The Financial Risk Management Strategies during 2008/09 Global Financial Crisis: A Survey on Turkish Exporting Firms

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Abstract   The main purpose of the paper is to investigate the techniques and methods of the financial risk management such as exchange risk and interest risk management used by financial manager of exporting firms during the crisis. The paper focused specifically on the 2008/09 financial crisis. The data of the paper based on the surveys of the 104 exporting firms in Turkey. The survey findings indicated that 67% of firms use financial risk management tools for hedging and 80,4% of exporting firms perceived the exchange risk as important or the most important risk. Only 23 firms used the financial derivatives as a risk management instruments. The paper uses the binary logistic regression models for analyzing whether firms applied risk management strategies in exporting or not. In result of paper, arrived results large and listed at BIST firms succeeded using risk management strategies and derivatives other than small exporting firms.

Keywords   Financial risk management, Hedging, Financial derivatives, Exporting firms, Financial crisis

1. Introduction

Every exporting firm suffer from financial crisis due to uncertainty and high volatility related to price. Especially, exchange and interest risk fluctuations impact on exporting firms during a crisis. Firm's managers sought for new financial risk management (FRM) strategies and methods to avoid financial risk during 2008/09 global financial crisis (GFC) (Servaes, H., Tamayo A., 2009). For Turkish exporting firms, risk management is important in the crisis because of world trade stagnations 2008-09. In 2009 Turkey's total export declined in 23% compare to previous year. The main concern for exporting firms during crisis period is to find solutions for their financial risk depending on risk types. Most international surveys indicates that firms actively manage financial risks such as foreign risk, interest risk, commodity risk and credit risk (Bodnar, G. M. Gebhardt, G., 1998; Servaes, H., Tamayo A., 2009; Bodnar, G.M., Graham, J.R., Harvey, C.R., Marston, R.C., 2011). Therefore, it is been vital for answering the question that "*how exporting firms managed and control financial risk during the 2008/09 GFC*?" in every specific country. The paper focus on financial risk management applications of exporting firms after GFC in the Turkey.[1] The paper

investigates the techniques and methods of financial risk management such as exchange risk and interest risk management used by financial manager of exporting firms during the crisis. In addition, the paper provides the information on management of credit risks and commodity risks.

There are several points makes the paper different in the literature. Firstly, this survey applied just to the post crisis process. Thus, the paper presents many innovative techniques for financial risk management during and after crisis. So exporting firms may cope with financial crisis by using these new financial tools easily. Secondly, the paper provides opportunity for comparison of financial risk management in normal term. Thirdly, the paper provides management strategies of different financial risks such as exchange rate, interest rate, commodity price and credit. This study contributes to understanding of financial risk managements correctly in the developing markets such as Turkish derivatives market. This paper organizes as literature updates, data and methods, specialty of survey sample, findings of survey and conclusions.

2. Literature

One of the most popular sub-fields of finance literature has been the financial risk management of non-financial and exporting firms since past 30 years. Especially, a studies on US non financial corporate by The Wharton School in 1995 and 1998 can be considered as pioneers of the literature.

These researches provide both financial risk management strategies and use of the financial derivatives by US non-financial firms.

The financial risk management brings up vital solutions for exporting firms during financial crisis. Because of the volatility of financial indicators rises up during financial crisis, the cash flow and value changes of firms often becomes reality.

In that, exporting firms can be affected by financial indicators such as foreign exchange rate and interest rate.

The currency and interest rate fluctuations have impact on solvency and liquidity of industrial firms as seen in the East Asian crisis in 1997-98. This impact left the Asian industrial firms in a difficult situation that the raised share of interest payment in earning. In a similar manner, the financial risk management activities affected from 2008 financial crisis according to survey which collected from top financial managers (CFO) of 334 non-financial companies (Servaes, H., Tamayo, A., Tufano, P., 2009). In particular, foreign exchange and interest risk had been accepted on firm value and financial operating by these CFO's. In post 2008 financial crisis, Bodnar, G.M., (2011) *at al.* claimed that the risk management an important part of corporate activities and become global.

