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THE EFFECTS OF BASEL II CRITERIA ON THE FINANCING OF SMALL AND MEDIUM SIZED ENTERPRISES (SMES): A SURVEY ABOUT THE SMES OPERATING IN THE TEXTILE SECTOR IN BURSA

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ABSTRACT

Basel II regulations are closely related with SMEs which have credit relationship with the banks. With Basel II, there will be a risk oriented approach in the crediting process of the banks and this approach will affect interest rate, amount, type, maturity and financial collateral of the SMEs' credit. The aim of this study is to define the potential effects of Basel II on the financing of SMEs. In this study, Basel II criteria are described briefly and the effects of these criteria on the financing of SMEs are evaluated. Besides, the findings gathered from the SMEs operating in the textile sector in Bursa concerning their level of adaptation in this process are given. Then the results are evaluated and some suggestions are made.

Keywords: *Basel II, SMEs' Financing, Textile Sector, Survey.*

BASEL II KRİTERLERİNİN KOBİ'LERİN FİNANSMANINA ETKİLERİ: BURSA İLİ TEKSTİL SEKTÖRÜNDE FAALİYET GÖSTEREN KOBİ'LER ÜZERİNE BİR ARAŞTIRMA

ÖZ

Basel II düzenlemeleri, bankalarla kredi ilişkisinde olan KOBİ'leri çok yakından ilgilendirmektedir. Basel II ile birlikte bankaların kredilendirme sürecinde risk odaklı bir anlayış hakim olacak, bu da KOBİ'lerin bankalardan kullandıkları kredilerin fiyatını, miktarını, türünü, vadesini ve teminatları etkileyecektir. Bu çalışma ile Basel II'nin KOBİ'lerin finansmanı üzerine muhtemel etkilerinin belirlenmesi amaçlanmaktadır. Çalışmada genel olarak Basel II kriterleri tanıtılmakta ve kriterlerinin KOBİ'lerin finansmanı üzerindeki etkileri değerlendirilmektedir. Ayrıca, KOBİ'lerin bu sürece ne derece uyum sağlayabileceklerini ölçmeye yönelik Bursa ili tekstil sektöründe faaliyet gösteren KOBİ'ler üzerinde uygulanan anket araştırmasının bulgularına yer verilmektedir. Sonuçlar değerlendirilerek, önerilerde bulunulmaktadır.

Anahtar Kelimeler: *Basel II, KOBİ'lerin Finansmanı, Tekstil sektörü, Anket*

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1. INTRODUCTION

Basel II criteria are prepared in order to measure and evaluate the capital adequacy of the banks. They are a series of standards obligatory to put in force to be integrated in the European Union (EU) and to the world. These criteria are carried into full effect in the EU and G-10 countries in 2007. It has been announced that in January 2008 the standardised approach and in January 2009 internal ratings-based approach will be legally executed in Turkey. However, the implementation relating to the rating based loan risk measurement which will be taken as a basis in banks' capital adequacy calculation has been delayed to the beginning of 2009 (http://www.bddk.org.tr).

It is expected that Basel II will have important effects on the banks, the banking supervisory authorities and the parties that have credit relationship with the banks. Among these parties, SMEs, which have a critical role in the national economy, rank in priority. Considering that most of the companies operating in our country are organized as SMEs, it is quiet important to examine the potential effects of this regulation on the financing of our SMEs.

In Turkey, SMEs have problems in accessing the sources of financing. SMEs have difficulties in raising banking loans, drawing benefit from incentives and have minimum access to capital market funds and alternative sources of financing (Yüksel, 2005, p. 9). The equity which is the most important source of financing for SMEs is at a very low level. Together with the implementation of Basel II, it is expected that there will be a raise in the risk premium of credit volume of SMEs and there will be a differentiation at credit interests in accordance with the risk levels (Yüksel, 2005, p. 39). Credit costs of SMEs which do not succeed in adapting these criteria will increase.

In this study, after giving brief information about Basel II criteria, the effects of these criteria on SMEs will be discussed. In the second section, the aim, hypothesis, scope, method of the survey carried on the SMEs operating in the textile sector in Bursa will be handled and the findings will be evaluated. Finally, some suggestions will be made.

2. BASEL II AND ITs EFFECTS ON THE FINANCING OF SMEs

Basel II is basically a series of principles that are determined to regulate the banking systems. It has three main pillars which are minimum capital requirements, supervisory review process and market discipline. With the minimum capital requirements it is aimed to calculate the minimum capital requirement for market, credit and operational risks to which the companies are exposed. Capital adequacy standard ratio is defined as minimum 8% (Basel II Working Reports, 2006, p. 6). With the principle of supervisory review process, it is aimed to audit the consistency between the capital structures of the banks and general risk profiles and strategies. In addition, it is aimed to take necessary precautions. With the principle of market discipline, banks will be statutorily obliged to disclosure all the necessary information on time and perspicuously to the public.

The regulations that are related with the minimum capital requirements for banks will affect the SMEs having credit business with the banks. Most important effects are as follows: Increase in rating requirements of SMEs and in data required by the banks, changes in management structure and the accepted collateral instruments (Berk, 2006, p. 54).

When the regulations about the SMEs in Basel II are examined, the first issue that stands out is the definition of SME. In accordance with Basel II, firms whose annual sales are under € 50 million are defined as SME. According to their total credit risks, there are retail and corporate portfolio differentiations designated for the SMEs. A company which takes credit under € 1 million from a banking group is defined in terms of retail portfolio; whereas company which takes credit over € 1 million from a banking group is defined in terms of corporate portfolio (Yüksel, 2005, p. 16).

