Master Thesis
by Johan Herman Storm

Survey on Financial Risk Management
Evidence on Derivatives Usage by Norwegian Non-Financial Firms

Hand-in date:
01.12.2011

Campus:
BI Oslo

Examination code and name:
GRA 1900 - MSc Thesis

Supervisor:
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Programme:
Master of Science in Business and Economics - Major in Finance

This thesis is a part of the MSc programme at BI Norwegian Business School. The school takes no responsibility for the methods used, results found and conclusions drawn.
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Summary

This paper investigates risk management practices by Norwegian non-financial firms. Using data collected from a questionnaire sent to 1205 firms with a turnover above of 100M NOK, I document a positive relation between firm size (economies of scale), foreign exposure, knowledge and derivatives use. I also show that industry is a determinant of hedging. The survey indicates that derivatives are most commonly used to reduce the volatility of the firms’ cash flow, and that derivatives are not commonly used to speculate. I also propose that natural hedging is a complement to derivatives use.
Acknowledgements

I would like to express my gratitude and thank my supervisor Paul Ehling for the critical feedback, kind support and guidance; and for presenting me to the interesting field of derivatives and the idea of doing a survey on practice in Norway. I would also like to thank my friend Erling Christiansen at UiO for help and guidance.
1 Introduction

With globalization, the importance of financial risk management has increased. In 2009 The International Swaps and Derivatives Association reported that 94% of the world’s largest (Fortune 500) companies use derivatives to manage their risks (FSA, Financial Services Authority 2010). Research on derivatives practice is mostly on public firms, perceived as sophisticated enough for corporate risk management (Bodnar et al. 1998). However, as Stulz (1996, p. 8) argues, smaller firms have more volatile cash flows, more restricted access to capital, and thus, in theory, more reason to buy protection (hedge) against financial risk. Thus, I investigate derivatives practice in private firms that are smaller on average than public firms. Financial firms are excluded as they are usually both seller and buyer and the survey is aiming at end users (Bodnar, Hayt and Marston 1996). As Stulz points out, practice does not seem to correspond closely to theory; large firms make far greater use of derivatives than small firms (Stulz 1996, p. 8). Investigating private firms with a turnover above of 100M NOK, that is medium-sized to large firms, will provide a large enough sample. This paper will present an analysis of the data from the questionnaire sent to the firms.

My analysis shows that large firms benefit from economies of scale associated with the entrance costs of managing a derivatives program. In this respect, private firms are just as public firms. Evidence shows that firms’ main motivation for derivatives usage is to reduce volatility in cash flow, and few firms speculate with derivatives. The evidence concerning commodity and industry effects suggests that firms in the primary sector are more likely to use derivatives. Foreign exposure and knowledge on derivatives are also shown to be likely determinants. Unlike Børsum and Ødegaard (2005), I find that natural hedging seems to be a complement to derivatives use instead of being a substitute.

The thesis relates to several recent papers that study derivatives usage among non-financial firms. Bodnar, Hayt, et al. 1995, Bodnar, Hayt and Marston 1996 and Bodnar, Hayt and Marston 1998 study consecutive questionnaires sent to a large sample of listed non-financial US firms. Alkebäck and Hagelin 1999 study the Swedish market and compare it to the US. In Norway there is little research on
corporate derivatives use. Børsum and Ødegaard from the Norwegian Central Bank performed a questionnaire-survey in 2004 (Børsum and Ødegaard 2005).

The paper is structured as follows: Chapter 2 discusses the literature review and theoretical background. Chapter 3 describes methodology and data selection. Chapter 4 presents the analyses and hypotheses testing. Chapter 5 concludes, discusses limitations, implications and suggestions for further research.
2 Literature Review and Theory

This chapter will present theory on risk management, literature review and hypotheses.

2.1 Theory on Risk Management

Financial theory suggests that risk management can smooth variability in firm value (Bartram, Brown and Fehle 2009). Theory says that risks should be redistributed to those better equipped to handle them. Industrial companies are unlikely to have a comparative advantage in bearing foreign-exchange risk, interest-rate risk or commodity risk. We redistribute the risk by hedging: buying and selling derivatives. We decrease the variance of the expected value of the firm. This removes the tails of the distribution as Stulz (1996) describes as shown in figure 2.1. Stulz (1996) identifies three major costs associated with higher variability in cash flow: Higher expected bankruptcy costs, higher expected payments to stakeholders and higher expected tax payments. If risk management can smooth variability on terms with stakeholders it will increase firm value. As for tax payments, risk management works in the simple way as to manage taxable income so to ensure that the largest possible proportion of corporate income falls within the optimal period in the business cycle.

Figure 2.1 Source: Stulz (1996)
2.2 Literature Review

In 1994 the Weiss Center for International Financial Research of the Wharton School undertook its first survey of derivatives and risk management practice by non-financial corporations in the United States (Bodnar, Hayt and Marston 1996). This is one of three consecutive questionnaire-surveys done by the Wharton School. They conclude in 1995 (on the '94 survey) that in contrast to press reports, derivatives use is not widespread, particularly by smaller firms, and derivatives is not commonly used to speculate, but mainly for reducing volatility of firms’ cash flow.

In 1996, in their second survey, Bodnar et al. conclude that the percentage of firms using derivatives is still low, but that usage is heaviest among larger firms in the commodity and manufacturing sectors. They conclude that they believe use will increase when knowledge increase and public perception of derivatives improves.

An important questionnaire-survey done in Scandinavia is analysed in the paper by Alkebäck and Hagelin from 1999. Alkebäck and Hagelin (1999, p. 105) writes: "…knowledge about firms’ derivative practices has increased in importance to shareholders, creditors, regulators, and other interested parties. This study on the use of derivatives in Sweden was undertaken in response to this problem.” Firms in Sweden operate in a small open economy with high rates of exports and imports. Alkebäck and Hagelin (1999) conclude that derivatives use is primarily driven by economic factors and not cultural influences. They also conclude that use of derivatives is more common among large firms than medium or small firms, and that this might be because of higher fixed costs of starting a derivatives program. They also find that the greatest concern of financial directors is a lack of knowledge about derivatives within the firm (Alkebäck and Hagelin 1999, p. 118).