A paper on strategies of risk management in exporting firms of Norwegian exporters focused on management of foreign exchange risk (Davies, D., Eckberg, C., Marshall, A., 2006) shows that firms struggled by hedge Foreign Exchange risk. An another study on 400 firms in UK (Judge, A., 2006) shows that nowadays firms used more derivatives in the risk management methods while making export and import. Also, Mian, S.L., (1996) provided many evidence about corporate hedging strategies according to survey data obtained a sample of 3022 firms. Among these firms, 772 firms were identified theirself as hedger firms.

It is important that surveyed in non-financial firms have increased with derivatives in risk management. Brunzell, T., *at al.* (2011) demonstrates that using to the derivatives in risk management is about %62 of survey sample of Nordic firms. The study explores that using the derivatives is in common to the Nordic industrial firms than financial firms. Bodnar, G.M., (2011) *et al.* found that derivatives is used almost at a level of 64% of the firms in the sample according to *t*he date based on global scale. Bodnar, G.M., *et al.* (2012) analyses of the risk management practices among 58 Italian non-financial firms. The paper presents that currency risk is the most common risk faced by non-financial firms. But derivatives of the exchange risk management are used by 83% of the firms facing this risk.

The surveys on risk management in emerging countries has been rising recently. For example Charumathi, B., Kota, H.B., (2012) surveyed on large Indian non-financial firms. The survey consist of data on disclosed the derivative data of firms in their annual reports. This study uses cross sectional panel data for three years from 2007 to 2009. According to the survey, financial derivatives used to protect against financial risks during 2007/08 financial crisis. Other finding is that firm size is affected the derivatives usage by large Indian non-financial companies. In Turkey, Selvi, Y., Turel, A., (2010) surveyes on risk management strategies of both non-financial firms and banks. This study indicates that Turkish banks uses tools of financial risk management more than non-financial firms. In small emerging countries, such as the analysis on non-financial companies in Slovenian and Croatians, (Sprčič, 2007) the evident is the same. In these countries, the financial risk management instruments are seen as unimportant and unnecessary.

3. Data and Methodology

The data for this study respond from a survey oriented by the top and financial managers on Turkish exporting firm. The survey conducted using face to face and over the phone interview techniques. The survey conducted in dates from November 2010 to January 2011. The survey comprise of top 500 Turkish exporting firms and only 104 of them response to the survey corresponding to 21% of the firms. The survey sample features is shown in Table 1.

Table 1. Survey Sample Features

	N	(%)
Size of Business(Base Worker)		
Average Worker Numbers	548 people	-
Small Business (1-9)	5	4,8
Medium Business(10-249)	56	53,8
Large Business (250 and up)	43	41,4
Total	104	100
Exporting Features		
Average Exporting Term	**14,6 years**	-
Ratio of Export to Sales (%)		
0- 25 %	40	38,5
26%- 50%	19	18,3
51% - 75%	11	10,6
76% - 100%	23	22,1
No export (Now)	9	8,6
No respond	2	1,9
Total	104	104
Industry		
Construction and Construction material	8	7,8
Machinery, Steal and Iron	16	15,4
Textile	11	10,6
Chemicals	6	5,7
Paper	2	1,9
Mining	9	8,6
Furniture	10	9,7
Automotive	6	5,7
Medical	4	3,8
Foods and Drinks	10	9,6
Other Industries	18	21,2
Total	104	100

The firms consist of large scale in terms of worker number. Average worker number is 548 people and %95,2 of firms have more than 10 workers. The firms have oriented their self to export since about 15 years. As seen in Table 1, the export sales of firms is 26% (or more) out of the total sales of half (51%). Thus, in the paper these firms accepted as exporting firms. This survey includes firms from all types of industries. Particularly, the industries of textile and machinery are about 11% of levels. Respectively beverages-foods and furniture industries are about 10% of levels in survey. It is showed the survey industries as detailed in Table 1.

The questionnaires form used in the survey mainly prepared from 1998 Wharton Survey of Financial Risk Management by US Non-Financial Firms. The form reorganized suitable for Turkish exporting firms. The form consist of four parts. First part is about survey interweaver. Second part falls with the general information about the exporting firm. Third part is related to the 2008/09 financial crisis. Fourth part comes to the information related to the strategies of financial risk management.

