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Effect of derivatives in Finnish public companies

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ABSTRACT:

The purpose of this thesis is to investigate how derivatives affect the companies' performance and market value. This thesis particularly focuses on currency, interest and commodity forwards, futures and options. The study is directed at OMXH25 companies. The use of derivatives has grown rapidly, and for that reason, it is important to study the effects. Different types of derivatives serve different purposes and therefore cannot be examined as a single, uniform category. Research has shown that, in general, currency derivatives have benefited companies, whereas similar results have not been observed for interest rate or commodity derivatives. However, these outcomes may vary significantly from one company to another. This study nevertheless demonstrates that derivatives do have an impact on corporate performance and market value. However, it cannot be conclusively stated that this impact is positive across all OMXH25 companies.

KEYWORDS: derivative securities, forward contracts, options, futures, derivative markets

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1 Introduction

Financial derivatives, for example commodity, currency and interest rate derivatives are tools for companies to implement risk management and business strategy (Guay & Kothari, 2003). Financial derivatives are used to reduce the risk of financial distress and to increase the company's ability to execute its investment and business strategy (Gupta, 2017). Implementation of derivatives in financial risk management is called hedging and is usually executed by reducing or neutralizing the unwanted price movements of the underlying assets by holding derivatives.

Theories battle whether corporate hedging is relevant for company's market value maximization and for other performance related metrics. Some studies have shown that in perfect capital markets hedging and derivatives in corporate use are irrelevant and pointless. But on the other hand, researchers have found multiple motives to use derivatives as part of company's financial decisions (Ayadi et al., 2024). This thesis offers a comprehensive explanation of derivatives and derivative related strategies, explicates motives why companies use them and explains how derivatives are used on various occasions and how these instruments work. Global derivative markets have grown significantly and also have become much more important to comprehend (Hull, 2021). At the end of 2019, the total value of underlying assets of exchange traded and over-the-counter market derivatives was over 650 trillion US dollars which is several times the gross domestic product of the world.

1.1 The purpose of the study

The purpose of the study is to examine how corporates use different derivatives and hedging strategies and whether derivatives been beneficial in terms of profit making and market value. The study and hypotheses focus mainly on OMXH25 companies. The OMXH25 index includes 25 most traded companies in Finnish stock exchange Nasdaq Helsinki. These companies will be more widely introduced and reviewed in the third chapter of the thesis. Most of these companies are in global businesses and therefore have a great exposure for interest rate changes, foreign currency risks, and commodity price fluctuations. That is why reviewing of derivative's implementation and purpose is important and relevant from the risk management perspective. Hence, the hypotheses are formed, firstly, to test the relevance and, secondly, the performance of the derivatives in this aforementioned group of companies.

H0: Use of derivatives has no impact on company performance and market value.

The null hypothesis assumes that derivatives offer no impact on market value and firm performance when used in corporate hedging. This hypothesis can be simply tested by reviewing current and relevant literature that have studied the topic. Assuming that the null hypothesis is falsifiable, the first hypothesis (H1) is the main object and focus point of this thesis.

H1: Use of derivatives offer positive impact on company performance and market value.

The first hypothesis assumes that the use of derivatives in corporate hedging has a positive impact on firm performance and therefore increases market value. When investigating this hypothesis, it is important to keep in mind that the use of derivatives and market value may have correlation but not necessarily causality. This means that even though the metrics show that market value or for example profitability increases there could be multiple reasons besides the derivatives and therefore the impact is difficult to distinguish concretely. This hypothesis can be tested by reviewing relevant literature and financial theories and also by doing empirical research. However, this thesis will only focus on literature review.

1.2 The structure of the study

This thesis consists of chapters for introduction, theory, companies, literature review, practical comparison and conclusion. The purpose of the study, methods, hypotheses and structure are handled in the introduction part. The second chapter is about theoretical background and focuses on derivatives, hedging strategies and financial theories that have a relevant connection within the subject. The third chapter introduces the OMXH25 companies and other relevant information before leading to the literature review. In the fourth chapter, subject relevant literature is reviewed to compose a coherent conclusion regarding research questions and to assess the hypothesis. The fifth chapter offers a practical comparison of the theory and the literature review to the companies and examines the hypotheses on the basis of the literature review. The closing chapter summarizes the findings into a conclusion.

2 Derivatives and corporate hedging

From a corporate perspective, three different methods are generally used when executing risk management (Rajendran & Saharan, 2024). Changes to operations and capital structure are usually considered as natural hedging. The third option is adjusting risk exposure with financial derivatives.

There is not just one exact way to protect from financial risk, but it is relevant for companies to acknowledge these risks and consider different situations that could occur. Numerous company-specific characteristics influence the choice of instruments and possible strategies for financial risk adjustment. The common way is to acquire derivatives, for example, to reduce or neutralize currency rate fluctuations. A study made in Finland in 1995 showed that almost 90 percent of big Finnish manufacturing companies used derivatives to protect from a currency risk (Knüpfer, 2024). Also, one way is not to hedge, if it is seen as the right strategic choice. Theoretically, not hedging could leave more room for profit if the strategy is proven right.

Derivatives are dependent on the underlying variables, most often on to a stock price, foreign exchange rate or commodity price, but the catalogue is continuously expanding to, for example, several types of weather and equity derivatives (Hull, 2021). Derivative can also be dependent of another derivative.