The contribution to Norwegian research was done in 2004 by Børsum and Ødegaard (2005) in a questionnaire-survey on foreign exchange risk management. They conclude that derivatives are the most common way to hedge, with many firms also using natural hedges. They conclude that larger firms tend to use more derivatives and that their results are in line with international research.
2.3 Hypotheses

Five specific hypotheses will be tested combining qualitative analysis with regression modelling (logit/probit) and difference of mean testing.

Hypothesis 1: *The main motivation for using derivatives is to reduce volatility in income, costs or cash flow.*

As the main motivation for using derivatives is to reduce risk, we can a priori expect that reducing earnings/cost volatility is the main concern for firms. This was one of the main findings in the Wharton studies (1995, 1996 and 1998) and also supported by theoretical literature (Stulz 2003).

Hypothesis 2: *There is a significant relation between firm size and derivatives usage.*

Larger firms are more likely to export/import more and will hence be more likely to actively use derivatives. Previous studies also find this relation (Børsum and Ødegaard 2005; Bodnar, Hayt and Marston 1998). Larger firms are more likely to handle the entrance cost of setting up a derivatives management system (economies of scale). This was particularly emphasized by Alkebäck and Hagelin (1999) in their survey on derivatives use in Sweden, as they stated that less knowledge on derivatives and a less mature derivatives market could result in higher fixed costs when starting a derivatives program.

Hypothesis 3: *Industry affects derivatives use.*

We expect certain industries to be more exposed to risk, like electricity companies facing volatile electricity prices or industry companies using primary products in production. Industry will then have a significant impact on derivatives use. This is also supported in literature (Børsum and Ødegaard 2005; Bodnar et al. 1995, 1996 and 1998).

Hypothesis 4: *Foreign exposure affects derivatives use.*

Foreign exposure is a direct determinant of whether a firm faces financial risk. Therefore we expect a priori that firms with a high proportion of foreign exposure are more likely to use derivatives to hedge that risk.
Hypothesis 5: Knowledge and focus on derivatives affects its use.

Literature suggests that limited knowledge affects firms’ use of derivatives (Bodnar et al. 1998; Børsum and Ødegaard 2005). We propose that firms’ focus on derivatives and their knowledge on derivatives affect how and to what extent they use them.
3 Methodology and Data

This chapter presents data selection, bias and details on the questionnaire.

3.1 Data Selection

All of the surveys reviewed in the literature review chapter focus their surveys on large firms. In 2009 there were 362 stock exchange listed (ASA) firms in Norway (The Brønnøysund Register Centre 2009). The idea is to investigate not only listed firms that are perceived as the majority of derivatives users; as specifically stated in the introduction. The decision is to define the population to non-listed firms with a turnover of more than 100 million NOK in 2009.

Using the European Commission’s NACE codes, an international classification of economic activities, financial firms is taken out of the population (European Commission 2010). When using the online Norwegian database Proff Forvalt (2010), which supplies data on all Norwegian firms, the population comes to approximately 5000 firms. We select a probability sample by random selection of 2000 firms out of the population of approximately 5000 (Saunders, Lewis and Thornhill 2009).

3.1.1 Survey Response

When comparing the survey response to the research presented in the literature review chapter, we see (table 3.1 next page) that the response rate in our survey (25.7%) is 12.3% below the mean and 6.1% below the median. A response rate of 25.7% is still satisfactory, as firms are known to avoid questionnaires¹.

¹ Policy stated by some respondents.
Table 3.1 Response Rates

<table>
<thead>
<tr>
<th>Study</th>
<th>Response Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bodnar, Hayt, et al. (1995)</td>
<td>26.5%</td>
</tr>
<tr>
<td>Bodnar, Hayt and Marston (1996)</td>
<td>17.5%</td>
</tr>
<tr>
<td>Berkman, Bradbury and Magan (1997)</td>
<td>63.7%</td>
</tr>
<tr>
<td>Bodnar, Hayt and Marston (1998)</td>
<td>20.7%</td>
</tr>
<tr>
<td>Alkebäck and Hagelin (1999)</td>
<td>76.6%</td>
</tr>
<tr>
<td>De Ceuster et al. (2000)</td>
<td>21.9%</td>
</tr>
<tr>
<td>Børsum and Ødegaard (2005)</td>
<td>37.0%</td>
</tr>
<tr>
<td>Eriksen and Wedøe (2010)</td>
<td>40.2%</td>
</tr>
</tbody>
</table>

Mean: 38.0%
Median: 31.8%

Table 3.1 Response Rates, Comparison Table

3.2 Bias and Descriptive Statistics

The data will be biased if some individuals or firms are more likely to take part in the research than others (Saunders, Lewis and Thornhill 2009). The final sample receiving the questionnaire is affected by the fact that Proff Forvalt (2010) has missing data for some firms. If the coverage error is to be kept at minimum, those firms should be contacted by other means. When generalising, the sampling bias could undermine the external validity of the analyses. If we look at descriptive statistics for firms in table 3.2, we see that the firms with missing e-mail addresses are the largest firms by average in terms of turnover.

Table 3.2 Descriptive statistics for firms in the sample, million NOK 2009.

3.3 Questionnaire

Dillman et al. (2009) writes: “The design of a questionnaire must consider how to motivate someone who receives it to become a respondent and complete the survey.” An interesting substitute to interactive web surveys are fillable PDF files which facilitates the possibility for sending both by e-mail and post. The decision
is anyway to use an interactive web page survey-program. This is the easiest and less time consuming tool to use. *QuestBack* (2010) facilitates a design program, a program to handle e-mail communication and a tool for post-survey analysis. *QuestBack* (2010) is used by large international firms and institutions. The questionnaire itself is mainly inspired by Bodnar et al. (1995, 1996 and 1998) and Eriksen and Wedøe (2010). It is revised and improved by application of techniques from Dillman et al. (2009). The questionnaire implemented a *funnel approach*, which directs questions upon the respondent depending on prior answers. The final questionnaire with responses is provided in the appendix.