4. Survey Result on Financial Risk Management in Exporting Firms

Figure 1 shows the profile of risk management by exporting firms that used by survey respondents. It is questioned the pattern of "*yes*" or "*no*" whether applied the strategies of risk management hedge to financial risks. The survey findings shows almost 67% of firms give answer "*yes*" that firms defined as hedger, others firms (%31) defined as non-hedger. In short majority of the firms used strategies of financial risk management. This associated with development of the risk management abilities of exporting firms in emerging countries. Even Turkish exporting firms activities have reached a level of developed countries. As an example non-financial Italian firms applied 65% of firms to hedge from exchange risk and interest risk (Bodnar, G.M., *at al.* 2012).

Figure 2 shows that the perception of financial risk by Exporting Firms. The types of financial risks classified in four category as foreign exchange risk (FXR), interest rate risk (IRR), credit risk and commodity risk. The survey question related the perceived of financial risks is the importance level as three categories, (1) Unimportant, (2) important, and (3) the most important. FXR is perceived the most important risk by exporting firms. 80,4% of exporting firm accepted as important or most important. Commodity risk ranked as second rate important with 77,7%. IRR and credit risk are also more up 50%. In short, all financial risk is important for exporting firms, but FXR comes to the forefront from others risks. This could be different compared to international evidence. For instance the result of study on financial risk management (Bodnar *at al.* 2011) with more than 1,100 responses and a global scope IRR is important more than other financial risks. In general FXR are important for exporting firms because of transaction currency high level.

There are three alternatives for risk management in non financial firms in general. First alternatives are Intra-firm risk management strategies such as netting, matching, accelerating and delaying. Second alternatives are generally using the financial derivatives. Last alternatives is "*do nothing strategy*" on risk management. It can be developed as risk management strategies for hedging by Turkish exporting firms. Firstly, the firms can develop intra-firm risk management strategies. In survey, the firms generally used the intra-firm risk management for all financial risk types. As financial risk management tools, derivatives used secondly by the firms. Especially the firms choose the derivatives to hedge the foreign exchange risks (in proportion to 19,2%). On the other hand, 10,6 % of the firms used to hedge the interest rate risks. The derivatives used less for credit and commodity risk. According to Modigliani and Miller (1958), it needn't the financial risk management because of firm value don't effect from financial risk and capital structure. In circumstance like this, there is point to struggle with financial risk. According to the survey, the firms prefer "do nothing" strategy seldomly (Table 3).
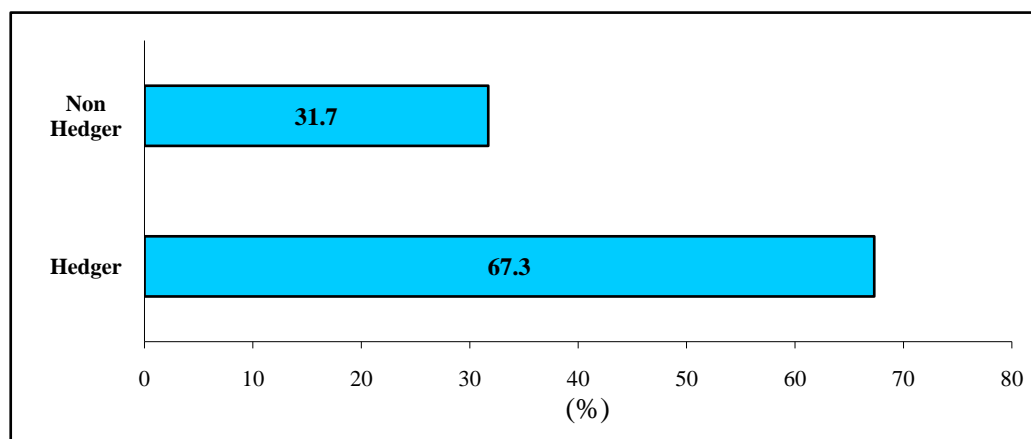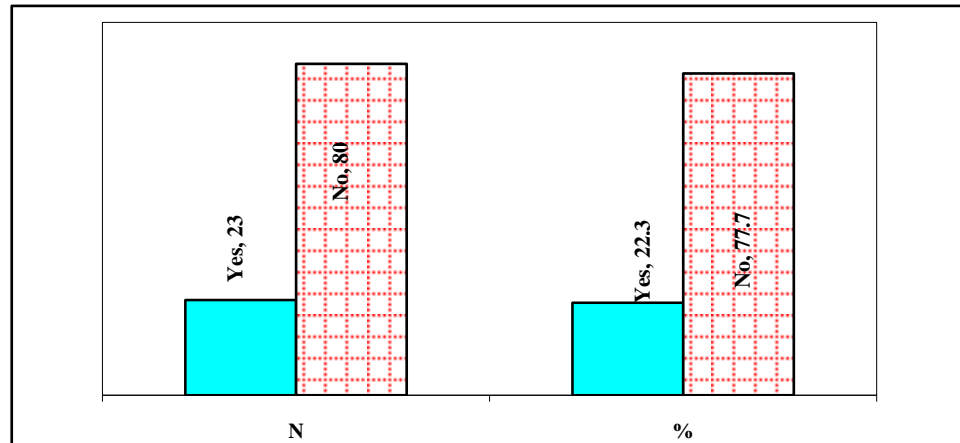

