

Financial Risk Management in Local Companies

by Ass. Prof., Dr. NGUYỄN THỊ NGỌC TRANG

Increasingly complex fluctuations in prices of raw materials, interest and exchange rates have made financial risk to companies more and more unpredictable. Can this situation make derivatives used for preventing the financial risk more common and popular? To answer this question, I have conducted a survey of usage of such derivatives by local companies and its results are presented here in this paper.

1. Research methodology and handling of data

Imitating the methodology applied by Wharton School (University of Pennsylvania) in 1995¹ and 1998² when studying the usage of derivatives to prevent financial risk in the U.S., I have worked out a questionnaire of issues relating to the usage of and interest derivatives by local companies.

A difference between Wharton questionnaire and mine is the fact that I include financial firms in the group surveyed because in Vietnam until recently, fluctuations in interest and exchange rates have affected greatly the banking system, which forced it to face and deal with huge financial risks. In addition, American banks have used derivatives for years because their markets were highly developed while local banks paid no attention to these instruments and were ready to take risk in the belief that losses could hardly take place, and if any, they might be acceptable. My questionnaire was based on contents of the 1995 Wharton one after being adjusted to conditions in Vietnam.

Methods of handling gathered data is the method of calculating the mean of numerical values given to all items of the questionnaire, and the method of dividing samples purposefully with the aim of estimating differences in the arithmetic mean. In other words, each option for each

item of the questionnaire corresponds to a certain level expressed in numbers in my classification. The methods were used in the study of corporate finance by Graham and Harvey in 2001³.

2. Some statistical values of the survey

Some statistical values of the survey are presented in the following table.

Table 1: General numerical data about the survey

Indicator	Number
Number of questionnaires issued	250
Number of questionnaires received	153
Returned questionnaires meeting requirements	102
Respondents as financial firms	27
Companies with considerable foreign trading activities	46
Companies with CFO in their staff	27

In my survey, it is coincidental that companies with CFO positions are also financial firms (I refer finance companies, banks, insurance companies and brokerage companies generally as financial firms). In fact, however, only five financial firms have official posts of CFO in their firms, and this coincidence doesn't mean that all 27 surveyed firms have posts called CFO. In most private financial firms in Vietnam, especially in joint stock banks, the CFO role is usually assigned to CEO or a vice-director responsible for financial matters or a similar officer. This reflects different roles of trading and of management of capital in companies and in banks, because the role of a corporate treasury is different from that of a bank treasury.

3. Survey results

Following Graham and Harvey's methods of handling data and subjects included in the questionnaire, I examined four aspects of the usage of derivatives in prevention of financial risk in Vietnam. These aspects are: factors

affecting financial risk in companies, knowledge, usage frequency and interest of companies in derivatives.

a. Factors affecting the financial risk

Figure 1: Factors affecting the financial risk in companies

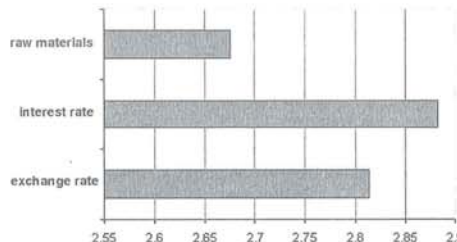
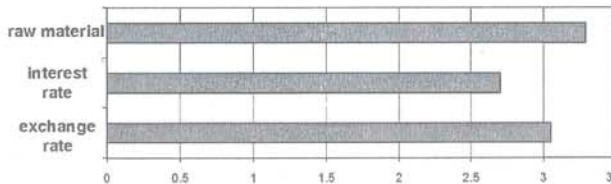


Figure 1 reflects estimates by companies of seriousness caused by the risk for companies, ranging from level 1 (no effect) to level 5 (very serious). The results show that the interest rate is considered by companies as the riskiest, followed by the exchange rate. This is appropriate to current conditions of the Vietnamese economy. With an average level of nearly 3.0 given to the interest rate and exchange rate, most companies saw them as important factors that affect their business performance. Risk from raw materials also gets a high mark.

Figure 2: Factors causing the financial risk in exporting companies



As for the group of companies whose activities have something to do with export, the financial risk from prices of raw materials is considered as

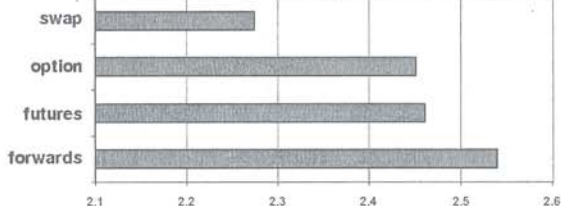
the most important, followed by the exchange rate (see Figure 2). This means that a futures market is much needed for exporters and importers.

b. Knowledge and usage frequency of derivatives

Figure 3 presents corporate knowledge of the derivatives. We can see that the best knowledge they get is about forwards, followed by options and futures. Swap is the least familiar to them. This result is relatively reasonable because in giving training courses in derivatives, everybody in my research team has found it difficult to help learners understand what concept and applications of swaps are.