### 3.4 Logit/Probit Regression Model

When the explained variable is qualitative and the information is coded as a dummy variable (derivative use=1 or 0), the model needs be treated specially. The logit and probit model deals with binary dependent variables. The logistic function (logit model) $F$ is:

$$F(z_i) = \frac{e^{z_i}}{1 + e^{z_i}} = \frac{1}{1 + e^{-z_i}}$$

Where the logistic model estimated would be

$$P_i = \frac{1}{1 + e^{-(\beta_0 + \beta_1 x_{i1} + \beta_2 x_{i2} + \ldots + \beta_k x_{ik})}}$$

where $P_i$ is the probability that $y_i = 1$.

Instead of using the cumulative logistic function, the probit model uses the cumulative normal distribution:

$$F(z_i) = \frac{1}{\sqrt{2\pi}} e^{-\frac{1}{2}(\frac{z_i}{\sigma})^2}$$

$$z_i = \beta_0 + \beta_1 x_{i1} + \beta_2 x_{i2} + \ldots + u_i$$

For the majority of applications, the logit and probit models will give very similar characteristics of the data (Brooks 2008). Outputs of the tests are provided in the
appended. Results are referred to in the chapter on hypotheses testing. The data summarized in table 3.3 will be used for the logit/probit regression modelling and the testing of difference of means.

Table 3.3 Statistical summary. All financial data are in thousands.

<table>
<thead>
<tr>
<th>Mean</th>
<th>0.27</th>
<th>449,518.92</th>
<th>169,816.15</th>
<th>314,890.82</th>
<th>119.69</th>
<th>158.88</th>
<th>2.21</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Error</td>
<td>0.03</td>
<td>40,465.99</td>
<td>27,926.85</td>
<td>48,969.77</td>
<td>12.07</td>
<td>113.58</td>
<td>0.04</td>
</tr>
<tr>
<td>Median</td>
<td>-</td>
<td>201,962.00</td>
<td>43,389.00</td>
<td>79,266.00</td>
<td>59.00</td>
<td>46.22</td>
<td>2.00</td>
</tr>
<tr>
<td>Mode</td>
<td>-</td>
<td>103,978.00</td>
<td>#/T</td>
<td>#/T</td>
<td>-</td>
<td>41.20</td>
<td>2.00</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>0.442247368</td>
<td>711327.275</td>
<td>409069.212</td>
<td>860809.939</td>
<td>212.113788</td>
<td>1996.555053</td>
<td>0.622434633</td>
</tr>
<tr>
<td>Sample Variance</td>
<td>0.195582734</td>
<td>5.05965E+11</td>
<td>2.40992E+11</td>
<td>7.40994E+11</td>
<td>44992.25907</td>
<td>398623.0281</td>
<td>0.387428734</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>-0.865053352</td>
<td>17.65085921</td>
<td>120.0174272</td>
<td>69.4048394</td>
<td>32.30469056</td>
<td>308.9452575</td>
<td>-0.563459447</td>
</tr>
<tr>
<td>Skewness</td>
<td>1.067983074</td>
<td>3.936045423</td>
<td>9.377487539</td>
<td>7.483873736</td>
<td>4.868861063</td>
<td>17.57605772</td>
<td>-0.178603469</td>
</tr>
<tr>
<td>Range</td>
<td>1</td>
<td>5,160,443</td>
<td>7,302,706</td>
<td>9,119,557</td>
<td>2.104</td>
<td>35,138</td>
<td>2</td>
</tr>
<tr>
<td>Minimum</td>
<td>-</td>
<td>100,557</td>
<td>345,706</td>
<td>1,443</td>
<td>-</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Maximum</td>
<td>1</td>
<td>5,261,000</td>
<td>6,957,000</td>
<td>9,121,400</td>
<td>2.104</td>
<td>35,140</td>
<td>3</td>
</tr>
<tr>
<td>Sum</td>
<td>82</td>
<td>138,901,347</td>
<td>52,473,190</td>
<td>97,301,264</td>
<td>36,985</td>
<td>49,094</td>
<td>683</td>
</tr>
<tr>
<td>Count</td>
<td>309</td>
<td>309</td>
<td>309</td>
<td>309</td>
<td>309</td>
<td>309</td>
<td>309</td>
</tr>
</tbody>
</table>

3.5 Testing Difference of Means

The differences between two sample means can be assessed using the t-statistic calculated as part of the t-test. The t-statistic may be thought of as a scaled difference between the two means, where the absolute difference between means is rescaled using an estimate of the variability of the means:

\[ t = \frac{\bar{X}_1 - \bar{X}_2}{\sigma_{\bar{X}_1 - \bar{X}_2}} \]

Where \( \bar{X}_1 \) and \( \bar{X}_2 \) are the means of the two samples, and \( \sigma_{\bar{X}_1 - \bar{X}_2} \) is the measure of the variability of the differences between the sample means (University of Oregon 2011). The degrees of freedom that define the specific t-distribution is given by:

\[ df = n_1 + n_2 - 2 \]

The difference of means will be tested for the data in table 3.3 and output is provided in the appendix. Results from the tests are referred to in the chapter on hypotheses testing.
4 Analysis and Results

This chapter will present the analysis of the survey results. A short description of general results will be followed by hypotheses testing.

4.1 General Results

Of the 1162 firms that received the survey, 309 firms responded and 82 firms (26.5%) state that they use derivatives. Of all respondents in terms of size\(^2\), 108 firms are from the large category, 95 are from the medium-sized category and 106 are from the small category. We see in figure 4.1 that there are a high proportion of derivative users being large firms, while for non-users firms are more equally distributed across size.

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\(^2\) These size groups were defined based upon cutoff points that divided the entire sample of 1204 firms into three equal-sized groups. We then get large firms: turnover>300 mill. NOK, medium firms: 300 mill NOK>turnover>155 mill NOK and small firms: turnover<155 mill NOK.
We see in figure 4.2 that the distribution of firms among industries is quite close to the Norwegian distribution, with the exception of the “mining and quarrying” sector that includes the oil industry (Statistics Norway 2011). The oil industry in Norway consists of a few large companies, mostly listed and therefore not included in the sample. To make analyses easier we group the NACE categories (European Commission 2010) into three aggregated sectors: primary products, manufacturing and services.
4.2 Hypotheses Testing

Hypothesis 1: The main motivation for using derivatives is to reduce volatility in income, costs or cash flow.