Figure 1. The exporting firms used the strategies of Financial Risk Management

Table 2. The perception of financial risk by Exporting Firms

Types of Financial Risk	N	Mean	Std. Deviation	N (Important and up)	(%) (Important and up)
Foreign Exchange Risk	97	2,2887	0,72109	84	80,4
Interest Rate Risk	96	1,8125	0,83745	60	57,7
Credit Risk	95	1,7579	0,84697	55	52,9
Commodity Risk	97	2,1753	0,75014	81	77,7
Scale		(1) Unimportant,	(2) Important,	(3) the Most Important	

Figure 2. Use of financial derivatives in risk management by exporting firms

Table 3. The strategies of risk management according to types of financial risks

Applying Risk management strategies	Foreign Exchange Risk		Interest Rate Risk		Credit Risk		Commodity Risk	
	N	%	N	%	N	%	N	%
Intra-firm risk management strategies	36	34,6	17	16,3	24	23,1	27	26,0
Risk management with financial derivatives	20	19,2	11	10,6	5	4,8	7	6,7
Do nothing strategies on risk management	9	8,7	3	2,9	3	2,9	6	5,8

5. The Financial Derivatives Usage

The survey asks to the firms whether they use financial derivatives or not by replying with "*yes*" or "*no*". This question responded by 103 firms. Only 23 firms or %22,3 responded that they are using derivatives. This number is fairly low against to the non-financial firms in developed countries. Figure 2 shows that use of financial derivatives in risk management by exporting firms. According to result of survey, use of derivatives is fairly low. That is, only 22,3% of all firms used financial derivatives. Firm's number using derivatives is alone 23% and 77,7% of all firms doesn't use the financial derivatives. The ratio of firms using derivatives is lower than the result of other study by Selvi and Türel (2010) in that the derivatives 28% of 79 non financial firms listed BIST in Turkey. But both of results is low compared to the developed countries such as studying on four Nordic counties non financial firm derivatives usage ratio is %62 (Brunzell *at al*. 2011) and Derivatives usage in UK nonfinancial listed companies is 138 (60%) of 231 firms reported using at least one derivative instrument. The using

of derivatives in Turkish exporting firms is still lower than that of the developed countries. Several examples can be found in comparative international analysis for example as a study on small and large economics by Prevost, Rose and Miller (2000). The firms in New Zeland uses less financial derivatives than the firms in UK and US. In this study arrived the result using the derivatives in small and non-liquid financial markets as New Zeeland.