Data presented in the Figure 4 show that only a small number of companies use deriv-

Figure 3: Corporate knowledge of derivatives



atives (level 1 means no usage, and level 2 means they are used only one time). The numerical data show that the derivatives haven't come into common use on the market. Regarding corporate respondents, only 27 out of 102 companies, or some 25%, said they have ever used derivatives.

As for the usage frequency among these companies, the most popular commodity to them is forward contracts. And they have just got the first knowledge of other derivatives (options, futures and swaps); the average point is around 2.0, which means that they have used them once.

Figure 4: Frequency of usage of derivatives by surveyed companies

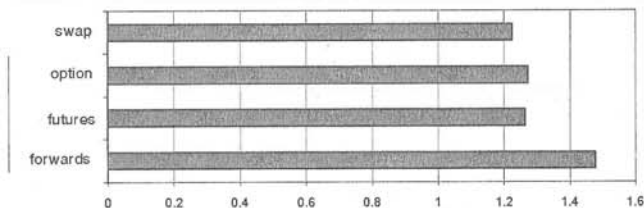
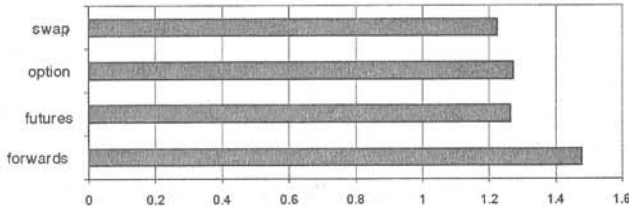


Figure 5: Frequency of usage among companies that once used the derivatives



Harvey (2001) and analyses presented by the Wharton School in its 1995 report, we divide research samples into two groups: companies that use the derivatives and the rest (ones who don't use them), and compare their knowledge of and interest in the derivatives. And we gain the following results.

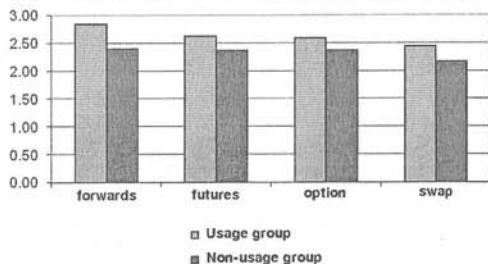
Looking at the Figure 6, we see that the best knowledge possessed by companies using the derivatives is about forward contracts. In general, this group of companies has better knowledge than

Average success level of companies employing the derivative is 3.21. This is a modest level of success, slightly higher than 3.0 (that means some trivial success). This result is reasonable because the research sample shows that companies used forwards more frequently than other instruments, so benefits, that is, the profit, they gained was not big. However, the level of 3.21 is an encouraging sign in comparison with our anticipation because everybody has known about losses caused by futures contracts for coffee and options for foreign exchange. We have had no chance to investigate companies in Western Highlands with futures contracts for coffee, so we think this level may be lower. Generally, the level of 3.21 allows us to consider surveyed companies as "relatively successful" when using the derivatives although we are not content with this phrase.

c. Comparison between derivative- using companies and the rest

Following the methods used by Graham and

Figure 6: Knowledge of the derivatives by two groups



companies that didn't use the derivatives, especially the knowledge of forwards and swaps. The arithmetic mean doesn't reflect exactly differences in the knowledge of the derivatives between the two groups. To check this remark, we gathered statistical data with an assumption that the two groups had the same knowledge of each derivative instrument. These data are shown in the Table 2.

These data allow us to affirm that the average knowledge found in companies using these instru-

ments is better than that of the other group. The difference has a statistical meaning that varies from 1% to 10% for each instrument. This means that the lowest level of reliability of this conclusion is 90%.

This result has two implications:

(1) Because the derivative-using companies have better knowledge of risk preventing effects of the derivatives, they tend to use them more frequently. If this is true, it's necessary to disseminate such knowledge among local companies with a view to encouraging them to use the instruments.

