Effects of Basel II standards on small-medium size enterprises: evidence from the Istanbul Stock Exchange

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Abstract: Rapid development in international financial markets lead regulatory bodies to establish common supervisory standards. On this respect, Basel II capital adequacy standards bring some obligations to the banks for effective supervision and risk management and force small-medium size enterprises (SME) to establish a sound corporate structure for financing their operations and managing their risks.

This study discusses the effects of Basel II standards on SMEs in Turkey, focusing mainly on non-financial companies traded in the IstanbulStock Exchange (ISE). The results reveal that the banks in Turkey should vary their evaluation standards in conformity with the Basel II in extending credits to the companies for effective risk measurement. By the end-of-year 2005, about 50% of the non-financial companies traded in the ISE are within the scale of SMEs, as defined by the Basel II. The findings reveal that many of the SMEs have difficulties in using credits from banks and in employing corporate governance principles effectively. They use high-level real estate collateral in getting credits from banks. Thus, they may experience problems in getting appropriate credit rating and low-cost credits during the transition period, unless they take necessary actions to improve their corporate structure and use effective risk management techniques.

Keywords: Basel II; SME financing; Istanbul Stock Exchange; ISE.

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1 Introduction

Developments in the international financial markets, changes in competitive conditions and new technological innovations influence companies from different industries. On this respect, the performance of small-medium size enterprises (SMEs) that play a vital role in the market economy is also affected from these challenges.

New Basel Capital Accord (Basel II), which is in the agenda of the international financial institutions during the last decade, stands to be as one of the most critical regulations. Although it mainly aims to regulate banks, they may well affect other financial and non-financial companies by pushing them to take the necessary precautions to deal with potential problems. Broadly speaking, Basel II could be defined as the set of standards developed by the Basel Banking Regulation Committee, which acts as the regulatory authority on behalf of Bank for International Settlements (BIS) established by the participation of G-10 countries' Central Bank Governors in 1975. Basel II is primarily designed to regulate the risk management process and to improve market discipline in financial industry by requiring the fulfilment of the minimum capital level against the risks carried out by the financial institutions (BIS, 2004b). These standards will be applied by the end of 2006 in the G-10 and EU countries and in 2008 in Turkey.

There are mainly three goals brought by the Basel II standards. These are:

1 to measure the risks exposed to by the banks better and connect them to a minimum capital level

2 to strengthen national and international supervisory standards in financial system

3 to improve the market discipline by requiring the financial statements to be prepared according to the internationally accepted accounting standards.

Although these principles seem to interest mostly the banks at the first glance, they would inevitably affect non-financial institutions, which do not employ corporate governance principles and do not use effective risk management techniques in their operations (Altman and Sabato, 2005b). By the new regulations, while those firms having a sound financial structure could easily access to the bank credits, other firms carrying high-level risks would suffer difficulties in getting credits from the banks and good credit rating from rating agencies. The problem will be more seriously encountered by the SMEs, which consist of 90% of the entities in the economy. This fact is crucial, as these companies help create new job opportunities and increase the economic growth in the country.

In this study, the financial statements of 41 non-financial firms operating in the Istanbul Stock Exchange (ISE) are analysed to discover their financial background and corporate structure apropos to Basel II standards and to detect the potential problems from different perspectives. While the first part of the study outlines the main Basel II principles and explores general interaction between the Basel II and SMEs, the second part discusses empirical findings and provides solutions for the inconveniencies that may arise for the SMEs in the ISE during the transition period.

2 New Basel Capital Accord and application principles

2.1 General outline of the Basel II

New Basel Capital Accord (Basel II) developed by the Banking Supervision Committee of the BIS is finalised by the end of June 2004. It conveys *risk-based capital adequacy standards* for the banks to measure their risks out of their operations either in simplified (*standardised approach*) or advanced form (*internal ratings-based approach*) (BIS, 2004a).

Nevertheless, Basel II is not a simple regulation that possesses solely a process of measuring the capital adequacy of banks. Perhaps more than this, it is dedicated:

1 to increase the use of risk management techniques in the banks' internal rating system

2 to improve the intermediary functions of the financial institutions

3 to develop market discipline in the financial system through transparent financial statements

4 to encourage bank customers to employ effective corporate governance principles so as to get less costly credits from the banks.

In this sense, it requires a sound capital base from the banks to offset the *credit risk*, *market risk* and *operational risk* that may arise from their operations.

Historically, the initially developed Basel I standards in 1988 covered only *credit risk* that may occur from the failure of the counterparties to fulfil their obligations. Then, it was revised in 1996 to meet the *market risk* arising from the interest and currency rate changes and has become more risk sensitive[1]. Compared to the Basel I, the New Capital Accord that brings more qualitative standards, adjusts the definition of *credit risk* and *market risk* and introduces a new type of risk, namely *operational risk*, which may arise from unlawful transactions or information system failures into the picture. As a result of these adjustments, the banks are now required to keep 8% capital against all the risks that they are exposed to.

$$Capital / \left(Credit\ Risk + Market\ Risk + Operational\ Risk \right) = 8\%$$

Although the main principle of the Basel II is the *minimum capital requirement* that should be satisfied by the banks, the other two principles, *capital adequacy supervision* and *market discipline*, are also important to develop a proper and effectively functioning financial system.

1 The aim of the *capital adequacy supervision* is to ensure that each bank has its own internal rating-based system to correctly measure its risks and take the necessary steps to solve the problems. It also requires that the regulatory authority should have an early warning system to timely supervise the banks so as to intervene into the system before the problem appears.

2 The aim of the *market discipline*, on the other hand, is to oblige the banks to declare their financial statements transparently so as to enable the market participants to give right decisions in their investments.

Structurally, by the Basel II, the banks pass across from a stationary system based on *risk reporting* to a dynamic system based on *risk measurement* (Yayla and Kaya, 2005). The origin of this system relies on *risk-based capital management* and *risk-based credit pricing*, in other saying, effective risk management. With this approach, the credit demand of the companies will be evaluated by referring to the *firm risk level* and *credit risk level* separately. While the *firm risk level* could be expressed by the rating system, the *credit risk level* is evaluated by looking at the credit type and maturity, collateral structure and currency of transaction. After each evaluation, a *risk-based credit pricing* is executed assigning 'a risk value for each credit user and a resource cost to each risk value' (İlseven, 2005).

Different from the Basel I, Basel II *simplified standardised approach* excludes the customer's cheques and notes as well as inter-group company guarantees, that have been intensively used in Turkey, for collateral in credit extension (Yüksel, 2005). On the other hand, the guarantees provided by the group companies that have a credit rating of A– and over are allowed to be risk-decreasing factor in credit usage. In addition to this, there is another difference between the Basel I and Basel II for real estate collateral usage. While Basel I applied a standard 50% risk weight to the credits taken against the real estate collateral, whether it is owned for commercial usage or for residence, Basel II applies a standard 35% risk weight for real estate collateral owned for residence and 100% risk weight for commercial usage. However, the latter risk weight may decrease to 50% provided that certain conditions are satisfied[2].

2.2 New Basel Capital Accord and the SMEs

Basel II conveys some new rules for the firms that would get credits from the banks. The companies will suffer the effects of these rules in two points:

1 to *access* the credit resources for financing their operations

2 to bear the *cost* of credit.