In Turkey, non-financial firms can use types of financial derivatives, option, and swap and future contracts. According to our surveys, it is remarkable that Turkish exporting firms mainly uses to the currency derivatives products. Especially they select the products of currency derivatives such as currency options, currency swaps, currency forwards and FX future contracts. For other financial risks, using the financial derivatives is commodity options and interest rate swaps. In all derivatives, it is occasionally used the currency derivatives such as FX contracts with mean of 2,20 (19,2%), currency options with mean of 1,75 (19,2%), swaps with mean of 1,64 (21,2%), forwards with mean of 1,95 (19,2%). Actually, currency

derivatives using is being normal than other derivatives for exporting firm, so currency risk is important than other financial risk for exporting. The study by Yılmaz and Kurun (2007) is clarified this situation. In addition this firms used the interest swaps with mean of 1,35(19,2%) In short, the findings of survey shows that the Turkish firms do not use as perpetual and level of high the financial derivatives for hedging (Table 4).

Table 4. Using the derivatives types

Types of Derivatives	N	Use (%)	Mean
Currency Options	20	19,2	1,7500
Currency Swaps	22	21,2	1,6364
Currency Forwards	20	19,2	1,9500
FX Future Contracts	20	19,2	2,2000
Commodity Options	18	17,3	1,2222
Interest Swaps	20	19,2	1,3500
Scale	(1) Never;	(2) Sometimes;	(3) Often

Global trade collapsed and raised trade cost sharply during last quarter 2008 and first quarter 2009. According to WTO report 104 nations on which the WTO reports data experienced a drop in both imports and exports during the second half of 2008 and the first half of 2009. Generally Turkish exporting firms faced 2008-2009 financial affected dramatically economically. The report of Turkey's 500 industrial firms showed that sharp fall as % 31 during 2009. So it should be anticipated that exporting firms in Survey was affected from the crisis. The question related to whether the firms affected "*negatively*" or "*positively*" from the 2008-2009 financial crisis. The result of this survey as shown in Table 3 confirmed the trend of global trade and perception of Turkish industrial firms. 67,4% of all firms responded the crisis affected adversely the Turkish economy. On the other hand 28,7 of exporting firms were provided a opportunity or influenced positively. In short most exporting firms affected adversely from 2008-2009 financial crisis (Table 5).

Table 5. Perception of 2008-2009 financial crises by exporting firms

Crisis Component	N	%
The crisis affected adversely the Turkish economy	68	67,4
The crisis influenced positively the Turkish economy	2	2,0
The crisis provided exporting firms with an opportunity.	27	26,7
The crisis was unchanged the Turkish economy	4	4,0
Total	**101**	**100,0**

6. Determiners of Risk Management in Exporting Firms

The main aim of the survey is to clarify the factors to determinate the financial risk management strategies for exporting firm. In the paper, the binary logistic regression model(BLR) is used for analysis whether firms applied risk management strategies in exporting firms or not. BLR method facilitates to understand about risk management strategies predict the likelihood or odds ratio between risk management strategies and determiners factor as size, export and crisis.

The analysis can be to have made to use for categorical data. In this study I have tested depend on the variables as risk management strategies, export level, trading at the BIST, perception of crisis, firm size and derivatives use. It can be seen that the variables used two models in Table 6.

This study carries out on two models in order to analyze the applying of risk management strategies and use of financial derivatives. First model subjected to analysis to determine the decision strategies of risk management. Second model analyzed the financial derivatives use.

The first model analyzing use of risk management strategies showed as follows:

Use of risk management strategies

$$=f(Size, BIST, level\ of\ export, Crisis) \qquad (1)$$

The results obtained from the analysis of risk management strategies applying are shown in Table 7. In a logistic model, the omnibus tests are the measures of how well the model was statistically significant. In this analysis, result of Omnibus Tests of Model Coefficients reveals that the probability of 37,235(value of chi-square) was 0,000 the level of significance (Sig. < 0.05). It is shown the result that the model can be used to explain applying of risk management strategies

The Hosmer-Lemeshow test is a statistical test for goodness of fit for logistic regression models between applying of risk management strategies and other variables. According to result of Hosmer-Lemeshow Test, chi-square was 2, 975 and p: 0,936 the level of significance. This result is valid for goodness to fit for this model. That is to say that all independent variables as size, export and crisis is fit with applying of risk management strategies. The next important criterion is Nagelkerke R Square computing strength of the model relationship. The finding value of 41,9% is sufficient to explain changing on the applying financial risk management strategies. The overall accuracy rate of the model which reflects the model identification capability is equal to 76,9%. This is fairly sufficient to explain for use of risk management strategies in the Turkish exporting firms.