(2) Usage of derivatives depends on not only corporate knowledge but also benefits and complexity of derivatives. It's worth noting that the difference in the average knowledge of options between the two groups is rather small, staying around 10%. This reflects the fact that options have become familiar to the public because the mass media frequently mentioned this instrument in the trade of gold and foreign exchange, which, as a result, helped bridge the gap of knowledge between the two groups. But this fact also means that good knowledge doesn't certainly drive companies to use them. In other words, the knowledge of derivatives is only a necessary condition for encouraging the companies to use such instruments. It requires other factors to drive the companies to use them, such as legal requirements, and sense of responsibility, etc. And we will discuss this issue later.

Table 2: Statistical difference in knowledge between the two groups of companies

	Times observed	Arithmetic mean	Standard deviation
Knowledge of forwards			
Non-usage group	74	2.405405	0.680832
Usage group	28	2.892857	0.785955
Knowledge of futures			
Non-usage group	74	2.364865	0.673863
Usage group	28	2.678571	0.669636

Knowledge of option			
Non-usage group	74	2.364865	0.653218
Usage group	28	2.642857	0.951190
Knowledge of swap			
Non-usage group	74	2.175676	0.689612
Usage group	28	2.498900	0.793492

*, **, *** reflect that the usage group has the average knowledge higher than that of the non-usage group with levels of meaning of 10%, 5% and 1% respectively. This result is achieved by employing Eviews' Test of Equality for two chains of data that are not structurally identical.

Figure 7: Interest in future usage of derivatives – Comparison between the two groups

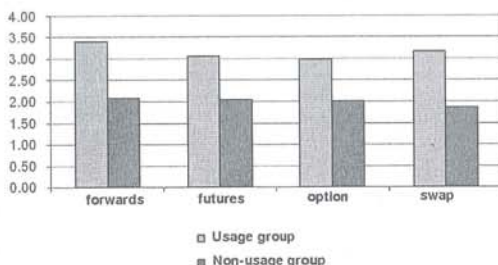


Table 3: Statistical difference in interest between the two groups of companies

	Times observed	Arithmetic mean	Standard deviation
Knowledge of forwards			
Non-usage group	74	2.108108	1.092535
Usage group	28	3.392857	1.227442
Knowledge of futures			
Non-usage group	74	2.067568	1.114427
Usage group	28	3.071429	1.245096
Knowledge of option			
Non-usage group	74	2.027027	1.072355
Usage group	28	3.000000	1.360828
Knowledge of swap			
Non-usage group	74	1.891892	1.067163
Usage group	28	3.178571	1.248809

*, **, *** reflect that the usage group has interest in future usage of derivative that is higher than that of the non-usage group with levels of meaning of 10%, 5% and 1% respectively. This result is achieved by employing Eviews' Test of Equality for two chains of data that are not structurally identical.

Regarding the interest in future usage of derivatives, there is a clear difference between the two groups (above 3.0 for the usage group and about 2.0 for the non-usage group). Figure 7 and Table 3 show us this deference.

Checking statistics in the Table 3 shows us a clear difference between the two groups (meaning level of under 1% for all instruments). This is also shown in the Figure 6.

Data from the survey show that most companies of the usage group tend to use them in future. Companies that estimated their success in using the derivatives at level 3 or 4 (slightly successful or much successful) rated their interest in at least one kind of derivative at level 4 or higher. As the mean of level of interest varies between 3.0 and 3.4, we see that companies only use derivatives at random instead of including them in their strategies or rules of doing business. This is an obstacle to development of strategies to prevent financial risk. At present, the risk prevention seems to be of short term and like an ad hoc solution. Companies really lack an enterprise risk management approach.

As for the non-usage group, they only show some interest in derivatives and they may try to use them in future but they don't know how to do it. This fact makes us think of a further investigation of information about derivatives for companies in order to market these instruments.

In short, results of the survey allow us to come to the following conclusions:

- Interest and exchange rates are two among financial risks that companies worry about most.
- Success in usage of derivatives is limited but encouraging.
- Companies tend to use them again after initial success, which leads to demand for more advice and training courses.

- Forwards are the most common instrument now (2007). It is also the instrument companies know best.

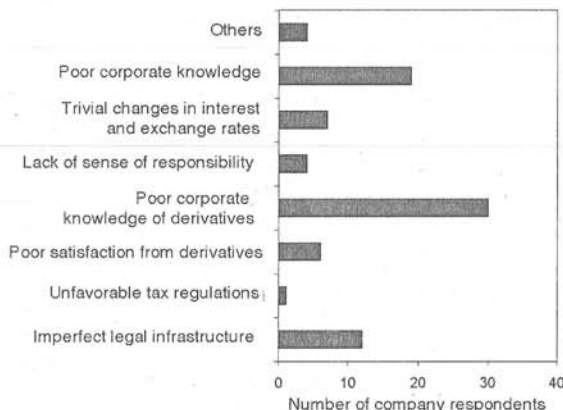
- Knowledge of derivatives determines what instrument is used most frequently.