In terms of SMEs credits, when there are no securities or collateral instruments, retail credits in the standardised approach[1] have 75% risk weight. Corporate credits in accordance with the credit assessments given by the external credit assessment institutions have 0% - 150 % risk weights. On the other hand, in terms of the internal ratings-based approach the risk weights are determined according to the credit assessments given to the SMEs by the banks. The SMEs which do not have any credit assessments will be considered at 100% risk weight (Yüksel, 2005, p. 27). In this framework, as the credit assessments of the SMEs decrease, banks will take over more risks and will be obliged to spare more capitals as provisions which mean a higher credit cost (BAT Research Group Report, 2004, p. 13).

It is estimated that most of the SMEs in Turkey will be evaluated in terms of the retail portfolio. Together with this estimation the risk weight will be 75% in the standardised approach and this situation will bring advantages to the SMEs in the retail portfolio (Basel II Working Reports, 2006, p. 28; Aras, 2007, p. 11). In addition, if the standardised approach is used, 6% of capital will be spared for a retail credit while 8% of capital will be spared for a corporate credit in the firms which do not have any credit assessments.

With Basel II, it is expected to see important changes in the collateral requirements of the banks. Guarantees and letters of responsibility given by the shareholders or affiliated companies, bills of exchange taken from the customers as securities, pledge of assets, assignment of debts and chattel mortgage that are used predominantly in Turkey are not considered as credit risk mitigation instruments. Instead of these instruments; cash, deposits or certificates of deposits, debt securities, gold, equities that are included in a main index, mutual funds, equities which are not included in a main index but which are handled in organised markets or mutual funds which include such equities and real property mortgage (residence intentioned 35%, trading intentioned 50%-%100 risk weights) are taken into the scope of collateral instruments (Basel Committee on Banking Supervision, 2004, pp. 31-32). In accordance with this new framework, SMEs' risk mitigation instruments should be compatible with this collateral structure.

In this transition process, it is obligatory for SMEs to get higher credit assessments in order to take credits with lower costs. It is only possible for SMEs by strengthening their capital structures, registering all of their activities, adopting corporate governance principles (transparency, equality, accountability and responsibility), having accounting systems compatible to the international standards, managing risks expertly, presenting financial and qualitative information to the banks and the external credit assessment institutions in due course and efficiently (Yüksel, 2005, p. 37).

3. THE AIM OF THE STUDY AND HYPOTHESIS

The aim of this study is to define the effects of Basel II criteria on the financing of SMEs. In accordance with this aim, the effects of Basel II on the level of knowledge, business segment, number of employees, assets and annual sales of SMEs are examined. 28 research hypotheses are used in order to define the primary aim of the study. Hypotheses are enclosed in Annex-1.

1 There are four different methods proposed to calculate the credit risk. These are as follows: Standardised approach, simple standardised approach, foundation and advanced internal ratings-based approaches.

4. THE SCOPE AND LIMITATIONS OF THE STUDY

The population of the research is the SMEs operating in the textile sector in Bursa. The survey is applied to 100 SMEs that are chosen randomly. The scope of the survey consists of 27 questions aiming at analyzing the characteristics of the participant firms, the financial situation of these, the potential effects of Basel II criteria on these and the possibility of these firms' adaptation of these criteria.

The limitation of the study is related with the participants; only the SMEs in the textile sector are included. The results will be correlated within this sector. Therefore, it is not possible to make a generalization from these results. In order to make a generalization about the effects of Basel II on the SMEs, researches should be made concerning different sectors.

5. THE METHOD OF THE STUDY

The data gathering tool of this study is the survey method. The questionnaires are delivered to the managers of the SMEs by hand and also collected back by hand. So it is assured that these forms are filled by the related person. The analysis of the data is conducted by using SPSS 15.

6. THE ANALYSIS AND EVALUATION OF THE FINDINGS

The characteristics of the participant firms and their evaluations about Basel II are summarized by using frequency and percentage descriptive statistics. The effects of Basel II on the level of knowledge, business segment, number of employees, assets and annual sales of SMEs are examined by using analysis of variance and t-test statistics.

6.1. The Findings about the Characteristics of Participant SMEs

The participant textile firms are examined on the basis of their field of activity and the results are shown in Figure 1. According to the data, 34% of firms are active in the field of weaving, 32% of home textile, 20% of confection, 4% of thread, 4% of coloring and 6% of the firms are in the fields apart from the mentioned ones.

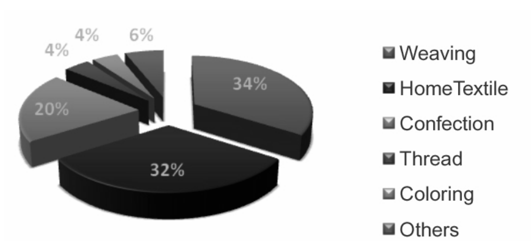


Figure 1. Allocation of the Firms According to their Field of Activity

When the number of employees of the participant firms is examined, it is seen in Table 1 that 32% of the firms have employees from 1 to 9, 48% have from 10 to 49, 20% have from 50 to 250.

Table 1. Allocation of the Firms According to their Number of Employees

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1—9	32	32,0	32,0	32,0
	10-49	48	48,0	48,0	80,0
	50-250	20	20,0	20,0	100,0
	Total	100	100,0	100,0	

The participant firms are examined on the basis of their assets. According to the results shown in Table 2, 50% of firms have assets under 400.000 TL, and 50% of firms have assets over 400.000 TL.