2.1 Terminology of derivatives

Derivatives include a lot of field specific terminology, so here are some key terms that occur in this thesis (Hull, 2021). Underlying asset is the variable of which price the derivative is depended on. Like mentioned above, the most common underlying asset for a derivative is a stock of a publicly quoted company. An American option is an option that can be exercised at any time of the contract period. Whereas an European option can be exercised only at a predetermined time and date. Delivery price is the price in which both parties have agreed to make the transaction in the future. Strike price determines the selling or buying price of the underlying asset in option contracts. ITM, ATM, and OTM are terms that describes the underlying assets price related to the strike price. When option is ITM (In the money), the asset price is higher than call option strike price or lower than put option strike price. In ATM (At the money), asset price is equal to strike price. In OTM (Out of the money) asset price is lower than call option strike price and higher than put option strike price. Premium is a price that buyer pays for single option in addition to the strike price. Clearing house is a corporation that guarantees and secures the transaction of derivatives in derivative exchanges. Credit risk occurs from the possibility of counterparty's insolvency. In OTC (over the counter) markets traders are usually financial institutions, companies and other large entities and the trades are made directly between each other or by a broker.

2.2 Derivatives

This section investigates forward contracts, futures contracts, options and SWAP contracts fundamentals and implementation in hedging, some strategies and theoretical background. These derivatives can be bought and sold in derivative exchanges where terms are standardized or over the counter (OTC) markets where more flexible terms can be implemented (Knüpfer, 2024).

Ayadi et al., (2024) finds that derivatives offer several scientifically proven benefits for corporations, especially risk management related. Derivatives can reduce costs from financial distress, information asymmetry, tax burdens and price fluctuations to name a few. Increasing volatility of prices in different asset classes have made companies focus more on risk exposure and management. Derivatives can be used to secure future cash flow but also in a speculative manner.

2.2.1 Forward contracts

A forward contract is considered to be from the simpler side of derivatives and is traded in OTC markets. In forward contract two parties make an agreement to trade a certain asset at a certain time for a certain price (Hull, 2021). In this situation the other side of the contract is in a long position and buys the asset and the other in a short position, sells the asset. Forward contracts can be used to lock, for example, exchange rate for an upcoming payment of foreign currency or for a barrel of oil. The payoff of forwards is simple. As seen from the Figure 1, if the asset price is above forward contract price at the delivery date, the buyer is the winner. Now the buyer who had the long position can buy the asset cheaper than its current value is. And because it is zero-sum game, one side of the deal gains what the other loses.

A key element of forward contract derivatives is that it binds both the buyer and the seller (Knüpfer, 2024). There is also no premium, and no daily settlement of net value changes. More about these features with futures and options.

2.2.2 Futures

Futures are fundamentally close to forward contracts, agreements of buying and selling at a determined amount and date, but the main difference is that futures are traded in exchanges and have more standardized attributes (Hull, 2021). Futures contracts are also more accessible due there is an exchange clearing house between the two parties to carry the credit risk and to secure the deal. Exchange traded futures are most often settled daily and therefore there are no final deliveries of the assets or cash settlements. The price of the underlying asset determines a daily price and value change for the future contract.

Guay and Kothari (2003) find in their study that in 1997 forwards and futures were the most used derivatives for foreign exchange rates, but the least used instrument for interest rates. Total of 124 companies out of 143 reported to have positions in foreign exchange futures and forward contracts. Also, in a study made in 1995 over 90 % of large Finnish manufacturing companies used forward contracts to hedge from foreign exchange risk (Knüpfer, 2024).

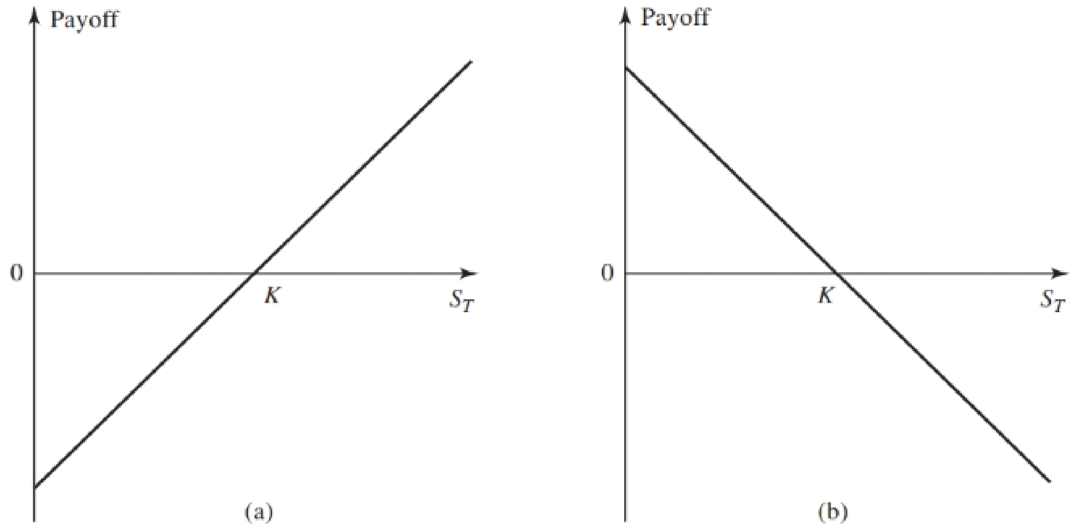

Figure 1. Payoff structures of forward contracts and futures (Hull, 2021).

2.2.3 Options

The payoff and mechanics of options differ from futures and forward contracts and requires more knowledge from the users. Options could be traded in both exchanges and OTC markets (Hull, 2021). When futures and forwards are agreements that will be executed, options are rights than can be executed by the holder if the price movement is favourable. There are two types of options, and both can be sold and bought. A call option contains the right to buy the underlying asset and a call option to sell. Options are also divided to two categories depending on when the option can be exercised. American option can be exercised by holder at any time during a certain time period and European option only on a certain time and date.

The payoff structure depends on if the option has been bought or sold and if it is a call option or a put option (Knüpfer, 2024). Buyer of a call option is long in the trade and assumes that the underlying assets price is increasing. Buyer of a put option is short in the trade and assumes that underlying assets price is declining. The buyer of an option pays a premium and cannot lose more than that. Upside depends on the price movement of the asset. Option sellers upside limits to the premium and losses can be much bigger if the asset's price moves to unwanted direction. Options are logically executed only if the price is in ITM or ATM.