- It's necessary to examine ways to market derivatives to companies.

d. Cause of unpopularity of derivatives: from survey results to experts' opinions

Survey results shown in Figure 8 present three causes that make companies meet with difficulties in using derivatives or refuse to use them are: lack of knowledge, lack of understanding of importance of derivatives as risk controlling instruments, and unclear legal infrastructure.

Figure 8: Factors preventing the usage of derivatives



Besides the knowledge as the necessary condition, there are many sufficient conditions for the usage of derivatives. The most frequently- mentioned one among them is the legal infrastructure. This infrastructure includes policies to encourage the usage, lack of sense of responsibility, and unfavorable regulations about tax assessment. It's reasonable for the Government to take a cautious approach and not officially encourage the derivative usage because they have caused losses all over the world.

In addition, there are many other noteworthy causes arising from respondents' answers:

- Lack of training courses in derivatives: This situation may keep existing because there is only a few

experts in this field and a few suppliers of such instrument with the result that experts don't have many chances to study the usage of derivatives in Vietnam. Some others may learn about the theory but know nothing about the practice. For example, many people advocate the usage of options but they didn't know that cost of options is not as low as expected because fluctuations in prices of stocks in Vietnam are high – one of characteristics of emerging economies. This reflects the gap between theory and practice of derivative usage in Vietnam.

- High costs: Unlike forwards and futures, options cost some fees, and even high ones, because most users think of them as a source of prospective profit instead of a way to prevent risks that can help them work out reasonable business plans and more exact costs or overheads.

- Lack of employees with knowledge of derivatives: This is, of course, a big obstacle as discussed above. Even worse, no companies think of some investment in training courses in this issue for their key employees.

- Information about derivative is beyond reach: Information about these instruments (from suppliers and business schools as well), if any, is hard to acquire and understand because this issue requires high expertise that is still lacking in Vietnam. Moreover, many companies think of derivatives as speculative investments instead of risk-preventing instruments. That is why they stop using them after some losses (as in cases of recent losses caused by futures for coffee and options for gold and foreign exchange).

4. What solutions are supported most?

Of four solutions we suggest (legal infrastructure, favorable accounting regulations, enhancement of corporate knowledge of derivatives, and improvements in banks' advice on derivatives), the third one is considered as the most important and the second one the least. Thus, refusal to exempt option fees from tax is not a big problem. The legal infrastructure and banks' advice are of the same importance. Generally, this result means no surprise and it affirms what we have analyzed.

The above analyses show that the most worrying problem is the low frequency of derivative usage among local companies. Corporate knowledge of these instruments

is limited and success in using them is not big enough to persuade the business circles.

Data we gathered and presented here prove that most users thought of these instruments more as some prospective profit than as risk preventing tools. This means that they only use them again if derivatives bring about some profit at first.

Our findings lead to some ideas about roles of training and consultant services in this field because the data show that better knowledge can drive companies to use them more frequently.

Besides the corporate knowledge, there are other obstacles to the derivative usage: legal infrastructure, expertise of corporate personnel, lack of a sense of responsibility, and poor marketing campaigns of suppliers of derivatives. These obstacles must be dealt with properly to popularize the use of derivatives as instruments for preventing the financial risk ■

Reference:

- Wharton survey of derivatives usage by US non-financial firms, 1995
- Wharton survey of financial risk management by US non-financial firms, 1998
- Graham, J.R., Harvey C.R. (2001), 'The Theory and Practice of Corporate Finance: Evidence from the Field', *Journal of Financial Economics*, 60, 187-243.
- Nguyễn Thị Ngọc Trang, *Quản trị rủi ro tài chính* (Financial Risk management), Thống kê, Hà Nội, 2007
- Trần Ngọc Thơ, *Tài chính doanh nghiệp hiện đại* (Modern Corporate Finance), NXB Thống kê, Hà Nội, 2006

Notes

- (1) 1995 Wharton survey of derivatives usage by US non-financial firms
- (2) 1998 Wharton survey of financial risk management by US non-financial firms
- (3) Graham, J. R., Harvey C. R. (2001), 'The Theory and Practice of Corporate Finance: Evidence from the field', *Journal of Financial Economics*, 60, 187-243.

Figure 9: What solutions are supported most?