Figure 4.4 shows that 71% of respondents report that reduction in cash flow- or income/cost-volatility is the most important reason for using derivatives. Børsum and Ødegaard (2005) report that 86% of respondents use derivatives to reduce volatility in income and costs. Eriksen and Wedøe (2010) report a main motivation by respondents for cash flow- and income/cost-volatility combined, of 66%, and they report that almost 18% of respondents are mainly concerned with reducing risk for owners. Figure 4.4 shows that 11% of respondents report that risk for owners is their main concern. Børsum and Ødegaard (2005) report that 43% of respondents is concerned with reducing risk for their owners as a motivation for using derivatives.

<table>
<thead>
<tr>
<th>Question: What is the most important reason for your firm to use derivatives?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce volatility in income/costs</td>
</tr>
<tr>
<td>Reduce volatility in cash flow</td>
</tr>
<tr>
<td>Reduce risk of financial problems</td>
</tr>
<tr>
<td>Reduce risk for owners</td>
</tr>
<tr>
<td>Make budgeting/accounting easier</td>
</tr>
<tr>
<td>Reduce liquidity risk</td>
</tr>
<tr>
<td>Other, please specify</td>
</tr>
<tr>
<td>Don’t know</td>
</tr>
</tbody>
</table>

Figure 4.4 Main motivations for using derivatives.

Liquidity risk and other financial problems (12%) are also of concern to derivatives users, but not to same extent. This is probably because ensuring a stable income/cost relationship is what most businesses see as the best way to evade financial distress. The head of derivatives from a large company stated this in an in-depth interview: “We use derivatives to secure our expected income and avoid losses. We want to focus on what we know best, our business, instead of
betting on exchange rates or commodity prices moving in our favour. We want to be sure that we know what income we will get.”

When crosschecking the results with firm size and industry, there are no further significant patterns.

Figure 4.5 shows that most firms do not use derivatives because their exposures are too small. Nearly 56% of all non-derivatives users rank this as the most important. 10% of the firms list the fact that exposures could be managed by other means as a primary reason for not using derivatives. Presumably this means that the firms think they can manage their exposure by operating hedges or by contractual arrangements (Bodnar, Hayt and Marston 1996). An interesting finding from this question is that many (10%) non-users do not use derivatives because of lack of knowledge. If we combine this number with firms that stated that they do not know, almost a quarter (22%) of firms are in these two categories. Examination of this across different size of firms shows that this is not just a concern of small firms. 28% are among what is defined as the largest firms in the sample. When crosschecking with only that derivatives are too complex, 36% are large firms. For those firms that stated an inefficient exposure to financial risk, all firms were evenly distributed across size. Bodnar et al. (1998) report that 60% think insufficient exposure is the most important factor, 14% think exposures can be better managed by other means, and 14% has limited knowledge on derivatives.

Based on the survey findings and the similar findings by Bodnar et al. (1995, 1996 and 1998), Børsum and Ødegaard (2005) and Eriksen and Wedøe (2010) there is little evidence to reject the hypothesis.

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3 In-depth interview with financial consultant of one of the large construction companies in the sample.
Hypothesis 2: There is a significant relation between firm size and derivatives usage.

Figure 4.6: Derivatives Usage Response Rates by Size

Figure 4.6 shows the percentage of derivatives users broken down by size group. Usage is heaviest among large firms (45%). That large firms are so much more likely to use derivatives is suggestive of an economies-of-scale argument for derivatives use (Bodnar, Hayt and Marston 1998). Large firms are better able to bear the fixed (entrance) cost of setting up a derivative management compared to small firms. 16% of medium sized firms are derivatives users and 17% of small firms are derivatives users.

Bodnar et al. (1998) report that 83% of large firms (total sales>$1.2b) use derivatives, 45% of medium sized firms (total sales $150m-$1.2b) use derivatives and 12% of small firms (total sales<$150m) use derivatives. Alkebäck and Hagelin (1999) state that the economies-of-scale argument seems more pronounced for the Swedish sample when they were comparing with the U.S. sample of Bodnar et al. The financial consultant interviewed in the in-depth interview states: “My perception is that there is a barrier of knowledge and cost, or an idea of a high knowledge or cost barrier, to most firms ending up not using

4 Defined on page 10.
derivatives. It seems likely that larger firms are less exposed to these barriers."

Further, entrance costs in Scandanavia are likely to be much higher than in US where derivatives hedging are more widespread.

Bartram, Brown and Fehle (2009) do regressions for size on derivatives use. They find strong indications of a positive relationship. Another paper applying statistical regression is a master thesis written by Vaja and Cui (2008). They state that: "The regression outputs strongly support the scale economies hypothesis, as size is always positive and significant at the 1% level.” (Vaja and Cui 2008, 21).

The logit and probit tests on equity and liabilities shows that the coefficients are both positive and the variables are significant at 5% level (see appendix). The test on size in terms of turnover is however not significant. The difference of means test for turnover is significant at 5% level. Even though theory (Stulz 1996) says that smaller firms, with more volatile cash flows and more restricted access to capital, have more reason to buy protection against financial trouble, it seems that the entrance barrier is perceived by smaller firms to be too large. On the question whether firms feel that the gain exceed the cost of using derivatives, only 11% of firms say they feel the gain is less than the cost. 24% say they feel it balances. More than 57% say they feel the gain exceed the cost. Entrance cost is large in Scandinavia, but private firms are often undiversified and should try to find sophisticated ways to hedge their risks. The qualitative analysis and the statistical tests give no indication to reject the hypothesis. The hypothesis stands.
Hypothesis 3: Industry affects derivatives use.

Some industries trade in commodities and revenue/costs are in foreign currency. Figure 4.3 shows that in the primary products sector there is relatively a higher proportion of firms using derivatives. In two of the Wharton surveys (Bodnar, Hayt and Marston 1996; Bodnar, Hayt and Marston 1998) they report for primary products 48% in 1996 and 68% in 1998. For manufacturing they find that 44% use derivatives in 1996 and 48% in 1998, while for services 29% of firms use derivatives in 1996, while 42% in 1998. In the Norwegian survey from 2004 there is no summary regarding derivative use and industry (Børsum og Ødegaard 2005). Alkebäck and Hagelin (1999) find that 79% of manufacturing firms in Sweden use derivatives, 63% of primary-products producers use derivatives and 39% of firms in the service sector use derivatives. The use is greater for all sectors compared with the USA, even though we expect a priori that primary product producers are more likely to use derivatives in the USA where commodity derivatives have existed for a long time.