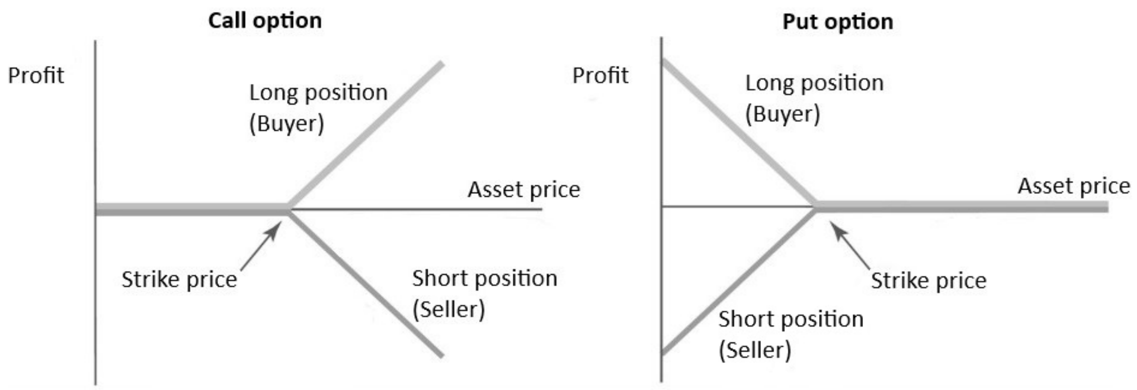

Figure 2. Payoff structures of a call option and put option (Knüpfer, 2024).

As seen in the Figure 2 the buyers' loss and the sellers' profit limits to the option premium. Therefore, selling an option is also considered to be riskier than buying option. Also, theoretically, selling a call option involves more risk than a put option, since the price of an asset could go infinitely upwards, but not below zero.

2.2.4 SWAP contracts

Swap contracts were formed in the 1980's and since then have seen significant growth amongst other derivatives (Hull, 2021). SWAP contracts are traded in OTC markets between two parties. The basic principle is to exchange cash flows, for the same principals, meaning that the contract is based on to swap for example currencies, interest rates or other asset. SWAPs are quite similar to forward contracts, but the difference is that in SWAP contracts cash flows are exchanged regularly during the contract period when forward contracts have one date for the exchange.

SWAP contracts are generally used to hedge cash flows for longer time periods, for example long-term loans or bonds (Guay & Kothari, 2003). For this specific use, long-term forward and option markets are quite non-existent or does not have enough liquidity. In a standard currency swap contract, two parties periodically exchange interest payments denominated in two different currencies, and upon maturity, they re-exchange the principal amounts in the respective currencies. The same mechanic applies to interest rate SWAPs.

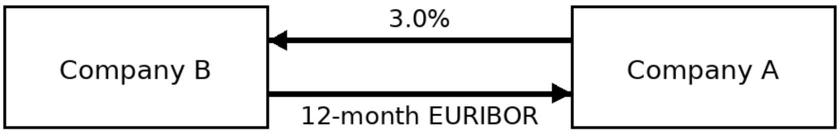

Figure 3. Interest rate swap between Company A and Company B (Hull, 2021).

In Figure 3 Company A has issued a bond with 12-month EURIBOR floating interest rate. Company A wants to reduce the risk of rising interest rates and swap to a fixed interest rate. Company B is the counterparty of the contract. Company B pays 12-month EURIBOR for company A and receives fixed interest rate, typically with premium. Hence, company A receives the same interest rate that it pays for the bond holders and pays only the fixed rate (3.0%) for company B.

2.3 Hedging strategies

Studies have shown that corporate hedging as a part of risk management is not universal nor heterogeneous across industries (Ji & Wei, 2023). Efficient hedging varies for example from the industry, country, business diversification, asset and debt levels and company size. Having correct hedging strategies is crucial for company's ability to maximize market value. Studies have shown a positive correlation between market value and derivative hedging but also a negative impact if derivatives are used inefficiently or predominantly for speculation.

Natural hedging and hedging with financial derivatives have a strong relationship in firm's risk management strategy. Rajendran and Saharan (2024) state that financial derivatives can be used as complementary tools to fine-tune natural hedging and enhance the effect. Effective use of these two strategies can create synergy that has significantly greater impact on firm's value, rather than using only one. Figure 4 shows the spectrum of the strategic jet fuel hedging.