Thus, all firms could not get credits with the same cost and the banks would require more and less risky collateral from the SMEs, while extending credits to them (Yüksel and

Taşkan, 2005). Just at this point, the credit rating given to the firms will be important. In fact, the most important change introduced by the Basel II *Standardised Approach* is the application of risk weights depending upon the credit ratings given by the independent rating agencies to the countries, banks and companies[3]. Accordingly, the companies that receive high credit rating could use low-cost credits compared to those that get low-credit rating in the market (Table 1). This is so because the bank in this case;

1 will carry lower risk,

2 will keep lower capital and

3 will use more of its resources for credit extension (Altman and Sabato, 2005a).

Table 1 Ratings and risk weights according to the New Basel Capital Accord

Ratings	*Risk weight (retail)*	*Risk weight (other firms)*
AAA to AA–		20%
A+ to A–		50%
BBB+ to BB–	75%	100%
Lower than BB–		150%
No rating		*100%*

Source: BIS

As a result of this fact, the concept of *good credit-bad credit* would leave its place to *lower risky credit-higher risky credit*. Banks would prefer the firms that have more transparent financial statements and strong corporate and financial background while extending credits (EU, 2005).

Another handicap for the firms would occur when they decide to get credits from abroad. Basel II dictates that the companies operating in that country would apply the country credit rating for the credits used from abroad. With this new rule, Turkey that has a 0% risk weight because of being an OECD member (*club rule*), will no longer carry out this advantage and the Turkish companies could not get a credit rating over the country rating from the independent rating agencies in the market[4]. This would inevitably increase their costs in foreign trade financing and in credit usage abroad[5].

At this point, the new SME definition introduced by the New Basel Accord is also remarkable. According to this definition, SMEs are the companies that have a yearly total net sales volume of lower than 50 million euro. This definition is a critical measure for benefiting from the advantages of Basel II. In addition to this, Basel II differentiates the credits that will be extended to these companies as *corporate credits* and *retail credits*. If the credit amount (cash and non-cash credits) used by a SME from a single bank exceeds 1 million euro, the SME is classified within the *corporate portfolio*, if the credit amount is lower than 1 million euro, it is included within the *retail portfolio*. For each case, different risk weights are applied in the market (Table 2). In *standardised approach*, *retail credits* are given 75% risk weight. For *corporate credits* used by the SMEs, the ratings given by the independent institutions are taken into consideration and risk weights are assigned accordingly. On the other hand, the SMEs that have not received a rating are given 100% risk weight. Here, one should note that, while the companies that have a rating lower than 'B–' in *standardised approach* receives 150% risk weight, the companies with no rating are given 100% risk weight. This would encourage risky firms not to receive a rating in the marketplace. As to the *internal-rating-based approach*, the parameters employed by the banks would be determinative in the risk weights assigned to the firms[6].

While the aforementioned new regulations would affect financial costs of the companies that use high credit volume (more than 1 million euro) from a single bank negatively, the firms that get credits lower than 1 million euro or the firms using high volume credits, but having the opportunity to divide it into several banks could be in an advantageous position.

Table 2 Classification of the firms and risk weights assigned in Basel II Accord

Credit amount	*Yearly net sales*	*Classification*	*Risk weight*
Credit > 1,000,000 euro	Sales > 50,000,000 euro	Corporate	100%
Credit > 1,000,000 euro	Sales < 50,000,000 euro	Corporate SME	*According to the rating/if not rated, 100%*
Credit < 1,000,000 euro	Sales > 50,000,000 euro	Corporate	100%
Credit < 1,000,000 euro	Sales < 50,000,000 euro	Retail SME	*Standard (75%)*

Source: BIS

The Basel II standards that would be applied in Turkey by the beginning of 2008 may bring some additional burden to the Turkish SMEs. The findings of the local *quantitative study* held by the Banking Regulation and Supervision Agency (BDDK) (2004) in 2003 show that there would be an increase (from 5.3% to 6.7%) in the capital requirements of banks for the credits extended to the SMEs. This fact points out more or less to a certain level of cost increase in using credits from the banks for these enterprises[7]. Moreover, as it is expected that the weight of foreign banks in the Turkish Banking System will increase in the near future and one of the public banks, namely Türkiye Halk Bankası, that has given huge amount of credits to the SMEs during the last two decade will be privatised, the SMEs are required to prepare themselves to the newly adapted changes more carefully, if they want to carry out their business in a competitive environment. Another fact is that, only 5–7% of the bank credits are extended to the SMEs in Turkey (Özcan, 2005). Further, these firms are not accustomed to use credits from abroad. Therefore, it would take time for the SMEs to improve their corporate structure to new conditions. The problems that could be experienced by the SMEs in this process can be summarised as follows:

1 Financing: The insufficient level of equity capital in the SMEs, narrowing financing resources because of the changing credit extension conditions, the maturity mismatch between the asset-liability items.

2 Transparency: Financial statements of the SMEs are not standardised and in conformity with the requirement of the banks (i.e., negative capital, losses), the existence of over-the-counter transactions.

3 Risk-based pricing: The SMEs would be subject to *risk-based pricing* in getting credits from the banks, where the latter consider both the *firm risk level* and *credit risk level*. The SMEs are also required to pay interest and give collateral according to the rating received from independent rating agencies.

4 Collateral: The changing composition of collateral given for getting credits. The customer's cheques and notes as well as group guarantees that are highly used in the market are no longer eligible as collateral for getting credit under the Basel II. Thus, in conformity with the *standardised approach,* the SMEs should use other collateral such as cash, fixed income securities, mutual funds, real estate collateral for residence, etc.

5 Cyclical factors: The risks that may arise in the industry, region and international markets as well as social-economic factors may be influential.

As the aim of this study is to analyse the effects of Basel II standards on the SMEs operating in the ISE, no details will be given neither about the capital adequacy calculations carried out neither by the banks nor about the effects of Basel II upon the banking industry.

3 The definition of SMEs and their role in the economy

After a long debate over the definition of the SMEs in Turkey, the Commercial and Trade Ministry introduced a new definition by the end of 2005. According to this definition, SMEs are the companies that employ less than 250 workers and have a net sales volume and/or balance sheet total of less than 25 million TL (Official Gazette, 2005). In European Union (EU), on the other hand, the SMEs are defined as the companies that employ up to 250 workers and have a net sales volume of less than 50 million euro or a balance sheet total of less than 43 million euro.

In Turkey, about 98% of the companies are in the form of SMEs and nearly all of them operate in the manufacturing industry. According to statistical data, 660 firms out of 1,000 in the Istanbul Chamber of Industry and 6,800 firms out of 7,500 in the record of Central Bank of Turkey are SME in 2004 (Ercel, 2005). Other studies confirm this fact[8].

Before proceeding further to analyse the empirical results of the study, it would be helpful to discuss the role of SMEs in the economy. How different may be their financial and corporate structure, the SMEs play a vital role in both developed and emerging markets. They contribute to the economic growth in five main areas.

- employment opportunities
- flexibility and conformity to the changing environmental conditions
- encourage entrepreneurship
- differentiation in product type by the help of boutique production
- provide semi-finished products to the large companies.