In result of logistic regression, while independent variable as size, BIST and crisis were enjoying to effect on applying of financial risk management strategies (Sig. < 0.05), level of export wasn't effect(Sig. < 0.05). When Micro firms are received as reference in model, medium and large firms use 72 times according to Exp (B) the risk management strategies than micro and small firms. In several surveys on the emerging countries firms such as Greece, Slovenian, Croatian, Indonesian and even Italian shows that large non-financial firms handle risk management activities better than small firms (Sprčič, 2007; Lantara, 2012; Kapitsinas, 2008; Bodnar, at al, 2012).

Table 6. Variables Features

Variable	Type of Data	Parameter coding	f	Marginal Percent	Definition
Use of Risk Management(RM) Strategies	Categorical	-	104	-	RM is a binary and categorical variable. If a firm applies the strategies of financial risk management for hedge from financial risk. RM is dependent variable.
No	-	0	34	33,7%	
Yes	-	1	70	67,3%	
Listed on Borsa İstanbul(BIST)	Categorical	-	104	-	I is shown whether was enrolled to BIST. "1" of value is traded at the BIST, "0" isn't trading at the BIST.
No	-	0	72	69,3%	
Yes	.	1	32	30,7%	
Export level	Categorical	-	102	-	Export level is showed the exporting level of firms. These levels are five categories between 0 and 4.
No export	-	0	10	8,7%	
Between 0 and %25	-	1	40	39,8%	
Between %26 and %50	-	2	18	18,4%	
Between %51 and %75	-	3	11	10,7%	
Between %76 and %100	-	4	23	22,3%	
Perception of Crisis	Categorical	-	102	-	Crisis is a binary showed whether Turkish exporting firms affected from 2008/2009 financial crisis.
negative	-	0	70	68,0%	
positive	-	1	32	32,0%	
Firm Size	Categorical	-	104	-	Size is categorical variable showed the scaling of exporting firms as (1) Micro, (2) Small (3) Medium and large.
1-9 micro	-	1	6	5,8%	
10-249 small	-	2	59	56,7%	
250 and up medium-large	-	3	39	37,5%	
Derivatives Uses	Categorical	-	104	-	Derivatives are a binary variable which takes exporting firm use financial derivatives for exporting firm.
No	-	0	81	77,6%	
Yes	-	1	23	22,3%	

Table 7. Model 1(Apply of Risk Management Strategies) Binary Logistic Results

Depended	Variable	Use of risk management strategies (RM)				
Independent	Variables	Size, Export Level, Crisis				
Variable	Beta	S.E.	Wald	df	Sig.	Exp(B)
Size			7,463	2	,024	
size(1)	,670	,966	,480	1	,488	1,953
size(2)	3,096	1,302	5,655	1	,017	22,116
BIST(1)	2,641	1,194	4,890	1	,027	14,022
Export			4,927	4	,295	
export(1)	-,309	,860	,129	1	,720	,734
export(2)	-,680	,659	1,064	1	,302	,507
export(3)	-,498	,790	,397	1	,528	,608
export(4)	-2,616	1,208	4,691	1	,030	,073
crisis(1)	1,308	,641	4,164	1	,041	3,698
Constant	-1,178	1,124	1,099	1	,295	,308
Classification				**Model Summary**		
No			44,1%	-2 Log likelihood		94,216
Yes			92,9%	Cox & Snell R Square		,301
Overall Percentage			76,9%	Nagelkerke R Square		,419
Omnibus Tests of Model Coefficients			37,235	**Hosmer and Lemeshow Test**		
Df			8	Chi-square		2,975
Sig			0,000	(df 8) Sig.		,936

In model, the firms to be traded in the BIST apply the risk management strategies more than the firms non-trading at the BIST. The BIST firms affected negatively from the crisis used the risk management strategies 3.5 times more than others firms affected positively. In according to other factors level of export, the firms having volume of export between 76% and 100% used 10 times the risk management strategies more than others groups. In short, it is most important factor using of risk management strategies in terms of exporting firms that is size of firm scaling and trading at the BIST. In addition to the firms high-level export level and negatively affected from the crisis use the financial risk management strategies.