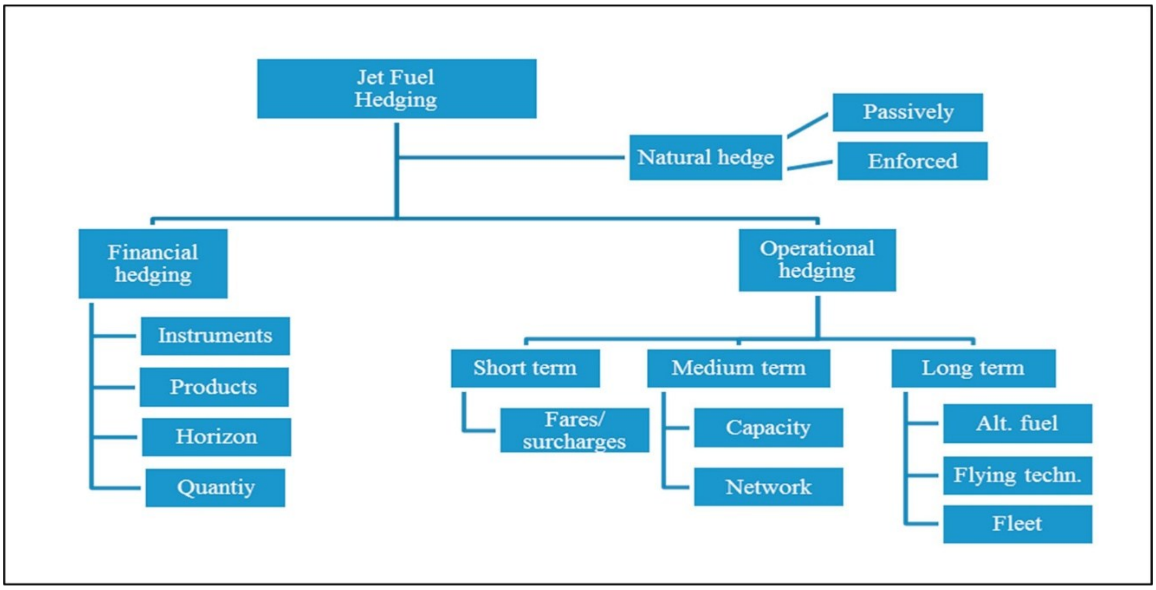

Figure 4. The spectrum of strategic jet fuel hedging (Merkert & Swidan, 2019).

2.3.1 Hedging against currency fluctuations

According to Geczy et al. (1997) imperfections of capital markets motivate companies to use derivatives. And the final decision to use currency derivatives depends on the foreign exchange risk exposure and the risk management expenses.

A study from 2009 finds that foreign exchange derivatives were the most used derivative in all continents from 2000 to 2001 (Bartram et al., 2009). Foreign Exchange derivatives were the most used in Chemical (68.9%), Fabricated product (62.5%) and Automobile (61.6%) industries and the least used in Retail (37.7%), Oil (38.4%) and Miscellaneous (36.6%). Across all of the firms over 60 percent used foreign exchange derivatives. Usage in OECD countries was 47.3 percent and in non-OECD countries 34.6 percent. Africa/Middle East with 74.8% had a higher usage rate compared to Latin America/Caribbean (51.7%), Europe (50.9%), Asia & Pacific (44.1%) and US & Canada (39.3%). The study represented total of 82.2 percent of the world's nonfinancial firms market capitalization.

A common procedure for companies to hedge from currency fluctuations is to buy forwards contracts or futures to offset the risk (Hull, 2021). Company can hedge for future transactions, like for example incoming or outgoing payments. To hedge against exchange rate movements for an incoming or outgoing payments of a foreign currency, company can buy a derivative to lock in a certain exchange rate, which eliminates the uncertainty of final payment size transferred to the preferred currency. However, this does not mean that the decision to hedge is always right, because exchange rates can theoretically move in any direction, which could also lead to lost profits.

2.3.2 Commodity hedging

If a company expects uncertainty in commodity's price while holding a certain commodity asset, taking a short position can offset the risk of the commodity losing its value (Hull, 2021). For example, if the commodity price goes down a percent, the short position gains a percent. Taking a long position on a commodity, that a company is planning to acquire, offsets the risk of upcoming purchase price increase. A long position increases the same amount as the commodity's price. This procedure can also be described as locking in the price for the future purchase.

According to Bartram et al., (2009) commodity price derivatives were the most used in Oil (50.4%), Utilities (44.4%) and Mining (35.7%) industries and the least used in Retail (3.2%), Machinery (3.3%) and Miscellaneous (2.8%). Across all of the firms only 10 percent used commodity price derivatives. Also, geographical location had a factor in usage rates. The usage rate was almost four times higher in OECD countries (11.4%) than in non-OECD countries (3%). US and Canada with 16.8% and Latin America/Caribbean with 18%, had a significantly higher usage rate, compared to Europe (5%), Asia & Pacific (6%) and Africa/Middle East (7.9%).

2.3.3 Interest rate hedging

Companies can protect themselves against interest rate changes mainly in two ways (Hull, 2021). By taking a long or a short position using futures to offset or reduce the interest rate changes, or through SWAP contracts. With interest rate futures logic behind hedging differs slightly. When interest rates go up, futures prices decrease and vice versa. Therefore, a company expecting to lose money if interest rates rise, should take a short position using futures. Futures prices are also strongly affected by duration. Hedging should be constructed so that the duration of the underlying asset is as close to the duration of the asset hedged. Swap contracts are used to exchange an interest rate type for one that better matches the company risk profile. For example, if a company considers rising interest rates too harmful, it could convert a loan’s floating rate into a fixed rate.

In their derivatives use statistics summary Bartram et al., (2009) declare that one third of non-financial firms used interest-rate derivatives. Usage rate was significantly higher in OECD countries (37.4%) than in non-OECD countries (10.8%). US and Canada had slightly higher usage rate with 37.6%, compared to Europe (32.4%) and Latin America/Caribbean (37.1%). Asia & Pacific and Africa/Middle East fell more behind with 27.3% and 22% usage rates. Across industries interest rate derivatives were the most used in Utilities (61.7%), Transportation (47.4%) and Chemicals (48.6%) and the least used in Mines (20.3%), Machinery (30.1%) and Miscellaneous (26.1%).

2.4 Speculation and hedging

Speculating with derivatives can be described as taking positions in the market, whereas hedging is limiting risk exposure for asset price fluctuations (Hull, 2021). Speculators try to make a profit by betting that the price of an asset will move in a favourable direction.

Growing futures markets for commodity prices have come with unwanted side effects due to significant increase in speculative activity (Bohl et al., 2020). Unprecedented volatility and increased co-movement have caught the attention of researchers and regulators. One of the characteristics of commodity derivatives is to reflect all available information so that market participants using them can make rational decisions based on the future prices. Uninformative futures prices could cause irrational decisions and negative economic effects. Studies have also shown that predicative ability of futures prices have decreased for two decades which correlates with increased speculative activity. This of course makes it more difficult for companies to hedge efficiently with derivatives.