Table 3 depicts the share of the SMEs in the economy in terms of employment, investment, value-added, export and credit volume for different countries. According to this table, although there is a coincidence between Turkey and EU countries for the share of the SMEs in total firms (98%) and in total employment (70%) on average, there is a notable difference between EU and Turkey in terms of economic value-added, credit volume and capacity utilisation ratio. While there are 19 million SMEs in the EU, the number of SMEs in Turkey is only 1.8 million. The economic value-added, bank credit and capacity utilisation ratio on average is 81%, 45% and 80% in the EU and 32%, 4% and 25% in Turkey, respectively[9].

The extension of bank credits to the SMEs plays a crucial role to ensure sustainable economic growth in a competitive changing environment. When referred to the data in Table 3, one could easily notice that the bank credits provided to the SMEs is only 5% of the total credit volume in Turkey and is a real proof of financial difficulties experienced by these companies. Essentially, 50% of the SMEs state that the financial problem is the most important factor that affects their long-term performance in the market. While the cost of financial problems to the SMEs in Turkey is 48% on average, it does not exceed 16% in EU countries[10]. The lack of well-structured strategies for the SMEs and non-availability of flexible collateral are the main factors that influence the credit resources possibilities (Aras, 2005).

Table 3 The role of SMEs in the economy

Country	*SMEs/total companies (%)*	*Employment ratio (%)*	*Investment share (%)*	*Value-added share (%)*	*Share in the export (%)*	*SME credits/total credits (%)*
USA	97.2	58.0	38.0	43.0	32.0	42.7
Germany	99.0	64.0	44.0	49.0	31.0	35.0
Japan	99.4	81.4	40.0	52.0	38.0	50.0
UK	96.0	36.0	29.5	25.1	22.2	27.0
France	99.0	67.0	45.0	54.0	26.0	29.0
Italy	98.0	83.0	52.0	47.0	NA	NA
India	98.6	63.2	27.8	50.0	40.0	15.3
S. Korea	98.8	59.0	35.7	34.5	20.2	47.0
Thailand	98.0	64.0	NA	47.0	50.0	NA
Singapore	97.0	44.0	27.0	43.0	10.0	27.0
Turkey	99.8	76.7	38.0	26.5	10.0	5.0

Note: NA = not available

Source: KOBİNET

4 Data and methodology

In this study, the unconsolidated and inflation adjusted financial statements of the 105 non-financial companies operating in the ISE are used for the fiscal year-end 2004 and 2005. As the SMEs mostly operate in the manufacturing industry in Turkey, financial institutions such as banks, insurance companies, leasing companies, investment trusts are excluded from the study. We also do not include the companies that prepare their financial statements on consolidated basis into the study, as they may be misleading in terms of information content. All data for the analysis are obtained from the ISE official website.

In the analysis, the financial and corporate structure of 41 non-financial companies in the ISE, as identified to be SMEs according to the definition made by the Basel II, are handled by referring to the following issues:

1 equity capital, company partnership and privileges
2 asset-liability management and collateral usage
3 FX open position and its sensitivity to the currency risk
4 bank credit usage
5 profitability, revenues-costs and export potential
6 relations with the group companies.

5 Empirical findings

The results of the analysis are grouped and summarised into subsections so that the researchers could easily review and comment on them. The first subsection covers the distribution of the ISE companies according to the definition introduced by the Basel II and in Turkey in terms of net company sales and number of workers. The other subsections discuss the following topics for the ISE companies deserving to be SME in the market; equity capital and partnership structure, asset-liability management, FX open position, bank credits to SMEs, profitability and relations with the group firms

5.1 Net sales and number of workers

When the unconsolidated and inflation adjusted financial statements of the non-financial companies operating in the ISE are analysed, the companies that deserve to be SME under the Basel II and according to the definition made in Turkey, have a considerable share among all companies under study both in 2004 and 2005. Table 4 summarises the distribution of non-financial companies as being SME and large firm, for the year-end of 2004 and 2005 in terms of the net sales volume and number of workers employed. According to this table, 57% of 105 companies deserve to be SME under the Basel II definition (yearly net sales volume is less than 50 million euro). As to the definition in Turkey, 28% of the companies deserve to be SME in terms of yearly net sales volume, which is less than 25 million TL.

Table 4 SME companies in the ISE under the Basel II and the definition in Turkey

Type of the company	*2004*			*2005*		
	Basel II (YNS)	*Turkey (YNS)*	*No. of workers*	*Basel II (YNS)*	*Turkey (YNS)*	*No. of workers*
SMEs	60	29	48	57	29	48
Large firms	45	76	57	48	76	57
Total	105	105	105	105	105	105

Note: YNS = yearly net sales

When the data is examined for the number of workers, 46% of the 105 firms deserve to be SME in the ISE. Among these firms, three of them have micro characteristics (one to ten workers), three of them are small-size companies (11–50 workers) and the remaining 41 could be classified as medium-size enterprises (51–250 workers). Besides this, the number of workers changes from 250 to 500 in 21% of the companies. Overall, the average number of workers in the ISE firms analysed ranges from 100 to 250 (32%).

When the industrial distribution of the 60 ISE firms (SMEs under the Basel II) is analysed, 23% of them operate in textile industry (textile, wearing apparel and leather), 15% of them in the machinery industry (fabricated metal products, machinery and equipment) and 12% of them in the food industry (food, beverage). The remaining 51% are distributed more or less equally among different industries.

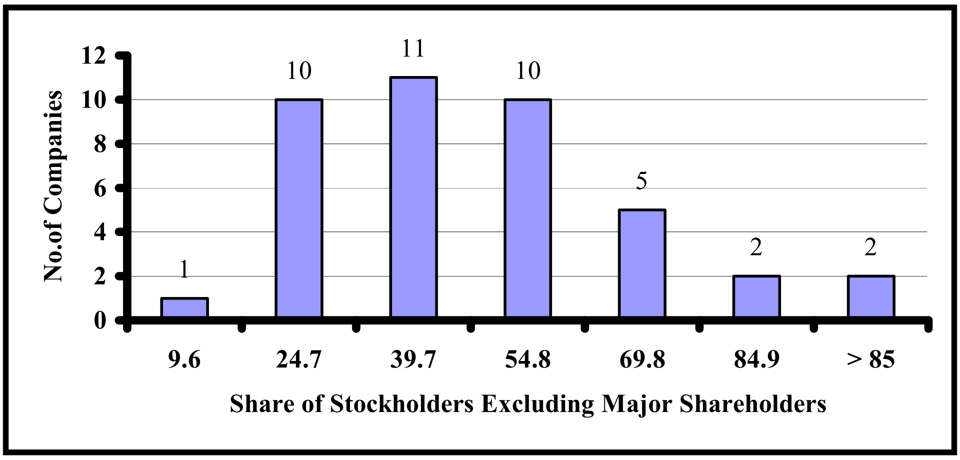
5.2 *Equity capital, shareholders structure and privileges*

One of the main issues that SMEs should give priority prior to the Basel II is to *strengthen equity capital*. The level of equity capital for 54% of the SME-size ISE companies is below €10 million. Only 15% of the SMEs have the equity capital above €25 million (Table 5). This picture gives the signal that SME-size companies trading in the ISE should urgently solve the equity problem.