![Diagram: Derivative use in each industry sector (percentage of those that answered the survey)](image)

**Figure 4.7 Derivative use in each industry sector (percentage of those that answered the survey)**

Figure 4.7 shows the breakdown of derivative use among each industry according to the *NACE codes*. Of the more surprising results is the little use among “Information and Communication” and “Construction” firms. One would expect them to be exposed to all risks as other companies. Of the 40 construction companies that answered the survey, there was just one company that stated that
they were using derivatives. Of the 18 “Information and Communication” companies also just one firm responded that they use derivatives.

The logit and probit regression tested both on NACE industry categories and aggregated categories. Both coefficients were negative, meaning that firms in the primary sector are more pronounced derivatives users. The test was significant at 5% level in both cases. The difference of means test was significant at 5% level on aggregate level, but only at 10% level at NACE level. Based on the literature, the analysis and the statistical tests I conclude that the hypothesis cannot be rejected.
Hypothesis 4: Foreign exposure affects derivatives use.

Figure 4.8 Share of firms’ revenue, costs, equity and liabilities in foreign currency. Derivative users top, Non-Derivative users bottom.

We expect a direct link between firms’ foreign exposure and derivatives use. Figure 4.8 shows the relation between firms’ share of revenue, costs, equity and liabilities in foreign currency and derivative use. We see that almost half of non-users have no foreign capital exposure (46%), meaning that one of the most important determinants of derivatives use is foreign exposure.
Figure 4.9 Percentage of respondents with different share of revenue and costs in foreign currency. Derivatives users top, non-users bottom.

Børsøm and Ødegaard (2005) claim that firms with a difference between income and costs or equity and liabilities are more likely to use derivatives, as they don’t have the same degree of natural hedging. If firms are clustered around the diagonal of the diagram it indicates that firms are more naturally hedged. Figure 4.9 indicates a dispersed distribution among firms not using derivatives, with firms having either income or costs in foreign currency. Figure 4.10 shows that this pattern is even more pronounced for equity and liabilities. If we look at figure 4.8, we see that most derivatives users have more financing in foreign currency compared to non-derivative users with most firms having none to 25% of foreign financing.
We propose that instead of natural hedging being a substitute to derivatives, they are complements. When firms are concerned with the possibility of a natural hedge, they are most likely also concerned with derivatives use. This is confirmed by the in-depth interview already mentioned, where the financial consultant stated this: “We try to look for possible natural hedges. If we find opposing factors, we exploit them. But they are most of all complements to our derivatives activity, risk management is more flexible with derivatives so that is our priority.”
Foreign subsidiaries are part of firms’ foreign exposure. One could argue that they will be a natural hedge and substitute derivatives, but as said we propose that natural hedging complements the derivatives. Figure 4.11 shows that 74.5% of non-derivative users having no subsidiaries abroad. Derivative users are more evenly spread with 54.7% having no subsidiaries abroad. When crosschecking with foreign income, costs, equity and liabilities, all derivatives users with no subsidiaries abroad have foreign income and/or costs, but little equity or liabilities. Of those derivatives users that have both some equity and liabilities in foreign currency, 19 of 21 firms have subsidiaries abroad. This shows that subsidiaries abroad affect foreign exposure through equity and liabilities, to a larger extent, which affects derivatives use. Of derivatives users, which specifically have both income and costs in foreign currency, more than 42% have no subsidiaries abroad. Doing difference on means test for foreign exposure is not provided in the appendix as results are thoroughly shown in the analysis. The hypothesis stands.
Hypothesis 5: Knowledge and focus on derivatives affects its use.

22% of derivatives users state in the questionnaire that speculation is allowed in their firm. Of these 22%, 78% state that they have a documented firm policy on derivatives use. This indicates that most firms respect the complexity of speculating with derivatives and see it as a necessity to form a strict firm policy to maintain integrity and not go “out of bounds”. Another interesting feature of these firms, when comparing to the results from question 25 on whether firms see derivatives gain to be larger than their cost, reveals that all of the 22% of firms state that they estimate the gain from using derivatives to be at least on break even with the cost of using derivatives. This is interesting as this could indicate that firms with the knowledge to speculate with derivatives also has the knowledge to get the most out of derivatives.

Among derivatives users, 70.7% state that they have a documented firm policy. Surprisingly, almost a third of the firms state they do not have a documented firm policy. Bodnar et al. reports in 1998 that 76% of derivatives users says they have a documented firm policy.

The questionnaire also asks on reporting practices to the board. More than half (63%) of the firms using derivatives have established a regular reporting cycle. 22% of the firms report derivatives activity on a monthly basis, while 28% report on a quarterly basis and 13% on only an annual basis. Almost a third of the firms (28%) report to the board of directors as needed.

By cross checking the answers on reporting practices and firm policy, we can determine how many firms have neither a documented policy nor a regular reporting scheme. Only 9 firms (11%) indicate having neither. Alkebäck and Hagelin (1999) asks the same question and reports that 30% of derivatives users have no set scheme for reporting, while 65% have a regular reporting cycle. Alkebäck and Hagelin (1999) speculate on whether the higher reporting frequency could be “…explained by the fact that firms that use derivatives in Sweden…on average, depend on them more than U.S. firms do.” (Alkebäck and Hagelin 1999, 116).
The hypothesis is that knowledge is a barrier to derivatives use. As we see, most derivative-using firms focus on derivatives through firm policy and reporting to the board. Firms speculating with derivatives also give an indication that speculation is done by those firms with most knowledge. This is difficult to test with statistics, but evidence seems to support the hypothesis.

In the in-depth interview already cited\(^5\), the consultant stated: “We try to teach our sub divisions about derivatives to make them aware of possibilities and needs. This is important so they don’t miss out on insuring projects. Derivatives are definitely more on the agenda after the financial crisis. Volatility in commodity prices and currency has increased.”

---

\(^5\) Page 13.
4.3 Other Results

The questionnaire revealed some interesting relations separate of those connected to the hypotheses that will now be explained.