Table 2. Allocation of the Firms According to their Assets

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Under 400.000 TL	50	50,0	50,0	50,0
	Over 400.000 TL	50	50,0	50,0	100,0
	Total	100	100,0	100,0	

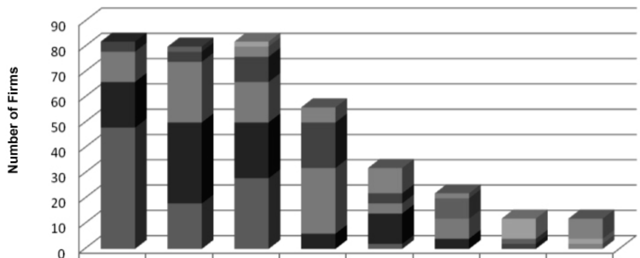
When annual sales of participant firms are examined in Table 3, it is found out that 98% have annual sales under 25 million TL and only 2% have annual sales over 25 million TL.

Table 3. Allocation of the Firms According to their Annual Sales

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Under 25 million TL	98	98,0	98,0	98,0
	Between 26-50 million TL	2	2,0	2,0	100,0

6.2. The Findings about the Financial Positions of Participant SMEs

In this part of the study, the research is conducted on the basis of significance level of participating SMEs' financial problems. The results of the analysis are shown in Figure 2. According to the results, the most important financial problem is the indispensable increase in need of working capital. In the order of priorities, receivables which can not be collected on time and the increase in cost of credits follow the first problem. Apart from these, equity inefficiency is among the two most important financial problems for 14% of participants. On the other hand, the difficulties encountered during credit taking process are included amongst the first five problems of around half of the firms. Inability to take advantage of incentives is only a matter for 10% of firms. The effect of economic policies and inflation on the firms and restrictions concerning the opportunities of benefiting from capital markets are not included amongst primary financial problems of the firms.



	A	B	C	D	E	F	G	H
8^{st}				2		2		8
7^{st}			2				8	2
6^{st}		2				8	2	
5^{st}			4	4	10			2
4^{st}	4	4	10	18	4		2	
3^{st}	12	24	16	26	4	8		
2^{st}	18	32	22	6	12	4		
1^{st}	48	18	28		2			

Figure 2. Significance Level of Financial Problems

When the participating SMEs are evaluated according to their source of financing, it is observed in Table 4 that 42% of firms use bank credits, 30% use leasing, 4% use venture capital and 24% use other sources of financing.

Table 4. Allocation of the Firms According to their Source of Financing

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bank Credit	42	42,0	42,0	42,0
	Leasing	30	30,0	30,0	72,0
	Venture Capital	4	4,0	4,0	76,0
	Others	24	24,0	24,0	100,0
	Total	100	100,0	100,0	

When an evaluation about the significance of bank credits for the participating SMEs is made, it is seen in Table 5 that 32% of them estimate bank credits unimportant, 28% estimate partly important, 20% estimate quite important and 18% estimate very important.

Table 5. Allocation of the Firms According to their Estimation of the Bank Credits

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Important	32	32,0	32,7	32,7
	Partly Important	28	28,0	28,6	61,2
	Quite Important	20	20,0	20,4	81,6
	Very Important	18	18,0	18,4	100,0
	Total	98	98,0	100,0	
Missing	System	2	2,0		
Total		100	100,0		

The participating SMEs are evaluated according to the difficulties when they take credits. The results are shown in Figure 3. According to the results, 48% of them have difficulties in giving securities, 54% have difficulties with high interest rates, 30% of them have difficulties with short credit periods, 12% of them have difficulties with the length of bureaucratic procedures and 10% of them have difficulties with the low amount of credit.

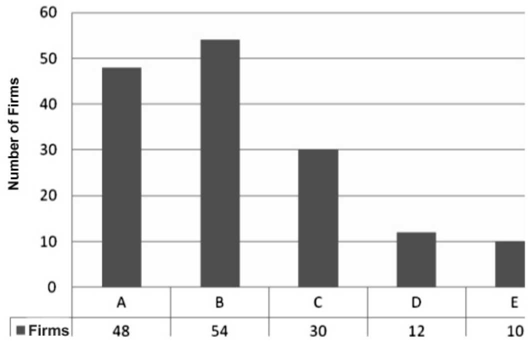


Figure 3. The Difficulties that Firms Encounter When Taking Credits

The general knowledge of the firms about Basel II is shown in Table 6. As a result, 48% of firms do not have any information about Basel II, 6% has full, 2% has substantial, 18% has medium-level and 26% has partial information about Basel II.

Table 6. The General Knowledge Level of the Firms about Basel II

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Complete	6	6,0	6,0	6,0
	Substantial	2	2,0	2,0	8,0
	Medium-level	18	18,0	18,0	26,0
	Partly	26	26,0	26,0	52,0
	Non	48	48,0	48,0	100,0
	Total	100	100,0	100,0	

6.3. The Findings Concerning the Implication Level of Basel II Criteria on the Participant SMEs

In this section SMEs are asked about their level of implication by Basel II criteria. The findings are summarized in Table 7.