Table 5 Equity capital structure of the SME-size companies in the ISE

Equity capital (euro)	*No. of companies*	*Aggregate ratio (%)*
6,000,000	1	2.44%
10,000,000	21	53.66%
25,000,000	13	85.37%
40,000,000	2	90.24%
Over	4	100.00%

Figure 1 Shareholders structure of the SME-size ISE companies (see online version for colours)



When we look at the shareholders structure of the SME-size ISE companies, the family type business structure is notified. The share of stockholders, excluding large shareholders, is below 40% of total equity capital in more than 54% of the firms (Figure 1). In other words, the majority of the shares belong to the big stockholders that own 10% or more of the capital. These major shareholders are mostly either family members or founders of the company. The share of the stockholders, excluding major ones, reaches to only 55% in 78% of the firms. This structure varies significantly from the company structure in developed markets, where 80–90% of the shares are publicly traded and one may become a major shareholder by keeping 5–10% of the shares. On the other hand, the equity capital provided by the shareholders to finance the company's operations is important for the banks extending credits, and independent rating agencies giving credit rating to these firms. The ratio of shareholders' equity to total assets is 58% (median is 66%) for the firms analysed in this study. That is, the company owners are actually financing themselves and the SMEs are mostly operating with their own capital in the market.

5.2.1 Preferred shares and privileges

The results show that different types of privileges are common in the shares of the companies under the study. Among all, 52% of the companies have at least one type of privilege attached to their shares. The most significant privilege given to the major shareholders is the right to elect and nominate members of the board of directors (61%). The second common privilege is the right to select members for the audit board and to have voting rights in the company (15%). Among other rarely used privileges, the priority in dividend distribution and preemptive rights at the liquidation process might be stated.

5.3 Asset-liability management and collateral usage

5.3.1 Mortgage collateral usage for credits

One of the core issues that would influence Turkish companies after Basel II is the common usage of real estate mortgages given as collateral for the credits extended by the banks. The reason is that, Basel II actually changes the Basel I practice of applying 50% risk-weight on immovable mortgages to 35% for real estate owned for residence and 100% for real estate owned for commercial purposes. Considering the significant share of the commercial mortgages given by the companies as collateral for bank credits, the New Basel Accord nearly doubles the risk-weight compared to the current practice and the companies may face with tighter rules for collateral usage.

Actually, the ratio of mortgages to the total assets is about 50% for 65% of the SME-size ISE companies (Table 6). The average and median for this ratio is 45% and 36%, respectively. This is an indicator that the companies in the ISE may well encounter problems after Basel II. Therefore, they should shift their collateral composition from real estate mortgages to other type of financial instruments that are given lower risk-weights (e.g., debt instruments, equity) in the New Basel Accord.

Table 6 Mortgage collateral usage in the SME-size ISE companies

Mortgages/Total assets	*No. of companies*	*Aggregate ratio (%)*
0.003	1	5.00%
0.47	12	65.00%
0.93	5	90.00%
> 0.93	2	100.00%

5.3.2 Insurance of assets

Although the insurance made for companies' assets against possible damages becomes widespread in the SMEs, it has not been yet at the expected level. In the analysis, we notice that 46% of the firms insure 54% or lower of their assets in the SME-size ISE companies. Only 20% of the companies seem to insure all of their assets. The insurance level of assets will become important after Basel II and will play a critical role during the credit rating process for the companies.

5.3.3 Collateral for receivables

The results of the analysis show that the SME-size ISE companies do not take enough collateral for their receivables. The ratio of collaterals to total receivables is 5% or less in 54% of the firms (Table 7). Although this may be presumed as a reflection of the business conditions in Turkey, it may decrease credit rating, as it would be difficult to collect the receivables when they become doubtful/bad debts.

Table 7 Collaterals to total receivables in the SME-size ISE companies

Collaterals/total receivables	*No. of companies*	*Aggregate ratio (%)*
0.05	14	53.85%
0.15	2	61.54%
0.20	1	65.38%
0.30	1	69.23%
0.40	1	73.08%
0.50	1	76.92%
Over	6	100.00%

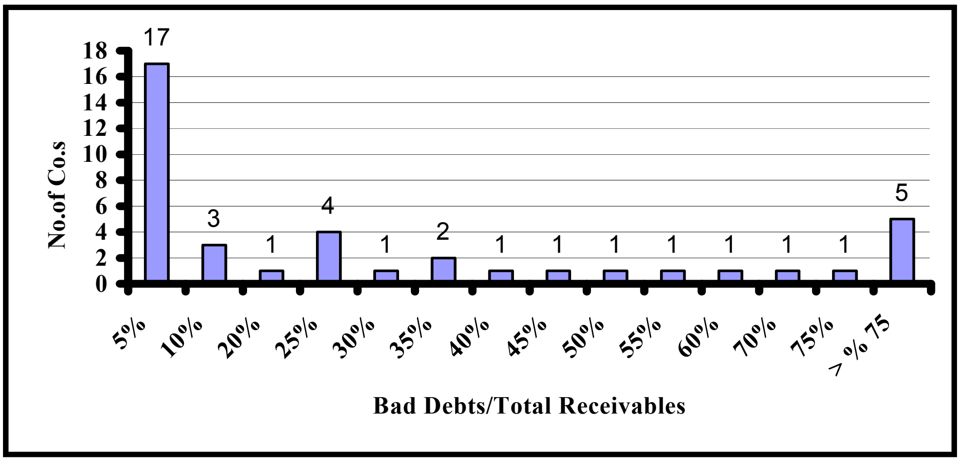
5.3.4 Off-balance sheet liabilities

Another significant issue in evaluating credit rating of the firms is the level of off-balance sheet liabilities. There is no considerable amount of off-balance sheet liabilities in the ISE companies. The ratio of these liabilities to total assets is 5% or less in 50% of the firms. The average and median for this ratio is 27% and 5%, respectively. This structure should be sustained and kept under control.

5.3.5 Doubtful receivables

Although it is a principal in business to take necessary measures to collect receivables without having bad debts, due to some special conditions of the country, industry or entity, some of the receivables may become doubtful over time. However, the share of bad debts must be kept at a minimum level so that it would not affect the company's ongoing operations. From this point of view, it is observed that the companies in our study do not face with a problem. The ratio of doubtful debts to total receivables is 10% or less for 50% of the firms (Figure 2). This result is also confirmed with the median value of 9.5%. On the other hand, this ratio stands to be 70% or over for 15% of the SME-size ISE companies. The latter group should inevitably scrutinise and reschedule their receivable collection policies.