![Figure 4.12 Analysis on whether firms feel financially constrained, across firm size and derivative use.](image)

Figure 4.12 Analysis on whether firms feel financially constrained, across firm size and derivative use.

The questionnaire asks if the firm feels financially constrained and if their derivatives use is changed after the financial crisis of 2008. Figure 4.12 shows the results when analysing across firm size and derivatives use. For example: 14% of medium-sized derivatives users are substantially constrained. We propose the relationship that when firms are constrained they are more likely to hedge, as they prefer stable cash flows in risky times.

Eriksen and Wedøe (2010) report how firms have changed the way they look at risk management after the financial crisis and report that 70% of respondents state no change and 30% state that their focus has increased. We can speculate that most firms already using derivatives has the necessary knowledge to assess whether derivatives improves risk management for the firm, and that this is why most firms either increase their activity or remain at the same level of activity. When cross-checking whether the firm is financially constrained, we find that
almost 70% of the firms stating to have increased their derivatives activity also feels some financial constrainment. Cross-checking the other way round reveals that 11% of firms feeling constrained also decrease their derivatives activity (89% keep it at same level or increase it). Increase in hedging activity seems to be more likely to occur when firm feels constrained.

**Figure 4.13 Frequency of interest rate derivative transactions by motive.**

Figure 4.13 shows the results from question 18 about motivations for interest-rate derivative transactions. Nearly all firms using interest-rate derivatives report using them to swap from floating-rate debt to fixed-rate debt. 18% of the firms indicate to do this frequently, 79% of the firms indicate that they do this sometimes. In contrast, 61% of the firms indicate that they use interest-rate derivatives to swap from fixed-rate debt to floating-rate debt with most firms doing so sometimes. In addition to swapping existing debt, interest-rate derivatives are used by a majority of the firms to fix the rate on new debt issues (33% reporting to do so frequently and 46% reporting to do so sometimes) as well as to take positions to reduce costs based upon a market view (15% frequently and 59% sometimes).

Bodnar et al. (1998) speculate whether the intensity in interest-rate derivatives use could be related to the general low levels of interest rates since 1995, and that this results in an increased desire for firms to lock in what they perceive to be favourable low rates. This could well be the case for our sample as well, even though I have no prior data for comparison, as interest-rates are at perceivable low rates at present and markets are extremely volatile.
5 Conclusion

I exploit data from Proff Forvalt to create a sample of Norwegian non-financial private firms with a turnover above of 100M NOK. A questionnaire was sent to 1205 firms and 309 firms responded. Investigating the data, I use qualitative and descriptive analysis, comparison to prior research, and complement this with regression tests using the logit and probit models and a simple difference of means test. The results show that firms’ main motivation for using derivatives is to establish a secure and stable cash flow. Speculation with derivatives is not common among the firms in my sample. Second, my result establishes a positive relation between firm size and derivatives use. This result is consistent with the economies of scale effect, that the entrance cost is a significant barrier to derivatives use. This is consistent with former research. I further show that industry affects derivatives use by both difference of means testing and logit/probit regression model testing. Fourth, foreign exposure is shown to have a strong effect on derivatives use. This is established through the qualitative analysis and the comparison to international literature. Finally, issues of knowledge on derivatives, issues on firms being financially constrained and issues on high levels of interest rate derivatives use are discussed. The first two reveal evidence of being positively related to derivatives use, while I speculate whether the intensity of interest rate derivatives use could be related to general low levels of interest rates.

Further work, such as improving the response rate by increasing the sample size, refining the firm criteria, improving the questionnaire and reducing the coverage error, can be done to improve the next research on derivatives practice in Norway.
Reference list


## Appendix

### Logit/Probit Model, Test Output

Dependent Variable: DERIVATIVE_USER  
Method: ML - Binary Probit (Quadratic hill climbing)  
Date: 11/30/11  Time: 18:49  
Sample: 1 309  
Included observations: 303  
Convergence achieved after 9 iterations  
Covariance matrix computed using second derivatives

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McFadden R-squared: 0.216767  
Mean dependent var: 0.270027  
S.D. dependent var: 0.388993  
S.E. of regression: 44.94071

Obs with Dep=0: 221  
Total obs: 303

---

Dependent Variable: DERIVATIVE_USER  
Method: ML - Binary Logit (Quadratic hill climbing)  
Date: 11/30/11  Time: 18:50  
Sample: 1 309  
Included observations: 303  
Convergence achieved after 8 iterations  
Covariance matrix computed using second derivatives

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McFadden R-squared: 0.214636  
Mean dependent var: 0.270027  
S.D. dependent var: 0.389065  
S.E. of regression: 44.95729

Obs with Dep=0: 221  
Total obs: 303

---

Obs with Dep=1: 82

---
Dependent Variable: DERIVATIVE_USER  
Method: ML - Binary Probit (Quadratic hill climbing)  
Date: 11/30/11   Time: 18:52  
Sample: 1 309  
Included observations: 303  
Convergence achieved after 10 iterations  
Covariance matrix computed using second derivatives

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| McFadden R-squared | 0.217953 | Mean dependent var | 0.270627 |
| S.D. dependent var  | 0.445019 | S.E. of regression | 0.387710 |
| Akaike info criterion | 0.952850 | Sum squared resid | 44.64485 |
| Schwarz criterion   | 1.026389 | Log likelihood     | -138.3567 |
| Hannan-Quinn criter. | 0.982270 | Deviance            | 276.7135  |
| Restr. deviance     | 353.8322 | Restr. log likelihood | -176.9151 |
| LR statistic        | 77.11876 | Avg. log likelihood | -0.456623 |
| Prob(LR statistic)  | 0.000000 |                      |          |

Obs with Dep=0 221 Total obs 303  
Obs with Dep=1 82

Dependent Variable: DERIVATIVE_USER  
Method: ML - Binary Logit (Quadratic hill climbing)  
Date: 11/30/11   Time: 18:52  
Sample: 1 309  
Included observations: 303  
Convergence achieved after 10 iterations  
Covariance matrix computed using second derivatives