Table 7. The Implication Level of Basel II Criteria on the Participant SMEs

		Frequency	Percent	Valid Percent	Cumulative Percent
Strong capital-structured SMEs take credits under better circumstances and the implication level of this on the firms	Negative	22	22,0	22,0	22,0
	Ineffective	24	24,0	24,0	46,0
	Positive	46	46,0	46,0	92,0
	Very Positive	8	8,0	8,0	100,0
Banks' using other substantial criteria in addition to the reports of experts and the implication level of this on the firms	Negative	18	18,0	18,0	18,0
	Ineffective	30	30,0	30,0	48,0
	Positive	44	44,0	44,0	92,0
	Very Positive	8	8,0	8,0	100,0
Being obliged to present their financial information to the external credit assessment institutions and the implication level of this on the firms	Negative	18	18,0	18,0	18,0
	Ineffective	34	34,0	34,0	52,0
	Positive	42	42,0	42,0	94,0
	Very Positive	6	6,0	6,0	100,0
The effectiveness of banks' using credit assessments of the external credit assessment institutions when giving credits to the SMEs and the implication level of this on the firms	Negative	24	24,0	24,0	24,0
	Ineffective	22	22,0	22,0	46,0
	Positive	50	50,0	50,0	96,0
	Very Positive	4	4,0	4,0	100,0
Firms without credit assessments will be recognized as risky firms and they will take credits with higher costs	Very Negative	2	2,0	2,0	2,0
	Negative	32	32,0	32,0	34,0
	Ineffective	34	34,0	34,0	68,0
	Positive	26	26,0	26,0	94,0
	Very Positive	6	6,0	6,0	100,0
Unregistered firms' taking credits with higher costs than regular working firms and the implication level of this on the firms	Very Negative	2	2,0	2,0	2,0
	Negative	16	16,0	16,0	18,0
	Ineffective	28	28,0	28,0	46,0
	Positive	40	40,0	40,0	86,0
	Very Positive	14	14,0	14,0	100,0
Firms' being obliged to prepare their financial tables and reports in accordance with international standards and the implication level of this on the firms	Negative	24	24,0	24,0	24,0
	Ineffective	34	34,0	34,0	58,0
	Positive	38	38,0	38,0	96,0
	Very Positive	4	4,0	4,0	100,0
Risk based pricing situation during the process of giving credits and the implication level of this on the firms	Negative	14	14,0	14,0	14,0
	Ineffective	40	40,0	40,0	54,0
	Positive	42	42,0	42,0	96,0
	Very Positive	4	4,0	4,0	100,0
Limitations on collateral instruments in the process of giving credits and the implication level of this on the firms	Very Negative	36	36,0	36,0	36,0
	Negative	32	32,0	32,0	68,0
	Ineffective	26	26,0	26,0	94,0
	Positive	2	2,0	2,0	96,0
	Very Positive	4	4,0	4,0	100,0
Being obliged to comply with the corporate governance principles and the implication level of this on the firms	Very Negative	2	2,0	2,0	2,0
	Negative	24	24,0	24,0	26,0
	Ineffective	28	28,0	28,0	54,0
	Positive	42	42,0	42,0	96,0
	Very Positive	4	4,0	4,0	100,0

At first in Table 7 there are evaluations concerning the fact that strong capital-structured SMEs take credits under better circumstances and the implication level of this on the firms. 24% of the participant firms say that they will not be affected, 22% say they will be affected negatively, 46% say they will be affected positively and 8% say they will be affected very positively. According to the evaluations about banks' using other substantial criteria in addition to the reports of experts and the implication level of this on the firms, 30% of firms say they will not be affected, 18% say they will be affected negatively, 44% say they will be affected positively and 8% say they will be affected very positively. SMEs' evaluations about being obliged to present their financial information to the external credit assessment institutions and the implication level of this on the firms have shown that 34% of the firms say they will not be affected, 18% say they will be affected negatively, 42% say they will be affected positively and 6% say they will be affected very positively.

As a result of the evaluations made about the effectiveness of banks' using credit assessments of the external credit assessment institutions when giving credits to the SMEs and the implication level of this on the firms, it is seen that 22% of the firms say that they will not be affected by this regulation, 24% say they will be affected negatively, 50% say they will be affected positively and 4% say they will be affected very positively. Firms without credit assessments will be recognized as risky firms and they will take credits with higher costs. The evaluations about this situation and the implication level of this on the firms are as follows: 22% of the firms say they will not be affected by this regulation, 2% say they will be affected very negatively, 32% say they will be affected negatively, 26% say they will be affected positively and 6% say they will be affected very positively.

According to the evaluations about the unregistered firms' taking credits with higher costs than regular working firms and the implication level of this on the firms, 28% of the firms say that they will not be affected by this situation, 2% say they will be affected very negatively, 16% say they will be affected negatively, 40% say they will be affected positively and 14% say they will be affected very positively.

Concerning the firms' being obliged to prepare their financial tables and reports in accordance with international standards and the implication level of this on the firms, 34% of the firms will not be affected by this regulation, 24% will be affected negatively, 38% will be affected positively, 4% will be affected very positively.

SMEs' evaluations about risk based pricing situation during the process of giving credits and the implication level of this on the firms, 40% of the firms will not be affected by this regulation, 14% will be affected negatively, 42% will be affected positively and 4% will be affected very positively. Answers about the limitations on collateral instruments in the process of giving credits and the implication level of this on the firms have shown that 26% of the firms will not be affected by this regulation, 36% will be affected very negatively, 32% will be affected negatively, 2% will be affected positively and 4% will be affected very positively.

Last of all, concerning the question about being obliged to comply with the corporate governance principles and the implication level of this on the firms, it is seen that 28% of SMEs will not be affected by this regulation, 2% will be affected very negatively, 24% will be affected negatively, 42% will be affected positively and 4% will be affected very positively.

After the specific effects, evaluations about the general effects of Basel II on SMEs are shown in Table 8. As seen in the table, 28% of the firms will not be affected by Basel II, 26% will be affected negatively, 44% will be affected positively and 2% will be affected very positively.

Table 8. The General Affects of Basel II on the Firms

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Negative	26	26,0	26,0	26,0
	Ineffective	28	28,0	28,0	54,0
	Positive	44	44,0	44,0	98,0
	Very Positive	2	2,0	2,0	100,0
	Total	100	100,0	100,0	

6.4. The Findings about the Participant SMEs' Level of Compatibility to Basel II Criteria

In this section SMEs are asked about their level of compatibility to Basel II criteria. The findings acquired by the answers are as follows:

According to the evaluations of SMEs about their compatibility in registering their activities in Table 9, 28% of them consider they will be able to apply this regulation immediately, 20% of them consider they will be able to apply this regulation in 6 months, 12% of them consider they will be able to apply this regulation between 6 months and 1 year, 10% of them consider they will be able to apply this regulation between 1 and 2 years while 16% of them consider they will never be able to apply this regulation.