Figure 2 Doubtful receivables in the SME-size ISE companies (see online version for colours)



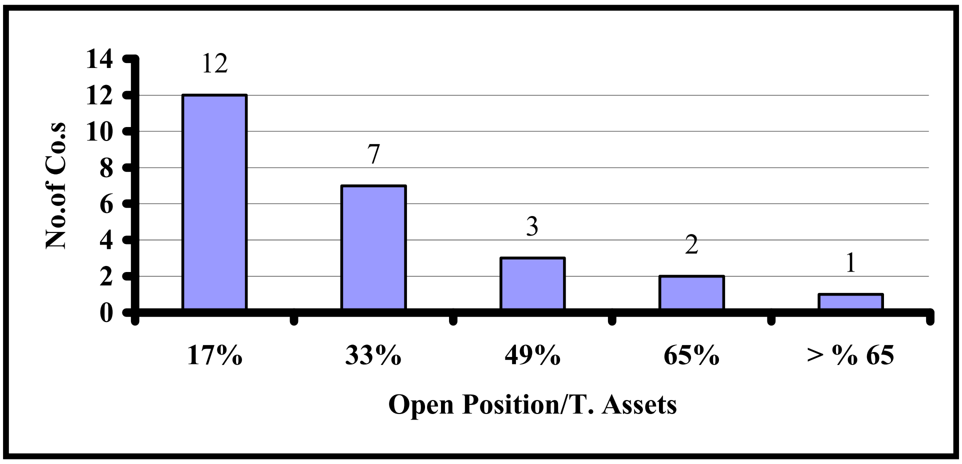
5.3.6 *Access to long-term funds*

The ability to use long-term resources for financing the operations of a company is an important factor to have an idea about the company's financial strength. Due to market structure in Turkey, it is difficult to obtain long-term funds from banks and it is not a common practice to issue corporate bonds for most of them. Thus, the level of long-term liabilities to total assets is quite low (10% on average). This is an important obstacle for the firms to finance their long-term investments with favourable costs.

5.4 *Open positions and foreign exchange risk management*

To manage and control foreign exchange position is important especially for the companies operating in the emerging markets like in Turkey, due to instable market conditions and ever changing foreign exchange policies. The open position in foreign exchange that may be advantageous in one period for a company, may affect the operations of the same company negatively in another period. The analysis reveals that 66% of the SME-size ISE companies have open positions and this necessitates an active FX risk management policy for them. The ratio of open position to total assets is below 17% in 48% of the companies, while it varies between 17–33% in 28% of the firms (Figure 3). These findings shows that, although there is no significant risk at the moment for the ISE firms, considering that there is no efficient risk management practices in most of manufacturing firms in Turkey, it is important for the SME-size companies to closely monitor their foreign exchange position and to pursue efficient risk management strategies prior to Basel II.

Figure 3 Open positions of the SME-size ISE companies (see online version for colours)



5.5 Bank credits

In this study, we observe that the share of bank credits in total assets is at a very low level at the SME-size ISE companies for financing their operations. The average and median for this ratio is 14% and 4%, respectively. The ratio of bank credits to total assets is less than 8% in more than 63% of these firms (Table 8). Even, in 27% of the ISE companies, there are no bank credits. This fact is an obvious indicator that the SME-size companies have difficulty to access bank credits in the market.

The situation is similar when we refer to the ratio of bank credits to total liabilities. It is around 11% in 50% of the companies. The median is 15% for this ratio. This issue should be addressed and solved immediately for the SME-size companies.

Table 8 Bank credits used by the SME-size companies in the ISE

Bank credits/total assets	*No. of companies*	*Aggregate ratio (%)*	*Bank credits/total debt*	*No. of companies*	*Aggregate ratio (%)*
0.00	11	26.83%	0.00	11	26.83%
0.08	15	63.41%	0.11	9	48.78%
0.17	3	70.73%	0.28	4	58.54%
0.25	3	78.05%	0.34	3	65.85%
0.33	3	85.37%	0.39	2	70.73%
0.50	2	90.24%	0.45	2	75.61%
0.58	3	97.56%	0.51	2	80.49%
>0.60	1	100.00%	0.56	3	87.80%
			>0.56	5	100.00%

Another indicator confirming that there is a need to restructure the relations between the SME-size companies and the banking sector is the ratio of bank credits to equity. This ratio is below 10% for 61% of the companies. The median is 7%.

When we look at the share of short-term bank credits in total short-term debts of the companies in the study, it is less than 6% for 50% of the companies. The median is 7% for this ratio. Overall, there is no short-term bank credits for 32% of the SME-size ISE companies (Table 9).

Table 9 Short-term bank credits of the SME-size ISE companies

Short-term bank credits/total short-term debts	*No. of companies*	*Aggregate ratio (%)*
0.00	13	31.71%
0.06	7	48.78%
0.19	5	60.98%
0.31	5	73.17%
0.44	3	80.49%
0.62	3	87.80%
0.68	3	95.12%
> 0.68	2	100.00%

On the other hand, the scarcity of long-term bank credits is a general problem in the Turkish economy. Long-term funds are important for the SME-size companies to make new investments. When we look at the share of long-term bank credits in the total long-term debts, we notice that 73% of the companies do not have long-term credits. The average and median for this ratio is 15% and 0%, respectively.

5.6 Profitability, income-expenditure balance and export potential

The main goal of investors is to maximise their profits from their investments. The ratio of net profit to total assets and equity in the SME-size ISE companies is 8% and 12% on average, respectively. The net profit to equity ratio stays below 8% in 37% of the companies in 2004 (Table 10). When compared to the three-month T-bills interest rates, which were 20–25% in the same year, one could easily notice that the equity profitability happens to be lower than T-bill returns. As half of the SME-size ISE companies experience losses in 2004, it could be concluded that the ISE companies do not perform well in this time span.

Table 10 Net profit/equity ratio of SME-size ISE companies

Net profit/equity ratio	*No. of companies*	*Aggregate ratio (%)*
0.08	7	36.84%
0.12	3	52.63%
0.15	4	73.68%
> 0.2	5	78.95%

5.6.1 Profitability and distribution of profit

The profitability of SMEs in the Basel II process is critical for getting credits from the banks and for receiving good credit ratings from the independent rating agencies. The

SME-size companies in the ISE have to take steps, as only 42.5% of them make profit, while 57.5% of them make losses in 2004. Among those companies that make profit, 67.5% of them did not distribute dividend to their shareholders. At this point, the first thing to do is to determine reasons leading to the losses or cost increases. The low-level dividend gains compared to high-level capital gains in the market confirm this fact. In order to support the SME-size companies financing through the capital markets in the Basel II process, new regulations and incentives should be put into effect for the benefit of investors to provide them moderate level medium or long-term dividend gains instead of short-term high capital gains.

5.6.2 Effect of operating profit in profitability

It is important to determine whether the source of the profitability for a company is from its operations or not. As the competitive edge may not be sustained in the long-term for companies having mainly non-operating profit, it may be dangerous for their credibility and commercial life in the long run. The results of the study show that the profitability of the SME-size ISE companies mostly stems from their operations. Approximately, 70% of the profit-making companies have operating profit above their net profit. This may be expected to have a positive effect on getting credits from the banks and receiving a credit rating from the institutions in the future.

5.6.3 Interest payments ability

The interest payment ability of a company is one of the main quantitative criteria in receiving good credit rating and in carrying out their operations effectively. When we analyse 20 SME-size ISE companies making profits in 2004, we observe that the interest coverage ratio varies from one to another. The ratio is 2 for 40% of the companies and varies from 2 to 4 in 10% of them. Taking into accounts the recent economic turmoil and decreases in real interest rates in Turkey, the interest coverage ratio may be considered moderate.