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| Akaike info criterion | 0.954090 | Sum squared resid | 44.62844 |
| Schwarz criterion   | 1.026446 | Log likelihood     | -138.6567 |
| Hannan-Quinn criter. | 0.984330 | Deviance            | 277.3374  |
| Restr. deviance     | 353.8322 | Restr. log likelihood | -176.9151 |
| LR statistic        | 76.494784 | Avg. log likelihood | -0.457653 |
| Prob(LR statistic)  | 0.000000 |                      |          |

Obs with Dep=0 221 Total obs 303  
Obs with Dep=1 82
### Difference of Means, Test Output

**t-Test: Two-Sample Assuming Unequal Variances**

#### Turnover 2009

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### t-Test: Two-Sample Assuming Unequal Variances

**Industry NACE**

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### t-Test: Two-Sample Assuming Unequal Variances

**Industry, Aggregated**

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Questionnaire With Responses

Survey on the use of derivatives in Norwegian firms

This survey is done for my final thesis for the Master of Science degree at BI Norwegian School of Management and seeks to map out the use of financial derivatives in Norwegian non-financial firms. This survey will be one of very few studies that have been done on the topic in Norway and will hopefully be able to contribute to a better understanding of how the derivatives market in Norway works.

I greatly value your contribution and that you and your firm are taking the time to complete this survey.

You will get 7 - 26 questions depending on you answers and the survey will take approx. 5 - 15 min. All answers will be completely anonymous.

Thank you so much for your contribution!

Yours sincerely,

Johan Hervang Stornaas
Master of Science Student in Business and Economics (Major Finance)
BI Norwegian School of Management, Oslo

2) * Does your firm use derivatives for financial risk management (futures, swaps, options etc.) ?

- Yes 82 (26.5%)  
- No 227 (73.5%)

This box is shown in preview only.

The following criteria must be fulfilled for this question to be shown:

- If “Does your firm use derivatives for financial risk management (futures, swaps, options etc.) ?” equals “No”
3) * Please indicate the most important reason for *not* using derivatives:

- Inefficient exposure to financial risk.
- Exposure more effectively managed by other means.
- Derivatives are too complex for our business.
- Accounting matters.
- Concern to investors.
- Costs of managing the derivatives.
- Other, please specify

4) * As your firm is not using derivatives, does your firm use operational hedging?*

- Yes 41
- No 152
- Don't know 34
5) "As your firm uses operational hedging, how is the operational hedging done by your firm?"
- Change in price strategy.  0
- Change in "product mix" (produktlinje).  3
- Adjust to different markets and market segments.  9
- Order goods in different currencies.  9
- Change in suppliers.  6
- Charge customers more in NOK.  2
- Moving the firm or part of the firm abroad.  2
- Borrow or buy foreign currency.  10
- Other, please specify.  11

6) "Approximately how many countries does your firm have subsidiaries in?"
Select answer:
- 0
- 1-5
- 6-10
- 11-16
- 17-20
- 21-25
- More than 25
- Do not know

7) "How many subsidiaries of your firm are based abroad?"
Select answer:
- 0
- 1-5
- 6-10
- 11-16
- 17-20
- More than 20
- Do not know

8) "What share of your firm's revenue, costs, equity and liabilities are in foreign currency?"

<table>
<thead>
<tr>
<th></th>
<th>0%</th>
<th>25%</th>
<th>50%</th>
<th>75%</th>
<th>100%</th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>100</td>
<td>72</td>
<td>21</td>
<td>13</td>
<td>30</td>
<td>10</td>
</tr>
<tr>
<td>Costs</td>
<td>107</td>
<td>100</td>
<td>41</td>
<td>25</td>
<td>7</td>
<td>50</td>
</tr>
<tr>
<td>Equity</td>
<td>227</td>
<td>42</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>22</td>
</tr>
<tr>
<td>Liabilities</td>
<td>202</td>
<td>63</td>
<td>14</td>
<td>7</td>
<td>10</td>
<td>29</td>
</tr>
</tbody>
</table>

This box is shown in preview only.
The following table must be fulfilled for the question to be shown:
- ( )
- ( )
- ( )
- ( )

01.12.2011
9) * How is the use of derivatives in your firm compared to before the financial crisis of 2008?

- Higher 16
- Lower 7
- Approx. the same 59
- Don't know 0

10) * Do you feel that your firm is financially constrained?

- Substantially 21
- Somewhat 72
- A Little 48
- Not at all 158
- Don't know 12

This box is shown in preview only.

The following criteria must be fulfilled for this question to be shown:

- ☐
- ☐ If "Does your firm use derivatives for financial risk management (futures, swaps, options etc.)?" equals "Yes"

11) * Which of the following strategies best describes how your firm approaches the use of derivatives to manage the following risks?

<table>
<thead>
<tr>
<th>Risk Type</th>
<th>Exposure not managed with derivatives</th>
<th>The firm has a formal predefined strategy of handling this type of risk</th>
<th>The firm deals with this type of risk on &quot;day-to-day&quot; basis</th>
<th>Other strategy</th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest rate</td>
<td>22</td>
<td>31</td>
<td>10</td>
<td>3</td>
<td>16</td>
</tr>
<tr>
<td>Foreign exchange</td>
<td>7</td>
<td>55</td>
<td>11</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Commodity</td>
<td>18</td>
<td>27</td>
<td>7</td>
<td>2</td>
<td>26</td>
</tr>
<tr>
<td>Other risks</td>
<td>23</td>
<td>10</td>
<td>9</td>
<td>1</td>
<td>39</td>
</tr>
</tbody>
</table>

This box is shown in preview only.

The following criteria must be fulfilled for this question to be shown:
12) * For what types of risk does your firm use derivatives to hedge?

- Interest-rate risk: 39
- Exchange-rate risk: 67
- Commodity risk: 27
- Other, please specify

13) For interest-rate risk, what type of contracts does your firm use? (if not applicable, just continue)

- Forward/Futures: 12
- Swaps: 38
- Options: 8
- Other, please specify: 2

This box is shown in preview only.

The following criteria must be fulfilled for this question to be shown:

- If "For what types of risk does your firm use derivatives to hedge?" equals "Interest-rate risk.

This box is shown in preview only.

The following criteria must be fulfilled for this question to be shown:

- If "For what types of risk does your firm use derivatives to hedge?" equals "Exchange-rate risk.

This box is shown in preview only.