Multiple studies, for example Adam et al. (2017) and Merkert and Swidan (2019), show that speculation with derivatives is inefficient or possibly harmful for companies. Adam et al. (2017) finds that the companies who speculate the most among North American gold mining companies, have the highest probabilities for bankruptcy. They also find that the volatility of stock return is related positively to speculation. Merkert and Swidan (2019) conclude that jet fuel price hedging reduces profit volatility, and therefore is a useful tool for risk management, but should not be used for speculation. Jet fuel price speculation is ineffective and does not have relation to higher profit margins.

2.5 Derivative markets

As mentioned before, derivative trading, buying and selling, are divided into two market systems. More regulated and organized derivative exchanges, where trading happens instantly due to the internet and clearing houses, offer different services for different customers than less regulated but with more editable contracts, over-the-counter (OTC) markets.

2.5.1 Derivative exchanges

Before the new fully or at least majorly electronic trading platforms, traders carried out the trading face-to-face on specific trading platforms (Parameswaran, 2022). Traders took orders from clients and tried to find counterparty with common interests. Today the principles are the same, but the trading platforms and traders have migrated online. Traders around the world feed orders into trading terminals which transmits the orders to the online trading platforms. Although, some older exchanges, The New York Stock Exchange and the CME Group, have still today floor- and screen-based trading platforms in use.

Rank	Exchange	Jan-Dec 2022 Volume#	Change vs. 2021
1	National Stock Exchange of India	38,113,511,047	120.90%
2	B3 Stock Exchange, Brazil	8,313,793,640	-5.00%
3	CME Group, US	5,846,331,689	18.30%
4	CBOE Global Markets, US	3,476,174,099	12.30%
5	Intercontinental Exchange, US	3,435,073,009	3.50%
6	NASDAQ, US	3,147,540,772	-4.40%
7	Borsa Istanbul, Turkey	2,726,889,885	31.00%
8	Zhengzhou Commodity Exchange	2,397,600,933	-7.10%
9	Dalian Commodity Exchange, China	2,275,200,779	-3.80%
10	Korea Exchange	2,058,222,218	-9.80%
11	Eurex	1,955,730,332	14.80%

Figure 5. Exchange Ranking by Derivatives Trading Volumes (Subeesh & Liya, 2024).

As seen from the Figure 5, exchanges from emerging markets have become the top exchanges in trading volumes. And the Figure 6 shows the substantial increase in trading volume of contracts traded globally.

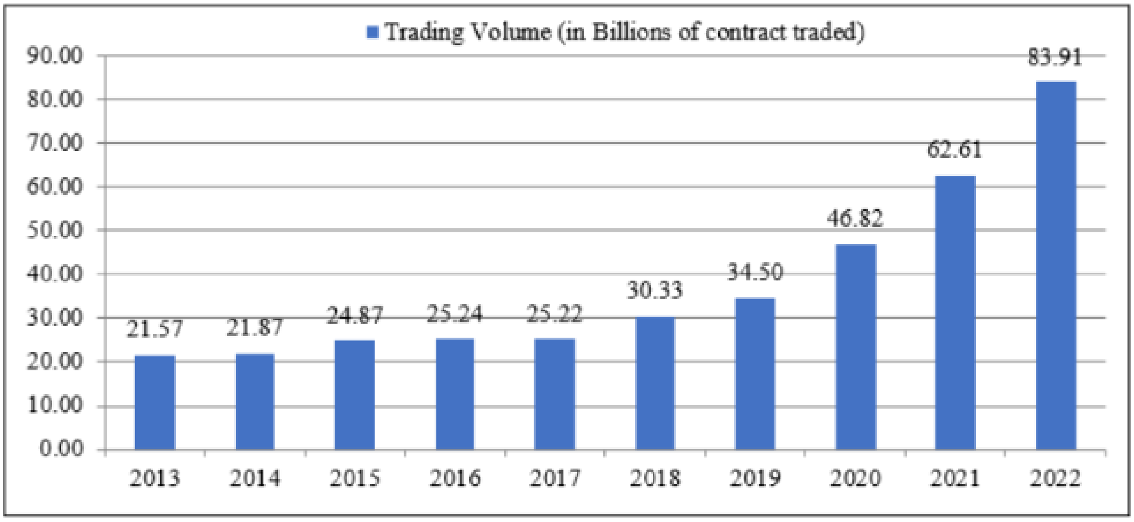

Figure 6. Global trading of exchange-traded derivatives (Subeesh & Liya, 2024).

2.5.2 Over-The-Counter (OTC) Markets

In the OTC markets trading happens between two institutions, without exchanges (Hull, 2021). The counterparts can be, for example, corporations, banks, fund managers and other financial institutions. Some banks can also operate as market makers, where they are ready to quote bid or ask prices and are willing to take one side of the deal.

As seen from Figure 7 , OTC derivatives market size is significantly larger than exchange traded derivatives market size, 7 trillion compared to 0.84 trillion US dollars. Although, after a sharp increase prior to financial crisis, OTC derivative markets have not particularly grown since. Parameswaran (2022) note that most of the global foreign exchange and bond trading happens in OTC markets which explains the much higher notional value of outstanding OTC derivatives compared to exchange derivatives. Also, OTC market trades are much more sizable in volumes.