5.6.4 Payments for the executive management

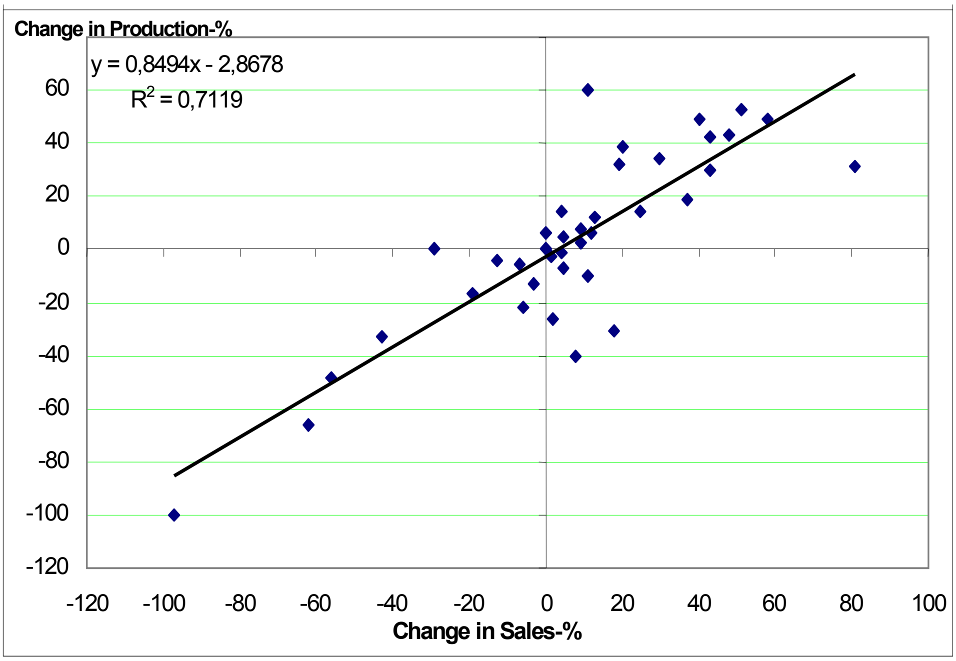
The share of the payments made to the executive managers in the general expenses is important to determine whether the companies have difficulty in employing qualified executive managers and the payment to the current managers is parallel to the performance of the firm. The payments to executive managers are less than 15% of total general management expenses over 70% of the companies analysed. Only in 2.5% of the companies, this ratio is more than 30%.

Although the share of the payments to the executive managers seems to be low in most of the firms analysed, these payments are not always based on company performance. The highest payments are not made at the firms with high profitability. Even in some cases, the firms having losses make 20–27% of the general management payments to the executive managers. To be more specific, the median for this ratio is 11% for companies having losses and 12% for the companies making profit in 2004. So, the SME-size ISE companies should shift their payment policies for the executive managers to a more performance-based system.

5.6.5 Changes in production and sale volume

Another indicator of a healthy business entity is the positive change in the production level and sales volume throughout the years. These changes give important clues in evaluating the company as well as industry. The results in this study show that the firms have just started up to recover from the negative effects of economic turmoil. The change in total production and sales volume is only 3.5% and 8.5%, respectively. The company's order basis production policy and its preference to work with low-level inventory may explain this outcome. The change in sales volume is 2.5 times more than the change in production level. One unit of increase in sales volume increases the production by 0.85 units (Figure 4). Although there is a positive change in both sales volume and production output, compared to the average increase in the GNP over the last five years period (7.3%), it is not at the expected level.

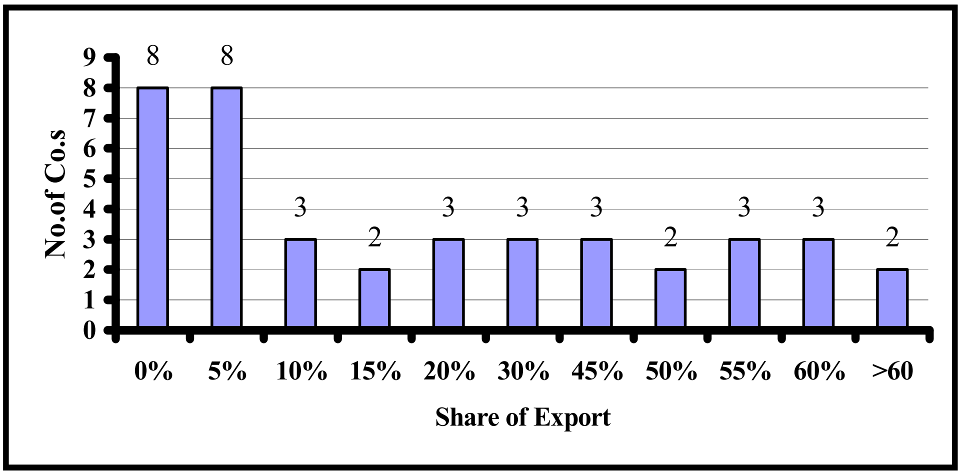
Figure 4 Change and interaction of production and sales volume (see online version for colours)



5.6.6 Export capacity

The export capacity of a firm is one of the most important indicators of its strength in the international competition and it increases its credibility in the marketplace and eliminates its dependence on a single market helping it to be less severely affected from the negative cycles of the economy. The results show that most of the companies in this study are making their sales in the domestic market and have a very low-level export potential. About 40% of the SME-size ISE companies make 95% of their sales in Turkey (Figure 5). Only 12.5% of the companies make 60% or more of their sales abroad. The median and average values for the exports to total sales ratio is 14% and 23%, respectively. This fact discloses that new measures should be taken to increase the export potential of the SME-size ISE companies in the market.

Figure 5 Export potential of the SME-size ISE companies (see online version for colours)



5.7 Relations with the group companies

5.7.1 Liabilities in favour of group companies

In Turkey, it is very common for a company to give surety and other guarantees to another group company. However, this kind of guarantees may affect the company's operations and financial situation negatively. The level of liabilities undertaken by the SME-size ISE companies in favour of group companies give the impression that generally there is no problem in terms of this relationship. In 73% of the companies, this type of liabilities is 5% or less. However, the level of liabilities stands to be more than 90% in seven companies and the problem must be solved promptly for them.

Table 11 The liabilities of the SME-size ISE firms in favour of group companies

Ratio of liabilities undertaken	*No. of companies*	*Aggregate rate (%)*
0%	28	68.29%
5%	2	73.17%
20%	2	78.05%
40%	2	82.93%
90%	2	87.80%
> 90%	5	100.00%

5.7.2 Share of group companies in the financial expenses

The share of the group companies in total financial expenses is considerably low at 60% of the SME-size ISE firms. Even, when we expand the distribution scale up to 77%, the ratio is still below 10%. This shows that most of the financial expenses of a firm stems from their own operations. Furthermore, the same fact is detected when the ratio of the interest and other expenses paid to group companies to total financial expenses is considered. It is less than 1% at more than 87% of SME-size ISE firms. Additionally, the interest and other incomes gained from the group companies reveal no evidence that these incomes have significant effects on the SME-size firms' profits

5.7.3 Share of group companies in doubtful receivables

The ability to collect receivables timely has a direct impact on a firm's cash flow and operational stability. Moreover, the share of doubtful receivables from the group companies in the total doubtful receivables has a significant importance. This may be an indicator for both the troublesome financial situation of the firm and/or the group companies and suspicious operations such as illegal money transfers from one company to another. In this study, the share of doubtful receivables from the group companies is approximately 16% within the total doubtful receivables. Though it is at a reasonable level, the companies should pay close attention to this ratio in the future.