Tablo 9. The Compatibility Level in Registering the Activities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Immediately	42	42,0	42,0	42,0
	In 6 months	20	20,0	20,0	62,0
	Between 6 months and 1 year	12	12,0	12,0	74,0
	Between 1 and 2 years	10	10,0	10,0	84,0
	Never	16	16,0	16,0	100,0
	Total	100	100,0	100,0	

According to the evaluations of SMEs about making their activities transparent in Table 10, SMEs think that 48% will be able to apply this regulation immediately, 24% will be able to apply this regulation in 6 months, 4% will be able to apply this regulation between 6 months and 1 year, 10% will be able to apply this regulation between 1 and 2 years while 14% will never be able to apply this regulation.

Tablo 10. The Compatibility Level in Making the Activities Transparent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Immediately	48	48,0	48,0	48,0
	In 6 months	24	24,0	24,0	72,0
	Between 6 months and 1 year	4	4,0	4,0	76,0
	Between 1 and 2 years	10	10,0	10,0	86,0
	Never	14	14,0	14,0	100,0
	Total	100	100,0	100,0	

It is understood from the data about firms' compatibility level in strengthening their capital structures in Table 11 that, 42% of them will be able to apply this regulation immediately, 8% will be able to apply this regulation in 6 months, 18% will be able to apply this regulation between 6 months and 1 year, 16% will be able to apply this regulation between 1 and 2 years while 16% will never be able to apply this regulation.

Tablo 11. The Compatibility Level in Strengthening the Capital Structures

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Immediately	42	42,0	42,0	42,0
	In 6 months	8	8,0	8,0	50,0
	Between 6 months and 1 year	18	18,0	18,0	68,0
	Between 1 and 2 years	16	16,0	16,0	84,0
	Never	16	16,0	16,0	100,0
	Total	100	100,0	100,0	

Evaluations about firms' establishing an efficient risk management system in Table 12 indicate that 4% of the firms will be able to apply this regulation immediately, 30% will be able to apply this regulation in 6 months, 18% will be able to apply this regulation between 6 months and 1 year, 28% will be able to apply this regulation between 1 and 2 years while 20% will never be able to apply this regulation.

Tablo 12. The Compatibility Level in Establishing An Efficient Risk Management System

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Immediately	4	4,0	4,0	4,0
	In 6 months	30	30,0	30,0	34,0
	Between 6 months and 1 year	18	18,0	18,0	52,0
	Between 1 and 2 years	28	28,0	28,0	80,0
	Never	20	20,0	20,0	100,0
	Total	100	100,0	100,0	

It is understood from the evaluations of SMEs about compatibility level in building a corporate governance structure in Table 13 that, 14% of the firms will be able to apply this regulation immediately, 6% will be able to apply this regulation in 6 months, 18% will be able to apply this regulation between 6 months and 1 year, 34% will be able to apply this regulation between 1 and 2 years while 28% will never be able to apply this regulation.

Tablo 13. The Compatibility Level in Building A Corporate Governance Structure

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Immediately	14	14,0	14,0	14,0
	In 6 months	6	6,0	6,0	20,0
	Between 6 months and 1 year	18	18,0	18,0	38,0
	Between 1 and 2 years	34	34,0	34,0	72,0
	Never	28	28,0	28,0	100,0
	Total	100	100,0	100,0	

According to the evaluations of participant firms about the compatibility level in financial and qualitative information disclosure to the regulative authorities and to the public on time in Table 14, it is understood that 34% of the firms will be able to apply this regulation immediately, 22% will be able to apply this regulation in 6 months, 12% will be able to apply this regulation between 6 months and 1 year, 22% will be able to apply this regulation between 1 and 2 years while 10% will never be able to apply this regulation.

Tablo 14. The Compatibility Level in Financial and Qualitative Information Disclosure to the Regulative Authorities and to the Public on Time

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Immediately	34	34,0	34,0	34,0
	In 6 months	22	22,0	22,0	56,0
	Between 6 months and 1 year	12	12,0	12,0	68,0
	Between 1 and 2 years	22	22,0	22,0	90,0
	Never	10	10,0	10,0	100,0
	Total	100	100,0	100,0	

The general assessments of the participant firms about their being attuned to Basel II process are presented in Figure 4. As seen in the figure, 2% of the firms will be able to apply these criteria immediately, 10% will be able to apply in 6 months, 18% will be able to apply between 6 months and 1 year, 48% will be able to apply between 1 and 2 years while 22% of them will never be able to apply these criteria.

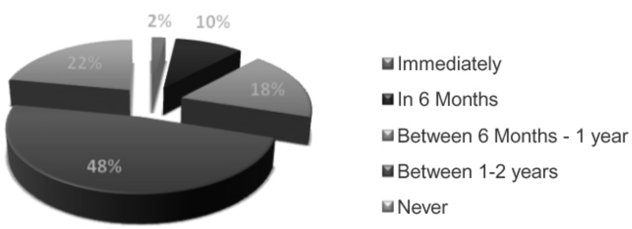


Figure 4. The Time Period in Which Firms Will Be Attuned to Basel II

6.5. Results of the Hypothesis Test

In this section the relation between the effects of Basel II criteria on SMEs and SMEs' level of knowledge about these criteria, their fields of activity, number of employees, their assets and annual sales are being examined with the analysis of variance and t-test. The results are interpreted statistically.

