly. More precisely, the impact of debts denominated in foreign currency and the impact of the level of exposure to currency risk on financial fragility will be the center of our attention.
- To compare the financially fragile firms with their financially safer competitors in terms of their “corporate financing strategies” is the other objective of this study. By doing so, we will be able to see if the debt structure policies of the financially fragile firms are significantly different from the safer ones or not.

IV.1. Sample Selection

This study requires micro level data about firms that have experienced currency crises in 2001. The difficulty in gathering information about the firms not quoted in İstanbul Stock Exchange (ISE) restricted us to compose our sample uniquely from the firms quoted in ISE. The sample can be divided in two different groups:

⁶ “Financial fragility is defined as a state of balance sheets offering heightened vulnerability to default in a wide variety of circumstances. (Davis, 1995, p:2; Sjögren & Knutsen, 2002, p:8)”

- First group compose of 21 financially fragile firms: Firms which restructured their debts within or outside of the “*Istanbul Approach*” (only *Berdan Tekstil* restructured its debts outside of *Istanbul Approach*).
- Second group compose of 123 firms, which operate in the same sectors as the first group’s firms but they did not restructure their debts, in other words, the second group compose of relatively safer firms.

We require four years of past information (before the beginning of the restructuring process) on sample firms in order to perform our empirical study.

IV.2. Determination of Data Collection and Data Analysis Technique

This subsection describes data collection and procedures for computation, data analysis process and the choice of variables.

IV.2.1. Data collection and procedures for computation

This study uses the data contained in the firms’ (selected for the sample) financial statements (balance sheets and income statements) and financial statements’ footnotes in other words, the off-balance sheet disclosures⁷. These disclosures are particularly useful since they disclose the details of assets and liabilities denominated in foreign currencies. The foreign liabilities reported include not only commercial loans but also bank loans denominated in foreign currency.

First of all, the data was collected from “Word documents” and transported to “Excel 2000”. Then, SPSS 11.0 software package program was used for performing the descriptive analyses as well as multivariate data analyses.

IV.2.2. Data analysis

To identify the impact of corporate financial strategies on financial fragility, we estimate the probability of “debt restructuring” using a multivariate logit model. Since our objective is to determine whether the probability of “debt restructuring” or financial fragility can be explained by several “financial policy” proxies (that will be given in detail in the following

⁷ Published on the website of İstanbul Stock Exchange (ISE)

section) or not, we will use “logistic regression” technique⁸. Accordingly, our dependent variable, the debt restructuring dummy equals zero if there is no debt restructuring and one if there is. The probability that a debt restructuring (within or out of İstanbul approach) process occurs at a particular time for a particular firm is hypothesized to be a function of a vector of n variables $\mathbf{X}(i,t)$. This vector of variables will be described in detail in the following subsection. Let $P(i,t)$ denote a dummy variable that takes the value of one when a “debt restructuring” occurs for a firm i and time t and a value of zero otherwise. β is a vector of n unknown coefficients and $F(\beta' \mathbf{X}(i,t))$ is the cumulative probability distribution function evaluated at $\beta' \mathbf{X}(i,t)$. Then the log-likelihood function of the model is:

$$\ln L = \sum_{t=1}^T \sum_{i=1}^n \{ P(i,t) \ln [F(\beta' X(i,t))] + (1 - P(i,t)) \ln [1 - F(\beta' X(i,t))] \}$$

IV.3 Choice of Variables

It is appropriate at this point to remind the “financial fragility” proxy that will be used throughout this study. As we stated earlier, literature review demonstrates that financial failure or probability of bankruptcy can be considered as main indicators of corporate financial fragility (Hudson, 1986; Cuthbertson and Hudson, 1996; Vlieghe, 2001). We take into account “financial fragility” in a similar way. We will identify “financial fragility” as a (0,1) dummy variable.

The literature review on empirical finance shows that the most widely used measures of capital structure are leverage ratios. Total debt, short-term debt and long-term debt as a fraction of capital or of assets are the most extensively used proxies of capital structure. Since our main focus is on the foreign debt structure of the firms, we will use additional variables representing the “foreign exchange exposure” of the firms besides the conventional leverage ratios. There are several sources of foreign exchange exposure for a firm. The most explicit source of currency risk stems from “*having assets or liabilities with net payment streams denominated in a foreign currency*” (Chamberlain, Howe and Popper, 1996, p:10)

All of the variables used in this study are presented in table 4.