5.7.4 Share of group companies in the sales

The share of group companies in total sales of a company is at a low-level for the firms analysed in this study. It is less than 5% for 70% of the SME-size ISE companies (Table 12). Consequently, companies are selling most of their products to firms other than group companies. On the other hand, at 10% of the firms, more than 60% of the sales are made to group companies. These findings reveal that the SME-size ISE firms have not got a homogenous structure.

Table 12 The share of group companies in total sales of SME-size ISE companies

Share of group companies in total sales	*No. of companies*	*Aggregate rate (%)*
0%	10	25.64%
5%	17	69.23%
30%	5	82.05%
45%	1	84.62%
60%	2	89.74%
> 60%	4	100.00%

6 Conclusions

The Basel II regulations are developed by the Basel Committee to improve the functioning of the international financial system and to create a more stable financial environment in the markets. The new standards are actually expected to change the classical banking system, including credit extension practices, both in developed and emerging markets. The credit market will become narrow due to new implementations leading to a decrease in the facilities provided by banks in extending credits and for the companies in getting them.

Another aim of the Basel II is to stimulate the risk management culture in the banking industry. Thus, the new standards may affect banks and their customers – real sector companies and SMEs – adversely. The transition process may be longer especially for the companies operating in the emerging markets like in Turkey, where there are high-level unregistered transactions. However, when the institutions begin to harmonise to the new standards, these negative effects will turn to positive benefits for the companies and become a natural incentive leading to the proper application of the corporate governance principles.

Parallel to the Basel II, some cost items are expected to increase, but this is mostly related with the amount of fund that would be placed by the banking industry, the share of the credits extended and profitability in different industries. On this respect, SME credits may become more profitable in a market, where profit margins shrink significantly. On the other hand, each SME should get a credit rating from an independent rating institution. However, this process might be difficult at the first instance for the SMEs that, banks are allowed to establish their own internal rating departments for evaluating and rating the companies during this transition period. The firms getting high credit ratings will be in advantageous positions in taking credits from the banks and this coincides with the findings of Jager (2005).

In this study, we analysed the financial and corporate structure of 41 non-financial companies in the ISE, as identified to be SMEs according to the definition made by the Basel II. The study is based on the firms' unconsolidated and inflation adjusted financial statements and is handled by referring to the following issues:

1 equity capital, company partnership and privileges

2 asset-liability management and collateral usage

3 FX open position

4 bank credit usage

5 profitability, revenues-costs and export potential

6 relations with the group companies.

The following points summarises the main findings of the study:

- Within total firms analysed, 57% of the 105 companies deserve to be SME under the Basel II definition in terms of yearly net sales volume. When the industrial distribution of these companies is considered, they mainly operate on three industries: textile (23%), machinery (15%) and food (12%).
- One of the main issues that SMEs should give priority prior to the Basel II is to *strengthen equity capital*. The level of equity capital for 54% of the SME-size ISE companies is below €10 million. This picture gives the signal that SME-size companies trading in the ISE should urgently solve the equity problem during the Basel II transition period. On the other hand, the ratio of the shareholders' equity to total assets is 58%. That is, the company owners are actually financing themselves. This finding confirms to the fact that the SMEs are mostly operating with their own capital in the market. Thus, Basel II process may be more difficult especially for the family companies.
- When we look at the *shareholders structure* of the SME-size ISE companies, the family type business structure is notified. The share of the stockholders, excluding large shareholders, is below 40% of total equity capital in more than 54% of the

companies. To modify this structure, these companies have to increase the ratio of publicly held shares and to be more transparent. By this way, the companies could get new funds and increase their credibility.

- One of the core issues that would influence Turkish companies after Basel II is the common usage of real estate mortgages as collateral for the credits extended by the banks. *The ratio of mortgages to the total assets* is about 50% for 65% of the SME-size ISE companies. This is an indicator that the companies in the ISE may well encounter problems after Basel II and should be prepared to use low-risk alternative collaterals. On the other hand, the results of the analysis show that the SME-size ISE companies do not take enough collateral for their receivables. *The ratio of collaterals to total receivables is 5% or less for 54% of the companies.* This is critical and may decrease the credit rating, as it would be difficult to collect the receivables when they become doubtful/bad debts. On the other side, the ratio of doubtful debts to total receivables is 70% or over for 15% of the SME-size ISE companies. This group of companies should inevitably scrutinise and reschedule their receivable collection policies.
- Long-term fund facilities are important for the SME-size companies to make new investments. The level of *long-term liabilities to total assets* is quite low, 10% on average for the firms operating in the ISE. Further, when we look at the share of long-term bank credits in the total long-term debts, we notice that 73% of the companies do not have long-term credits. This is an important obstacle for these companies to finance their long-term investments with favourable costs. On the other hand, *the ratio of bank credits to total assets is less than 8% in more than 63% of these firms.* Even, in 27% of the ISE firms, there is no bank credit. The situation is similar when we refer to the ratio of bank credits to total liabilities. It is around 11% at 50% of the companies. These facts necessitate the restructuring of the relations between the SME-size companies and the banking industry.
- Although *66% of the SME-size ISE companies have open positions*, the ratio of open position to total assets is below 17% at 48% of the companies, while it varies between 17–33% at 28% of the firms. However, as there is no efficient risk management mechanism in most of manufacturing companies in Turkey, it is important for the SME-size firms to closely review their foreign exchange position and to pursue efficient risk management strategies prior to the Basel II. Otherwise, as mentioned by Griffith-Jones (2007), they will face difficulties in getting credits from the banks.
- The ratio of *net profit to total assets and equity* at the SME-size ISE companies is 8% and 12% on average, respectively. Only 42.5% of these companies make profit in 2004. The profitability of the SME-size ISE firms mostly stems from their operations. At this point, it should be noted that the companies have to determine reasons leading to losses in their entities. In this context, the share of the payments made to executive managers in the general management expenses is important. The payments to executive managers are less than 15% of total general management expenses over 70% of the companies. However, these payments are not always based on company performance. Even in some cases, the companies making losses have 20–27% of their general management expenses as executive manager payment. So,

the SME-size ISE companies should change their policies for executive managers payment to a more *performance-based system.*

- Most of the companies in the study make their sales in the domestic market and have *low-level export potential*. About 40% of the SME-size ISE companies make 95% of their sales in Turkey. Only 12.5% of the firms make 60% or more of their sales abroad. This fact discloses that new measures should be taken to increase the export potential in these companies.
- The level of the *liabilities undertaken by the SME-size ISE companies in favour of Group Companies* gives the impression that generally there is no problem in terms of this relationship. At 73% of the companies, this type of liabilities is 5% or less. However, this ratio stands to be more than 90% for 7 companies and the problem must be promptly solved for them. On the other hand, the share of doubtful receivables from group companies is 16% on average within total doubtful receivables. Though this is a reasonable level, the companies should pay close attention to this ratio.