The first hypothesis which claims that there is a relation between the SMEs which have strong capital structures, take credits under better conditions and the implication level of this on the firms and SMEs' level of knowledge about Basel II is examined with the analysis of variance. Results of this analysis are shown in Table 15. According to the results of analysis of variance, F value is 1,348 and significant value is 0.258. The level of relation between these variables is not statistically significant at the 5% level. As a result, hypothesis H_1 is rejected and it is proven that there is not a relation between the SMEs which have strong capital structures, take credits under better conditions and the implication level of this on the firms and SMEs' level of knowledge about Basel II.

Table 15. Anova (H_1)

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	4,511	4	1,128	1,348	,258
Within Groups	79,489	95	,837		
Total	84,000	99			

The second hypothesis which claims that there is a relation between banks' using other substantial criteria apart from the reports given by their own credit experts on SMEs and the implication level of this on the firms and SMEs' level of knowledge about Basel II is examined with the analysis of variance. The results of this analysis are presented in Table 16. According to the results, the level of relation between these variables is not statistically significant at the 5% level. As a result, hypothesis H_2 is also rejected.

Table 16. Anova (H_2)

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	6,648	4	1,662	2,265	,068
Within Groups	69,712	95	,734		
Total	76,360	99			

The third hypothesis which claims that there is a relation between the SMEs' being obliged to present their financial information to the external credit assessment institutions and the implication level of this on the firms and SMEs' level of knowledge about Basel II is examined with the analysis of variance. The results of this analysis are presented in Table 17. From the values in Table 17, it is understood that there is a significant statistical relation between the variables at the 5% level. As a result, the hypothesis H_3 is accepted and it is proven that there is a relation between the SMEs' being obliged to present their financial information to the external credit assessment institutions and the implication level of this on the firms and SMEs' level of knowledge about Basel II.

Table 17. Anova (H_3)

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	8,217	4	2,054	3,107	,019
Within Groups	62,823	95	,661		
Total	71,040	99			

Tukey test results are presented in Table 18. From the values in Table 18 it is seen that there is a difference of effectuation level between SMEs without any information about Basel II and SMEs with medium-level knowledge about Basel II. This difference is statistically significant at the 5% level.

Table 18. Tukey Test (H_3)

(I)	(J)	Mean Difference (I-J)	Std. Error	Sig.
Complete	Substantial	,33333	,66397	,987
	Medium-level	1,11111	,38335	,037
	Partly	,87179	,36831	,134
	Non	1,12500	,35213	,016
Substantial	Complete	-,33333	,66397	,987
	Medium-level	,77778	,60612	,702
	Partly	,53846	,59672	,895
	Non	,79167	,58688	,661
Medium-level	Complete	-1,11111	,38335	,037
	Substantial	-,77778	,60612	,702
	Partly	-,23932	,24934	,872
	Non	,01389	,22476	1,000
Partly	Complete	-,87179	,36831	,134
	Substantial	-,53846	,59672	,895
	Medium-level	,23932	,24934	,872
	Non	,25321	,19802	,705
Non	Complete	-1,12500	,35213	,016
	Substantial	-,79167	,58688	,661
	Medium-level	-,01389	,22476	1,000

The average of the level of effects on firms' are being obliged to present their financial information to the external credit assessment institutions and the implication level of this on the firms is shown in Table 19. When the means are interpreted together with the results of tukey test and analysis of variance, it is understood that the more information firms get about Basel II, the more moderate they become to present their financial information to the external credit assessment institutions.

Table 19. Mean Values (H_3)

	N	Mean	Std. Deviation	Std. Error
Complete	6	4,3333	1,03280	,42164
Substantial	2	4,0000	,00000	,00000
Medium-level	18	3,2222	,94281	,22222
Partly	26	3,4615	,85934	,16853
Non	48	3,2083	,71335	,10296
Total	100	3,3600	,84710	,08471

The same analysis is applied for the other 25 hypotheses of the research and the results are summarized in Annex-1. On the hypotheses H_{23}, H_{24} and H_{25}, in which the SMEs' level of knowledge about Basel II, compatibility level and Basel II's attitudes towards different levels of assets are examined, t-test is used. On the other hypotheses the analysis of variance is used. When the results shown in Annex-1 are examined, hypotheses H_3, H_4, H_5, H_8, H_9, H_{13}, H_{15}, H_{17}, H_{18}, H_{20}, H_{21}, H_{23}, H_{24} and H_{25} are statistically significant at the 5% level and are accepted. The other hypotheses are rejected.

The hypothesis H_{23} which claims that there is a relation between SMEs' level of knowledge about Basel II and their assets is examined with t-test. Results of this analysis are shown in Table 20. According to the results of t-test, t value is 2,535 and significant value is 0.013. Therefore it is understood that there is a significant statistical relation between the two variables at the 5% level. As a result, the hypothesis H_{23} is accepted and it is proven that there is a relation between SMEs' level of knowledge about Basel II and their assets.

Table 20. T-Test (H_{23})

	T	Df	Sig.	Mean Difference	Std. Error
Equal variances assumed	2,535	98	,013	,56000	,22087
Equal variances not assumed	2,535	94,054	,013	,56000	,22087

The mean values about changes of SMEs' level of knowledge related with their assets are shown in Table 121 When the mean values are taken into consideration with t-test results, it is concluded that the firms which have an asset value over 400.000 TL have more information about Basel II than the ones which have an asset value less than 400.000 TL.

Table 21. Mean Values (H_{23})

Asset	N	Mean	Std. Deviation	Std. Error
Under 400.000 TL	50	4,3600	,98478	,13927
Over 400.000 TL	50	3,8000	1,21218	,17143

The hypothesis H_{24} which claims that there is a relation between the effects of Basel II criteria on SMEs and their assets is examined with t-test. Results of this analysis are shown in Table 22. From the results, it is understood that there is a significant statistical relation between SMEs' level of knowledge about Basel II and their assets at the 5% level.