⁸ Logistic regression is recommended when the researcher does not make any assumptions about the distribution of the independent variables (Sharma, 1996, p:317)

Table 4**VARIABLES**

PROXIES OF FINANCIAL FRAGILITY	
DIMENSION	PROXY
Financial fragility	Y: (dummy variable) 0= there is no debt restructuring 1= there is debt restructuring
DETERMINANTS OF FINANCIAL FRAGILITY	
DIMENSIONS	PROXIES
Firm-level leverage before crisis (Conventional measures)	X1 : (Short-term debt) / (total debt)
	X2 : (Long-term debt) / (total debt)
	X3 : (Total debt) / (total assets)
	X4 : (Financial expenses) / (total debt)
	X5 : (Financial expenses) / (total assets)
Firm-level leverage before crisis (Measures of the foreign exchange exposure)	X6⁹ : (Total assets denominated in foreign currency - Total liabilities denominated in foreign currency) / (Total assets)
	X7 : (Total assets denominated in foreign currency) / (Total assets)
	X8 : (Total liabilities denominated in foreign currency) / (Total assets)
	X9 : (Foreign sales) / (Total sales)

V. Results

The examination of data is needed for conducting properly the multivariate analyses that we have intended to use. The variables, which will be used as independent variables during the “multivariate data analyses” process, are financial ratios and naturally, metric measures (from X1 to X9). In order to figure out the nature of the selected variables, we examined the shapes of their distributions. This examination is achieved through the histograms¹⁰.

the selected variables (from X1 to X9) can not be well described by a normal distribution in almost all of the cases. Non-normality is a common problem with financial ratios. In our study, we prefer to retain the original variables.

Another important process while examining the data is the diagnosis of missing data. This process has shown us that the data belonging to the following firms and years are missing since these are not available on the data warehouse of Istanbul Stock Exchange (ISE).

- Among the 21 financially fragile firms (included in İstanbul Approach) the followings’ information is missing.

⁹ Chamberlain, Howe and Popper (1996)

¹⁰ “A histogram is a graphical representation of data that represents the frequency of occurrences (data values) within data categories.” (Hair, et.al., 1995, p:37)

- Among the 123 financially safe firms (not included in İstanbul Approach) the followings' information is missing.

Since our starting point was the whole population, instead of a random sample, we consider acceptable that amount of missing data. Moreover, we do not attempt to replace these missing data through case substitution, mean substitution or any other method in order to avoid the distortion of the nature of data set.

Another important point in the data examination process is to detect the outliers. "*Outliers are observations with a unique combination of characteristics identifiable as distinctly different from the other observations*" (Hair et. al., 1995, p:57). We examined the outliers of the data set both visually and by using SPSS statistical program. The outlier detection is done within the context of the analysis and the outliers are evaluated by the types of information they provide regarding our study. As a result, we decided that the outliers are not problematic since they are indicative of characteristics of the population and we kept them in our sample in order to avoid huge loss of information and to prevent unrepresentative results for the whole sample.

The logistic regression that we have used in order to analyze if there is a statistically significant relationship between corporate financial strategies and financial fragility of Turkish firms was a convenient for our analysis since we want to predict the presence or absence of an outcome (being included in İstanbul Approach or not) based on values of a set of predictor variables (from X1 to X9) which are interval level. Moreover, our dependent variable is dichotomous (included İstanbul Approach: 0, not included in İstanbul Approach: 1). In fact, discriminant analysis and logistic regression serve to solve the same type of problems. However we preferred logistic regression since this latter does not rely on distributional assumptions in the same sense that discriminant analysis does. In other words, since the multivariate normality assumption does not hold in our data set, it is better to use logistic regression.

Table 5 presents the case processing summary and it shows that 540 cases are included in the logistic regression analysis. Table 6 shows the initial classification of observations at step 0.