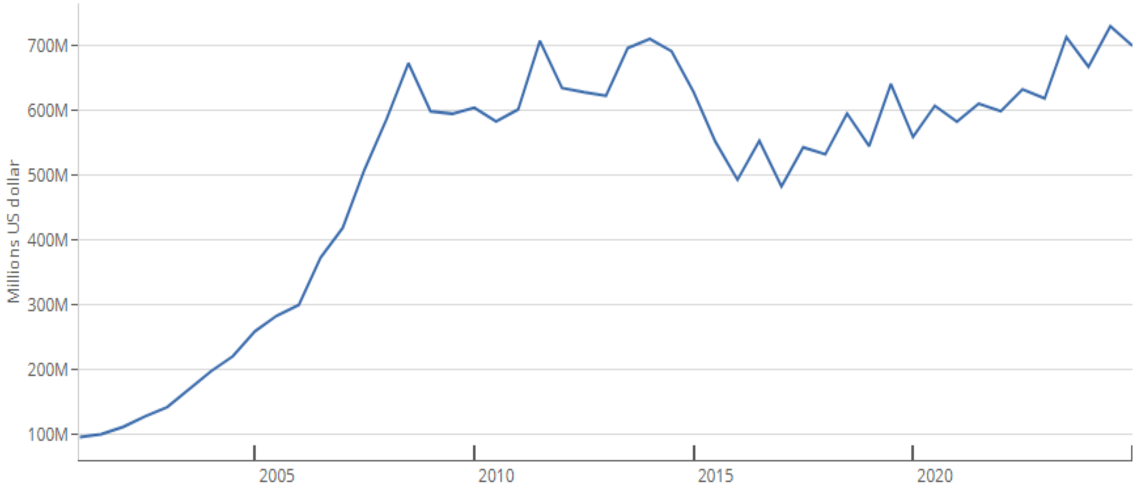

Figure 7. Total notation of outstanding OTC derivatives (BIS Data Portal, 2025).

The OTC markets are characterized by systematic and credit risk (Hull, 2021). Systematic risk means that bankruptcy of a large financial institution, which has been trading derivatives with other institutions, could cause a ripple effect due the high credit risk and high leverages. The OTC markets played a significant role in the 2007 financial crisis, as exemplified by the Lehman bankruptcy. Although since then some important regulatory changes have been made.

3 OMX Helsinki 25 Stock Index

The leading and the most watched share index in Finland is OMX Helsinki 25 operated by Nasdaq. The OMXH25 includes the 25 most actively traded companies, instead of market capitalization, which guarantees the liquidity of the underlying stocks (Nasdaq, 2025). The index is capitalization weighted, and one company is weight limited to 10 percent. The number of shares per company is calculated on quarterly basis and the composition of the index is revised twice a year. The index began tracking the Finnish stock market on March 4, 1988.

3.1 OMXH25 Companies

COMPANY NAME	SECURITY SYMBOL
Elisa Corporation	ELISA
Fortum Corporation	FORTUM
Hiab Oyj	HIAB
Huhtamaki Oyj	HUH1V
Kemira Oyj	KEMIRA
Kesko Corporation B	KESKOB
Kojamo Oyj	KOJAMO
KONE Oyj B	KNEBV
Konecranes Plc	KCR
MANDATUM OYJ	MANTA
Metso Oyj	METSO
Neste Corporation	NESTE
Nokia Corporation	NOKIA
Nokian Tyres Plc	TYRES
Nordea Bank Abp	NDA FI
Orion Corporation B	ORNBV
Outokumpu Oyj	OUT1V
Qt Group Oyj	QTCOM
Sampo Plc A	SAMPO
SSAB AB ser. B	SSABBH
Stora Enso Oyj R	STERV
TietoEVRY Oyj	TIETO
UPM-Kymmene Corporation	UPM
Valmet Oyj	VALMT
Wartsila Corporation	WRT1V

Figure 8. The list of OMXH25 companies (Nasdaq, 2025).

Above is the list (Figure 8) of the 25 companies in the OMX Helsinki 25 stock index at the date of September 15, 2025. The list is in alphabetical order. In this thesis financial institutions are not included, therefore Mandatum Oyj, Nordea Bank Abp and Sampo Plc A are not part of the study. Below is a breakdown (Figure 9) of the industries where the companies operate.

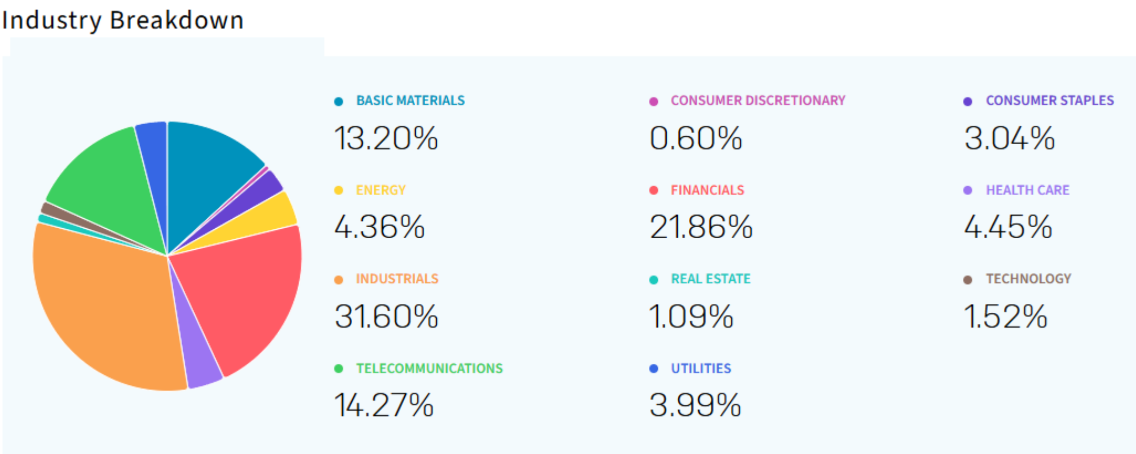

Figure 9. Industry breakdown of the OMXH25 companies (Nasdaq, 2025).

As seen from the Figure 9 industrials segment has strong dominance in largest Finnish companies. Financials, which will be excluded in this study, has the second place. Telecommunications and Basic materials come fourth and fifth. Rest of the segments have relatively smaller shares.