Besides the financial information, qualitative data is also important to get a good credit rating from either the credit rating institutions or banks. The pioneering information in this respect is *the awareness of risk*. It is important to note whether SMEs are really aware of their risks and what they do to hedge them. Unfortunately, most of the SME-size ISE firms do not have an efficient risk management policy to deal with interest rate and currency risks. They are highly affected from the turmoil in the economy and face with serious market risk. Additionally, the firms should take steps to protect themselves from operational risks arising from undue diligence and misuse of technology. Due to recent developments in the technology, they should also take the necessary measures to enhance supervision and secure the information database. Furthermore, as Basel II brings rating system for the firms, the periodical updates of the credit ratings for the companies should be provided on a regular basis by the rating agencies to meet the needs of market players. For this purpose, the firms should regularly disclose their quantitative and qualitative data. This may only be possible if the firms have an organised and well-operating accounting and reporting system.

Within this framework, the SME-size companies should introduce new measures urgently in order to adjust their structure for Basel II regulations. For this purpose, the SME-size companies, especially operating in textile, food and machinery industry, that aim to make investments in domestic and international markets and to strengthen their competitiveness in the EU, have to scrutinise their financial structure, develop alternative financial instruments against bank credits, apply corporate governance principles and take steps to improve their risk management system.

The main strategies to be followed by the SME-size companies to meet the new standards brought by the Basel II and to increase their credit ratings could be summarised as follows:

- to operate in their main business line
- to strengthen their capital structure
- to decrease the unregistered transactions and record them properly
- to prepare transparent financial reports in line with the international standards

- to make investments for the necessary technological infrastructure to produce timely financial reports and data
- to apply *corporate governance* culture widespread, from executive managers to all other employees
- to be aware of the effects of Basel II and take required actions and use performance indicators to measure the effects of these actions
- to hedge market and operational risk via financial instruments and to employ qualified staff for this purpose
- to manage credit rating process efficiently.

On the other hand, the SME-size companies may solve their collateral problem in getting bank credits via guarantees and surety offered by the institutions, like ‘Credit Guarantee Fund Operation and Research Co.’, established in 1991 for that purpose. The main idea in this system is to share the risk burden and offer companies opportunities to access to medium and long-term credits with relatively low-costs.

The SME-size companies should make their investments and prepare their business plans to meet the requirements of Basel II. They should act proactively and develop solutions to solve the potential problems. As the cost of the new investments for this purpose is high and it would take time to handle them appropriately, the companies need stable cash flows during this process.

Another important issue for Turkey is that the harmonisation to the Basel II in the financial and manufacturing industry will, at the same time, lead to the harmonisation into the EU standards. In this respect, the steps taken to meet Basel II standards would have a significant effect and would be a precondition in the international integration process of Turkish economy to the EU financial market. Thus, Basel II is an important opportunity from this point of view.

References

Altman, E.I. and Sabato, G. (2005a) ‘Effects of the New Basel Capital Accord on bank capital requirements for SMEs’, *Journal of Financial Services Research*, Vol. 28, pp.15–42.

Altman, E.I. and Sabato, G. (2005b) ‘The impact of Basel-II on SMEs’, *The Newspaper of Financial Engineering*, November/December, available at http://www.fenews.com.

Aras, G. (2002) *Türk KOBİ’lerinin Küreselleşme Sürecinde Yeni Rolleri ve Sorunları*, Friedrich Ebert Vakfı, Istanbul.

Aras, G. (2005) ‘Transition process and effects of Basel-II on SMEs’, Yıldız Technical University, Institute of Social Science.

Bank for International Settlements (BIS) (2004a) ‘Implementation of Basel II: practical considerations’, available at http://www.bis.org.

Bank for International Settlements (BIS) (2004b) ‘International convergence of capital measurement and capital standards’, available at http://www.bis.org.

Banking Regulation and Supervision Agency (BDDK) ‘Basel-II quantitative effect study (QIS-TR) evaluation report’, Research Department.

Ercel, G. (2005) ‘Basel-II and SMEs’, *Sabah Newsletter*, 9 September.

European Commission (EU) (2005) ‘How to deal with the new rating culture: a practical guide to loan financing for small and medium-sized enterprises’, July.

Griffith-Jones, S. (2007) 'Implications of Basel-II for stability and growth in developing countries: proposals for further research and action', Institute of Development Studies, University of Sussex, March.

Griffith-Jones, S. and Spratt, S. (2001) 'Will the proposed New Basel Accord have a net negative effect on developing countries', Institute of Development Studies, University of Sussex.

İlseven, N. (2005) 'New international banking architecture: Basel-II and SME financing, effects and expectations', Turkish Finance Managers Foundation, Istanbul, 16 September.

Jager, J. (2005) 'Basel-II: perspectives of Austrian Banks and small and medium sized enterprises', University of Applied Sciences of bfi Vienna, March.

Official Gazette (2005) 'Regulation on the definition, qualifications and categorization of SMEs', 19 October.

Özcan, H. (2005) 'New credit and financing criteria for SMEs: Basel II', Turkish Chambers and Exchanges Association, Bursa, 19 September.

Yayla, M. and Kaya, Y.T. (2005) 'Basel-II, economic reflections and transition process', Banking Regulation and Supervision Agency, Research Department Working Report, Nos. 2005/3.

Yüksel, A. (2005) 'Possible effects of Basel-II on SME credits', Banking Regulation and Supervision Agency, Research Department, Nos. 2005/4, August.

Yüksel, Ö. and Taşkan, E.S. (2005) 'Basel-II criteria and effects on evaluation process of SME credits', *EBSO*, İzmir, 29 September.

Notes

1 The main driving force for the adjustments made in 1996 is the Mexican crisis experienced in 1994 and the problems and risks arising out of this crisis in the international financial system.

2 These conditions are:

   1 the existence of a developed and long-standing commercial real estate market in the country

   2 the credit that will be extended against real estate collateral should not be more than 50% of the value of the real estate given as collateral.

3 Standard & Poor, Moody's and Fitch can be given as examples of credit rating agencies.

4 Here, there is a critical point to be noted. As the rating agencies may get the information about the countries' financial indicators with a certain time lack, their ratings most often follow the market, rather than guide it. Therefore, the credit users may experience difficulties in this process.

5 The study held by Griffith-Jones and Spratt (2001) also shows that after the international banks begin using Basel II principles, the bank credits extended to the emerging markets will decrease and the costs of international borrowing will go up considerably.

6 Contrary to Europe, if the firms do not have credit rating in a country, but keep a sound financial record and database, the application of the *internal rating-based approach* would be more beneficial.

7 This study is held by taking the portfolio of the banks in 2003 into consideration through using standardised approach.

8 Aras (2002) stated that about 40% of the publicly traded companies were SMEs.

9 These figures are obtained from the paper titled as *'SMEs and Financial Services'* presented at the Akdenet Conference held on 25 May 2005 in Finance Club.

10 The data is obtained from the speech of Mr. Rıfat Hisarcıklıoğlu, Head of Turkish Chambers and Exchanges Association on 28 June 2006 on the subject of 'Risk management and effects of Basel II on SMEs'.