Table 7 and Table 8 report the results at step 0. In this step only the intercept is included in the model. At this step the joint statistical significance of the independent variables is tested (Table 8). These tables serve to answer to the following crucial question: “Which independent variable should be included first?”. Table 10 summarizes the model. -2 Log Likelihood measures how well the model fits the data. The smaller the value the better the fit. If we proceed to the next step (Table 11 and Table 12), we observe that the following independent variables are influential on the dependent variable:

- **(X3)** : (Total debt) / (total assets);
- **(X4)** : (Financial expenses) / (total debt);
- **(X5)** : (Financial expenses) / (total assets);
- **(X6)** : (Total assets denominated in foreign currency - Total liabilities denominated in foreign currency) / (Total assets);

The log of the odds of being not included in the İstanbul Approach decreases by 3,576 for a unit change in the ratio of total debt to total assets (**X3**) and this result is significant at 99% confidence interval.

The log of the odds of being not included in the İstanbul Approach decreases by 5,446 for a unit change in the ratio of financial expenses to total debt (**X4**) and this result is significant at 99% confidence interval.

The log of the odds of being not included in the İstanbul Approach increases by 4,556 for a unit change in the ratio of financial expenses to total assets (**X5**) and this result is significant at 98% confidence interval.

The log of the odds of being not included in the İstanbul Approach increases by 2,162 for a unit change in the ratio of (total assets denominated in foreign currency - Total liabilities denominated in foreign currency) to total assets and this result is significant at 99% confidence interval.

Table 5

CASE PROCESSING SUMMARY

Unweighted Cases		N	Percent
Selected Cases	Included in Analysis	540	95,1
	Missing Cases	28	4,9

	Total	568	100,0
Unselected Cases		0	,0
Total		568	100,0

a If weight is in effect, see classification table for the total number of cases.

Dependent Variable Encoding

Original Value	Internal Value
KAPSAMDA	0
KAPSAM DISI	1

Table 6

CLASSIFICATION TABLE

	Observed	Predicted		Percentage Correct	
		ISTANBUL YAKLASIMI	KAPSAM DISI		
Step 0	ISTANBUL YAKLASIMI	KAPSAMDA	0	75	,0
		KAPSAM DISI	0	465	100,0
Overall Percentage					86,1

a Constant is included in the model.

b The cut value is ,500

Table 7

VARIABLES IN THE EQUATION

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	1,825	,124	214,997	1	,000	6,200

Table 8

VARIABLES NOT IN THE EQUATION

Step 0	Variables	Score	df	Sig.
	X1	15,014	1	,000
	X2	15,014	1	,000
	X3	136,370	1	,000
	X4	37,647	1	,000
	X5	104,208	1	,000
	X6	95,290	1	,000
	X7	,199	1	,655
	X8	126,490	1	,000
	X9	,310	1	,578

a Residual Chi-Squares are not computed because of redundancies.

Table 9

OMNIBUS TESTS OF MODEL COEFFICIENTS

Step 1		Chi-square	df	Sig.
	Step	147,354	7	,000
	Block	147,354	7	,000
	Model	147,354	7	,000

Table 10

MODEL SUMMARY

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
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1	287,822	,239	,432
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Table 11

CLASSIFICATION TABLE

		Predicted		Percentage Correct
		ISTANBUL YAKLASIMI	KAPSAM DISI	
Observed		KAPSAMDA	KAPSAM DISI	
Step 1	ISTANBUL YAKLASIMI	28	47	37,3
		KAPSAM DISI	4	461
	Overall Percentage			90,6

a The cut value is ,500

Table 12

VARIABLES IN THE EQUATION

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1	X1	,835	,868	,926	1	,336	2,305
	X3	-3,576	1,069	11,187	1	,001	,028
	X4	-5,446	1,670	10,636	1	,001	,004
	X5	4,556	1,782	6,538	1	,011	95,178
	X6	2,162	,815	7,039	1	,008	8,686
	X7	-1,148	1,047	1,203	1	,273	,317
	X9	,127	,547	,054	1	,816	1,136
	Constant	5,415	1,022	28,065	1	,000	224,862

a Variable(s) entered on step 1: X1, X3, X4, X5, X6, X7, X9.

VI. Concluding remarks

The adoption of the “İstanbul Approach” for corporate debt restructuring, designed as an integrated part of the bank-restructuring program, engendered a growth in loans and securities in the banking system. This approach, which can be translated as the reclassification of non-performing loans, deserves a detailed analysis not only in terms of the financial structure of the included firms but also in terms of its consequences. This paper focused only on a small part of this research area and displayed that the probability of bankruptcy increases as the ratio of total debt to total assets and the ratio of financial expenses to total debt increase. On the other hand, the ratio of short position to total assets is positively correlated with the probability of getting bankrupt.

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