3.2 Company descriptions

Large global manufacturing companies like KONE Oyj, Wärtsilä Oyj, Valmet Oyj, Metso Oyj, Hiab Oyj and Konecranes Plc form the "Industrials" sector. KONE Oyj is a lift and escalator manufacturer with over 60000 employees and generating over 11 billion euros in revenue (Kone.com, 2025). Kone Oyj was founded in 1910 and is today operating in almost 70 countries. Wärtsilä Oyj is an engine manufacturer and energy system provider for marine businesses (Wartsila.com, 2025). In 2024 Wärtsilä had revenue of 6.45 billion euros and over 18000 personnel. Valmet Oyj supplies machines and processes for fibre, pulp and energy needs (Valmet.com, 2025). Valmet generates 5.4 billion in revenue and operates in about 40 countries across the world. Metso Oyj manufactures machines and processes for mining, mineral processing and metal refining (Metso.com, 2025). Metso has approximately 17000 employees and generates 4.9 billion euros in revenue. Hiab Oyj delivers road load handling solutions (Hiab.com, 2025). Hiab had approximately 1.6 billion euros in revenue in 2024 and employs over 4000. Konecranes Plc is a supplier of industrial cranes and wire rope hoists (Konecranes.com, 2025). Konecranes has 4.2 billion euros in revenue and has 16500 employees in 50 countries.

Nokia Corporation and Elisa corporation form the second largest sector “Telecommunications”. Nokia Corporation produces IP, cloud, broadband and digital healthcare solutions (Nokia.com, 2025). Nokia had total of 19.2 billion euros of revenue in 2024 and operates in 130 countries approximately. Elisa Corporation produces telecommunication and digital services for consumers, corporates and public administration (Elisa.com, 2025). Elisa had 2.2 billion euros revenue in 2024 and employs over 6700 people in over 20 countries.

The third largest sector “Basic Materials” is formed by Kemira Oyj, Outokumpu Oyj, Stora Enso Oyj, UPM-Kymmene Corporation, SSAB AB and Huhtamäki Oyj. Kemira Oyj produces chemical solutions and services for water-intensive industries (Kemira.com, 2025). Kemira has 4700 employees and had 2.9 billion euros in revenue in 2024. Outokumpu Oyj is stainless steel producer (Outokumpu.com, 2025). In 2024 Outokumpu had net sales of 5.9 billion euros and 8700 employees. Stora Enso Oyj produces products for the packaging, biomaterials and wood products industries and generated 9 billion euros of revenue (Storaenso.com, 2025). UPM-Kymmene Corporation produces renewable fibres, advanced materials, decarbonization solutions, and communication papers (Upm.com, 2025). UPM generates over 10 billion euros of revenue and has operations in over 46 countries with 15800 employees. SSAB AB is high-strength and quenched and tempered steel producer (Ssab.com, 2025). SSAB has approximately 16000 employees in over 50 countries. Huhtamäki produces packaging solutions

(Huhtamaki.com, 2025). In 2024 Huhtamäki had 4.1 billion euros in revenue and employs 18000 people in 36 countries.

Qt Group Oyj and TietoEVRY Oyj represent the “technology” sector. Qt Group Oyj is a software company and cross-platform solutions for software development (Qt.io, 2025). Qt Group had 209 million euros of revenue in 2024 and 869 employees. TietoEVRY Oyj produces software and digital engineering services and generated approximately 2 billion euros of revenue in 2024 (Tietoevry.com, 2025).

Other sectors are represented only by one company each. Orion Corporation represents the “Health Care” sector. Orion Corporation is a pharmaceutical company that develops and manufactures medicines globally (Orionpharma.com, 2025). Orion has over 3700 employees and generated 1.5 billion euros of revenue in 2024. The “Energy” sector is represented by Neste Corporation, which is a fuel producer that has specialized in, for example, sustainable aviation fuel and renewable diesel (Neste.com, 2025). In 2024 Neste generated 20.6 billion euros of revenue and had approximately 5800 employees. The “Utilities” sector is represented by Fortum Corporation, which is an energy producer and distributor company (Fortum.com, 2025). Fortum employs approximately 4500 employees and generates 5.8 billion euros in revenue. Kesko Corporation represents the “Consumer Staples” sector. Kesko is a multi-player in the retail sector. Kesko operates in the grocery trade, building and technical trade, and car trade (Kesko.fi, 2025). Kesko employs approximately 45000 people and generates 16 billion in revenue, when K-retails are taken to count. The “Real Estate” sector is represented by Kojamo Oyj (Kojamo.fi, 2025). Kojamo is a rental housing company that generates 452 million euros of revenue and manages 8 billion euros worth of investment properties. The “Consumer Discretionary” sector is represented by Nokian Tyres Plc (Nokiantyres.com, 2025). Nokian Tyres generated 1.3 billion euros of revenue in 2024 and has 3800 employees.

4 Literature Review

This chapter examines, based on relevant sources and literature, how the use of derivatives in companies affect their performance. It also investigates and compares how derivatives are used and how their use influences the market value of companies. This chapter presents several theories both supporting and opposing the use of derivatives and the next chapter compares these perspectives with OMXH25 companies. Some theories may have been mentioned before, but in this chapter, they will be presented with more detail.

4.1 Theories against derivative hedging

Financial theories opposing the use of derivatives are generally related to information asymmetry, agency problems, inefficiency, conflicts of interest, risk aversion or additional costs from hedging. The following theories can be assumed to apply for OMXH25 companies as well.

4.1.1 Modigliani and Miller Theorem

The Modigliani-Miller theorem states that in the perfect market, the capital structure and dividend policy is irrelevant and independent from the company’s market value (Miller & Modigliani, 1958). The perfect market assumption includes no taxes, no transaction fees, symmetric information, no bankruptcies and no agency problems. Only relevant factors for the company’s market value are its real assets and investment decisions. Therefore, according to the theorem, financial instruments, like derivatives, are not relevant for company’s market value. This leads to that investors can and should hedge by their own and how they want. Also, for example, idiosyncratic risk can be reduced by a well-diversified portfolio (Ayadi et al., 2024). Therefore, Modigliani-Miller theorem states that corporate hedging could reduce company specific risks, but for an individual investor it does not add any value.