The following criteria must be fulfilled for this question to be shown:

- If "For what types of risk does your firm use derivatives to hedge?" equals "Commodity risk."
### 14) For exchange-rate risk, what type of contracts does your firm use? (If not applicable, continue)

- Forward/Futures: 60
- Swaps: 23
- Options: 11
- Other, please specify: 3

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The following criteria must be fulfilled for this question to be shown:

- ( ) If "For what types of risk does your firm use derivatives to hedge?" equals "Exchange rate risk."

### 15) For commodity risk, what type of contracts does your firm use? (If not applicable, continue)

- Forward/Futures: 27
- Swaps: 7
- Options: 9
- Other, please specify: 1

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The following criteria must be fulfilled for this question to be shown:

- ( ) If "Does your firm use derivatives for financial risk management (futures, swaps, options etc.)?" equals "Yes"
16) * How often does your company review a hedge? (approx.)

- Once per day: 7
- Once per week: 12
- Once per month: 30
- Once every 2 months: 6
- Once every 6 months: 7
- Once every year: 2
- More: 1
- Depends on the derivative, no formal strategy: 14
- Not until maturity: 3
- Don't know: 0

This box is shown in preview only.
The following criteria must be fulfilled for this question to be shown:
- (  
  - If "Does your firm use derivatives for financial risk management (futures, swaps, options etc.)?" equals "Yes"
- )

17) * What percent of your derivatives have the following maturities? (all derivatives positions)

<table>
<thead>
<tr>
<th></th>
<th>0%</th>
<th>25%</th>
<th>50%</th>
<th>75%</th>
<th>100%</th>
<th>Not applicable</th>
<th>Don't know</th>
</tr>
</thead>
<tbody>
<tr>
<td>90 days or less</td>
<td>17</td>
<td>37</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>91 to 180 days</td>
<td>16</td>
<td>36</td>
<td>17</td>
<td>2</td>
<td>1</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>181 days to one year</td>
<td>12</td>
<td>34</td>
<td>15</td>
<td>6</td>
<td>5</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>One to three years</td>
<td>23</td>
<td>24</td>
<td>12</td>
<td>6</td>
<td>9</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>More than three years</td>
<td>40</td>
<td>13</td>
<td>8</td>
<td>3</td>
<td>5</td>
<td>12</td>
<td>1</td>
</tr>
</tbody>
</table>

This box is shown in preview only.
The following criteria must be fulfilled for this question to be shown:
- (  
  - If "Does your firm use derivatives for financial risk management (futures, swaps, options etc.)?" equals "Yes"
- )
18) * How often does your firm transact in the interest rate derivatives market to:

<table>
<thead>
<tr>
<th></th>
<th>Not applicable</th>
<th>Never</th>
<th>Sometimes</th>
<th>Frequently</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swap from fixed rate to floating rate debt</td>
<td>29</td>
<td>25</td>
<td>26</td>
<td>2</td>
</tr>
<tr>
<td>Swap from floating to fixed rate debt</td>
<td>25</td>
<td>13</td>
<td>37</td>
<td>7</td>
</tr>
<tr>
<td>Fix in advance the rate on new debt</td>
<td>29</td>
<td>16</td>
<td>24</td>
<td>13</td>
</tr>
<tr>
<td>Reduce costs or lock-in rates based on market view</td>
<td>31</td>
<td>17</td>
<td>28</td>
<td>6</td>
</tr>
</tbody>
</table>

This box is shown in preview only.
The following criteria must be fulfilled for this question to be shown:

- ( ) If "Does your firm use derivatives for financial risk management (futures, swaps, options etc.)?" equals "Yes"
- ( )

19) Please indicate which of the following contracts your firm has used in the last year for the following exposures:

<table>
<thead>
<tr>
<th></th>
<th>Standard European style</th>
<th>Standard American style</th>
<th>Average rate (price)</th>
<th>Basket options</th>
<th>Barrier options</th>
<th>Option combinations</th>
<th>Don't know</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign Exchange risk</td>
<td>16</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>Interest Rate risk</td>
<td>7</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Commodity risk</td>
<td>9</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>0</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Other risk</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>41</td>
</tr>
</tbody>
</table>

20) * Does your firm have a documented firm policy with respect to derivatives?

- Yes 58
- No 23
- Other, please specify 0

- Don't know 1
21) * Is speculation with derivatives allowed in your firm? (actively taking derivatives positions for profit)
- Yes: 16
- No, not allowed: 60
- Other, please specify: 3
- Don't know: 3

22) * How frequently is derivatives activity reported to the Board of Directors?
- Never: 2
- Monthly: 16
- Quarterly: 23
- Annually: 11
- As needed: 23
- Not applicable: 2
- Other, please specify: 3

This box is shown in preview only.
The following criteria must be fulfilled for this question to be shown:
- (If "Does your firm use derivatives for financial risk management (futures, swaps, options etc.)?" equals "Yes"

23) * How frequently does your firm value your derivatives portfolio?
- Daily: 9
- Weekly: 4
- Monthly: 27
- Quarterly: 8
- Annually: 11
- As needed: 20
- Other, please specify: 2
- Don't know: 1

This box is shown in preview only.
24) * Please provide an estimate for the costs of managing the use of derivatives within your firm. (In NOK per year)
Select answer: 
- Less than 20,000 NOK per year
- 20,000 - 50,000 NOK per year
- 50,000 - 100,000 NOK per year
- 100,000 - 200,000 NOK per year
- 200,000 - 500,000 NOK per year
- More than 500,000 NOK per year

25) * Do you estimate the gain from using derivatives to be larger than the cost?
- To a large degree, yes
- To some extent, yes
- To a minor degree, yes
- The costs exceed the gain to some extent
- The costs clearly exceed the gain
- Don't know

This box is shown in preview only.

The following option must be fulfilled for this question to be shown:
- If "Does your firm use derivatives for financial risk management? (Y/N)" equals "Y" then "Yes"

26) * What is the most important reason for your firm to use derivatives?
- Reduce volatility in income/costs
- Reduce volatility in cash flow
- Reduce risk of financial problems
- Reduce risk for owners
- Make budgeting/accounting easier
- Reduce liquidity risk
- Other, please specify
- Don't know