Table 22. T-Test (H_{24})

	T	Df	Sig.	Mean Difference	Std. Error Difference
Equal variances assumed	-3,929	98	,000	-,52000	,13233
Equal variances not assumed	-3,929	91,512	,000	-,52000	,13233

The mean values about the effect of Basel II on the firms related with the changes considering their assets are shown in Table 23. When the mean values are taken into consideration with t-test results, it is concluded that the firms which have an asset value over 400.000 TL are more positively affected from Basel II compared with the ones which have an asset value less than 400.000 TL.

Table 23. Mean Values (H_{24})

Asset	N	Mean	Std. Deviation	Std. Error Mean
Under 400.000 TL	50	2,9280	,56678	,08015
Over 400.000 TL	50	3,4480	,74457	,10530

The hypothesis H_{25} which claims that there is a relation between SMEs' compatibility levels in Basel II criteria and their assets is examined with t-test. Results of this analysis are shown in Table 24. According to the results, there is a significant statistical relation between the two variables at the 5% level. As a result, the hypothesis H_{25} is accepted and it is proven that there is a relation between SMEs' compatibility levels in Basel II criteria and their assets.

Table 24. T-Test (H_{25})

	T	Df	Sig.	Mean Difference	Std. Error
Equal variances assumed	2,086	98	,040	,42000	,20131
Equal variances not assumed	2,086	95,938	,040	,42000	,20131

The mean values about SMEs' adaptation level to Basel II related with the changes considering their assets are shown in Table 25. When the mean values are taken into consideration with t-test results, it is concluded that the enterprises which have an asset value over 400.000 TL will be adapting themselves faster to Basel II than the ones which have an asset value less than 400.000 TL.

Table 25. Mean Values (H_{25})

Asset	N	Mean	Std. Deviation	Std. Error
Under 400.000 TL	50	2,9600	1,07779	,15242
Over 400.000 TL	50	2,5400	,92983	,13150

Finally when the results are evaluated, 5 of the first 10 hypotheses (H_1-H_{10}) which claim that there is a relation between the effects of Basel II and SMEs' knowledge level about Basel II are accepted. In other words, there is a relation between the effects of being obliged to present financial information to the external credit assessment institutions, banks' using credit assessments of the external credit assessment institutions when giving credits, firms' without credit assessments to be recognized as risky SMEs and taking credits with higher credit costs, bank's pricing on the basis of risk, preparing financial tables and reports in accordance with international standards and SMEs' knowledge level about Basel II. The more the firms get information about Basel II, the more moderate they become to apply these regulations.

In the second part, 2 of the 6 hypotheses (H_{11}-H_{16}), concerning the relation between the compatibility level of SMEs and SMEs' knowledge about Basel II, are accepted. The others are rejected. As a result, it is understood that there is a relation between the compatibility in strengthening the capital structures as well as building a corporate governance structure and SMEs' knowledge about Basel II. In other words, the SMEs which have more information about Basel II than the other SMEs are most likely to be compatible with the criteria of Basel II.

In the last part the relation between the effects of Basel II and the level of knowledge, business segment, number of employees, assets and annual sales of SMEs are examined. 7 of the 12 hypotheses (H_{12}-H_{28}) are accepted and the others are rejected. According to the final results, SMEs' being affected by Basel II criteria depends on their knowledge about Basel II, the sub-dimensions of textile industry, number of employees and their assets.

7. CONCLUSIONS

In this study, a survey among the SMEs operating in the textile industry in Bursa is conducted. The aim of this survey is to define the effects of Basel II criteria on the financing of SMEs and SMEs' compatibility in these criteria. The findings acquired by the research can be summarized as follows: Most of the participant firms have employees between the number of 10 and 49, their assets are under 400.000 TL and their annual sales are less than 25 million TL. According to the firms, the most important financial problem is the increase in the need of working capital. In order of priorities, receivables that cannot be collected on time and increase in the cost of credits follow the first problem. Most of the firms use bank credits and presume that this is an important source of financing for them. The main difficulties they face when taking credits are acquiring guarantees and high interest rates.

When the findings obtained are evaluated in terms of the textiles sector, it is observed that financing of the working capital is important for the SMEs. Irregularities are experienced in the sales of textiles firms in periods when economic instability and high inflation prevail. Receivables turnover slows down due to delays in receivables collection of forward sales, which in turn reduces the level of the working capital. Such firms have difficulty in reducing investments to be made in floating assets and have to depend on short term foreign sources in the financing of working capital. The changes that arise in the credit policies of the banks towards SMEs in the BASEL II process may lead to a decrease in the share of credits which SMEs use in the financing of working capital. Therefore, SMEs need to pay more attention to issues such as cash, receivables and stock management (Başar, 2008, p. 65).

As a result of the research, it is seen that half of the firms do not have any information about Basel II. They presume that these criteria will affect them positively. Also, they foresee that they will be able to apply these criteria in 1 or 2 years. According to the results of hypothesis tests, it can be argued that the more information firms get about Basel II, the more moderate they become to apply these criteria and the more likely to be compatible with the criteria of Basel II.

In conclusion it can be said that together with the Basel II, firms with higher credit assessments will take credits with lower costs than the others. They will get a chance to improve their capital structures and they will be assessed more objectively. In addition to these, unregistered firms will be identified and together with the transparency, there will be a fairer trading atmosphere. It is important for our country to accept these criteria gradually, to examine the process of transition in EU countries, to create a cooperative system between public-private sectors and banks and to inform all necessary parties including the SMEs in order to prevent any problems that might occur while adapting Basel II.