Model 2 developed to compute what factors use of financial derivatives in exporting firms of the survey. The model function analyzing use of financial derivatives shown as follows:

Use of derivatives =f (Size, Level of export, crisis, Listed on BIST, applying of financial risk management strategies) (2)

Dependent variable of the model is use of financial derivatives. In the model, it is added the applying of financial risk management strategies as new variable. The output of result obtained from the use of derivatives is shown in Table 8. Omnibus Tests of Model Coefficients is 39,618 has sufficient significant (Sig. < 0.05). According to result of Hosmer-Lemeshow Test, chi-square is 3,106 and p: 0,928 the level of significance. The overall rate of the model is equal to 83,7%. The criterion for classification accuracy is satisfied. Nagalkerke R Scuare is 0,486 (table 8). The model as a whole analysis is sufficient to explain use of derivatives in exporting firms. Use of derivatives is raised the exporting firms trades at the BIST, but they do not affected by the other variables. This result can be arising from size and financial power of BIST firms according to other firms. Because other exporting firms is small in terms of financial characteristics and sales power. Same results observed at all firms of emerging countries for example a survey on Brazilin industrial firms focused on Sao Paulo Stock Exchange (BOVESPA) financial derivatives (Satio and Schiozer, 2005). This survey clarifies that financial manager use the financial derivatives for financial hedging.

Table 8. Results with use of derivatives

Depended Variable		Derivatives Uses				
Independent Variables		Size, Export Level, Crisis Use of risk management strategies (RM)				
Variable	Beta	S.E.	Wald	Df	Sig.	Exp(B)
Size			1,608	2	,447	
size(1)	-1,364	1,324	1,062	1	,303	,256
size(2)	-,576	1,430	,162	1	,687	,562
BIST(1)	-2,800	,879	10,133	1	,001	,061
Export			3,915	4	,418	
export(1)	17,758	12483,070	,000	1	,999	5,153E7
export(2)	18,697	12483,070	,000	1	,999	1,319E8
export(3)	18,995	12483,070	,000	1	,999	1,776E8
export(4)	19,349	12483,070	,000	1	,999	2,531E8
crisis(1)	-,476	,650	,536	1	,464	,621
Constant	-17,016	12483,070	,000	1	,999	,000
Size			1,608	2	,447	
size(1)	-1,364	1,324	1,062	1	,303	,256
Classification				**Model Summary**		
No			93,8	-2 Log likelihood		70,282
Yes			65,2	Cox & Snell R Square		,317
Overall Percentage			87,5	Nagelkerke R Square		,486
Omnibus Tests of Model Coefficients			**39,618**	**Hosmer and Lemeshow Test**		
Df			8	Chi-square		3,106
Sig			0,000	(df 8) Sig.		,928

7. Conclusions

The purpose of the study is to determine how exporting firms on financial risk management activities do during 2008/09 financial crisis. It is based on survey realized the 104 exporting firms in the top 500 of Turkish exporting firm list. According to survey result exporting firms usually use of financial risk management tools for hedging.

This study shows that Turkish exporting firms mostly set great store on financial risk management for hedging. Especially FXR is the most important risk in terms of exporting firms. In fact this result redoubles previous international studies on emerging countries or advanced non-financial firms (Saito *at al.,* 2005; Davies, *at al.* 2006; Bodnar *at al* 2012). The firms usually solve their currency and other financial risks by using internal risk management strategies. Turkish exporting firms mostly negatively affected from 2008/09 financial crisis. So they perceived as important risk management strategies in struggle financial risk during financial crisis. However, Turkish exporting firms don't use enough financial derivatives for hedging. The logistic regression models explain risk management strategies and the financial derivatives usage make out firm scaling, listed at BIST and the crisis. Still large and listed at BIST firms succeeded using risk management strategies and derivatives other than small exporting firms.

My finding confirms large Turkish exporting firms gives priority to foreign exchange risk and commodity risk management compared to other financial risks. This situation can be arising from financial experience and having various financial instruments. If exporting firms invest to financial capabilities and markets, they can use more financial derivatives and complex financial instruments.

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