In conclusion, the following suggestions can be made to SMEs:

• SMEs should attempt to benefit from alternative tools of financing such as venture capital, private equity, factoring, forfaiting, leasing and capital markets and employ experienced personnel who specialise in finance to make use of these tools.

• They should conform to the guarantees as proposed in the BASEL II regulations in order to be able to obtain credits in favourable conditions. SMEs need to create appropriate guarantees to reduce their credit risks because risk-based credit pricing will be used as a base in Basel II.

• They should prepare financial accounts in international standards by establishing an accounting system that will generate reliable and transparent information in due time.

• An attempt should be made to set up an internal control system and an internal auditing unit.

• They should strengthen their equity structure. For this purpose, profits should be added to the equity rather than be distributed to the shareholders; moreover, the real estates used in corporate activities registered to the names of the shareholders should be transferred into the possession of the firm and be included in the balance sheet as contribution in kind. Furthermore, equity should be consolidated by entering into new partnerships (Yılmaz and Selimoğlu, 2008, p. 135).

• They should adopt a management mentality in line with the principles of corporate governance (transparency, equality, accountability and reliability).

• They should register all of their financial activities.

• They should work on their real operating areas.

• They should have an established risk management approach and thus ensure that risks are predicted and managed appropriately.

• SMEs should attend informative programmes organised by banks, public authorities, non-governmental organisations and universities and thus prepare themselves for the Basel II process.

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ANNEX-1. Hypotheses and Results of Analysis

Hypotheses	**F Values**	**Sig.**	**Results**
H_1: There is a relation between the SMEs', which have strong capital structures, take credits under better conditions and the implication level of this on the firms and SMEs' level of knowledge about Basel II.	1.348	0.258	Rejected
H_2: There is a relation between banks' using other substantial criteria apart from the reports given by their own credit experts on SMEs and the implication level of this on the firms and SMEs' level of knowledge about Basel II.	2.265	0.068	Rejected
H_3: There is a relation between the SMEs' being obliged to present their financial information to the external credit assessment institutions and the implication level of this on the firms and SMEs' level of knowledge about Basel II.	3.107	0.019	Accepted
H_4: There is a relation between the effects of banks' using credit assessments of the external credit assessment institutions when giving credits and the implication level of this on the firms and SMEs' level of knowledge about Basel II.	2.676	0.036	Accepted
H_5: There is a relation between the effects of recognizing the firms' without credit assessments as risky and giving credits with higher credit costs and the implication level of this on the firms and SMEs' level of knowledge about Basel II.	3.657	0.008	Accepted
H_6: There is a relation between the effects of unregistered firms' taking credits with higher costs and the implication level of this on the firms and SMEs' level of knowledge about Basel II.	1.141	0.342	Rejected
H_7: There is a relation between the effects of preparing financial tables and reports in accordance with international standards and the implication level of this on the firms and SMEs' level of knowledge about Basel II.	1.944	0.109	Rejected
H_8: There is a relation between the effects of pricing on the basis of risk and the implication level of this on the firms and SMEs' level of knowledge about Basel II.	4.940	0.001	Accepted
H_9: There is a relation between the effects of limited scope of collateral instruments and the implication level of this on the firms and SMEs' level of knowledge about Basel II.	6.656	0.000	Accepted
H_{10}: There is a relation between the effects of being obliged to comply with corporate governance principles and the implication level of this on the firms and SMEs' level of knowledge about Basel II.	1.761	0.143	Rejected
H_{11}: There is a relation between registering all the activities and SMEs' level of knowledge about Basel II.	1.482	0.214	Rejected
H_{12}: There is a relation between making all the activities transparent and SMEs' level of knowledge about Basel II.	0.991	0.416	Rejected
H_{13}: There is a relation between the compatibility in strengthening the capital structures and SMEs' level of knowledge about Basel II.	4.272	0.003	Accepted
H_{14}: There is a relation between the compatibility in establishing an effective risk management system and SMEs' level of knowledge about Basel II.	2.380	0.057	Rejected
H_{15}: There is a relation between the compatibility in establishing a corporate governance structure and SMEs' level of knowledge about Basel II.	4.275	0.003	Accepted
H_{16}: There is a relation between announcing the financial and qualitative information to the authorities and to the public on time and SMEs' level of knowledge about Basel II.	1.616	0.177	Rejected

H_{17} = SMEs' level of knowledge about Basel II depends on the sub-dimensions of textile industry.	3.290	0.009	Accepted
H_{18} = The effects of Basel II criteria on SMEs depend on the sub-dimensions of textile industry.	3.392	0.007	Accepted
H_{19} = SMEs' compatibility levels in Basel II criteria depend on the sub-dimensions of textile industry.	1.616	0.163	Rejected
H_{20} = SMEs' level of knowledge about Basel II depends on their number of employees.	9.572	0.000	Accepted
H_{21} = The effects of Basel II criteria on SMEs depend on their number of employees.	12.006	0.000	Accepted
H_{22} = SMEs' compatibility levels in Basel II criteria depend on their number of employees.	0.486	0.617	Rejected
H_{23} = SMEs' level of knowledge about Basel II depends on their assets.	2.535*	0.013	Accepted
H_{24} = The effects of Basel II criteria on SMEs depend on their assets.	-3.929*	0.000	Accepted
H_{25} = SMEs' compatibility levels in Basel II criteria depend on their assets.	2.086 *	0.040	Accepted
H_{26} = SMEs' level of knowledge about Basel II depends on their annual sales.	1.867	0.175	Rejected
H_{27} = The effects of Basel II criteria on SMEs depend on their annual sales.	0.394	0.532	Rejected
H_{28} = SMEs' compatibility levels in Basel II criteria depend on their annual sales.	0.336	0.563	Rejected

* t-statistics