4.1.2 Conflicts of interest and agency problems

According to Ahmed et al. (2020) use of derivatives in corporate hedging can be a double-edged sword, mainly because their ability to be used as hedging or speculative tool. According to the study, management’s interests, whether consciously or unconsciously, do not always align with those of shareholders. This misalignment can increase agency problems and risk aversion, ultimately decreasing the firm’s value. The study’s model predicts that the overconfidence of management cause speculative use of derivatives and the management’s risk aversion, self-interest and perceived cost of financial distress can lead to over hedging. They find that both speculative use and over hedging can be a value reducing factor.

Alexandridis et al. (2021) examine the weaker investments and conflicts of interest between management and shareholders resulting from the use of derivatives. The study investigates how derivative and financial hedging effects corporate investments, for example merger and acquisitions. They find that due the more financial flexibility generated by derivatives, the company's exposure for agency problems and interest conflicts between managers and shareholders may increase. They suggest that this enhanced flexibility can increase the agency cost by pushing company executives to overinvest.

4.1.3 Practical and direct costs

According to Hull (2021) basis risk plays a big factor in derivative hedging and can cause a mismatch that the hedge may not offset the risk as intended. Hull states that basis risk includes three key variables. First, the hedged asset may not be exactly the same as the underlying asset of the derivative contract. Second, there may be uncertainty regarding the exact date on which the asset will be bought or sold. Third, the hedge may require closing the derivative contract before its maturity. These three factors could lead to asymmetric price movements between the asset hedged and the derivative contract. Also, an important characteristic for basis risk is that it typically decreases when moving towards the maturity date. Figure 10 presents the variation of basis over time.

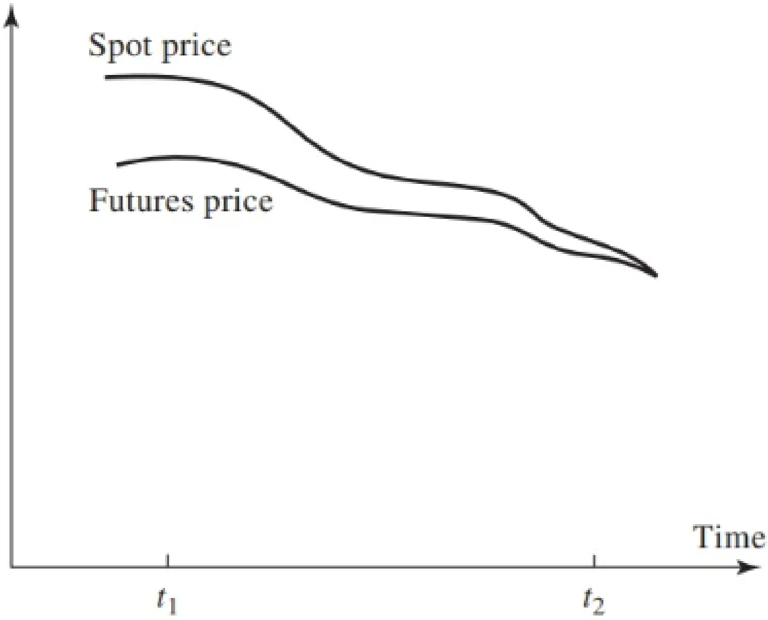

Figure 10. Variation of basis over time (Hull, 2021).

The use of derivatives results in several costs, both practical and direct, from many different sources. Campbell et al. (2019) summarizes many of these costs in their paper. For example, the preparation, management, and disclosure of information related to derivatives can lead to both direct and indirect costs. Costs arise from accounting and regulatory requirements for derivatives, as these can be quite complicated (compliance, measuring, documentation). Accounting rules and laws concerning derivatives change relatively quickly, which increases the cost burden. Additionally, disclosing the use of derivatives may be beneficial for a company's competitors. It is also not always certain how stakeholders, such as investors and lenders, will react when a company discloses that it is using derivatives. They also mention the opportunity costs and trade-offs and the complexity of the practical use of these instruments.

4.2 Theories in favour of derivative hedging

The theories and practices supporting the use of derivative hedging mainly relate to stabilizing cash flows, reducing the risk of financial distress, and lowering borrowing costs. The following theories can be assumed to apply for OMXH25 companies as well.

4.2.1 Reducing the probability and costs of financial distress and bankruptcy

Referring to the Modigliani-Miller theorem, perfect market conditions are not possible in real world (Ji & Wei, 2023). Many other theories have indicated that market imperfections do exist, and Modigliani-Miller theorem has been since rejected. Hedging against factors that Modigliani and Miller assumed away, taxes, costs of financial distress, and agency problems, and replicating the perfect market conditions can be highly beneficial and value adding for company, how Smith and Stulz (1985) showed.

Smith and Stulz (1985) find that hedging is relevant part of the corporate risk management policy for maximizing market value by reducing the probability and costs of financial distress and bankruptcy. They present theoretical and quantitative arguments for hedging for taxes, debt and managerial risk aversion.

According to Guay (1999) new derivative users experience significantly lower firm risk, both statistically and economically. Compared to companies that do not use derivatives, the firms that have begun to utilize derivative instruments experiences clearly lower stock return volatility as well as reduced interest rate and currency risk. From these findings, it can be assumed that the companies face a decreased probability of financial distress.

4.2.2 Underinvestment and external finance costs

Although it has been previously noted that the use of derivatives may lead to agency problems like overinvestment, according to Alexandridis et al. (2021), it can also, with the same principles, help firms shift away from underinvestment and increase financial flexibility for merger and acquisitions. They argue that companies using derivatives can pursue inorganic growth, while decreasing financing restrictions for example, through lower borrowing costs.

Chen and King (2014) also reach the same conclusion in their study, finding that the use of derivatives can reduce a firm's borrowing and financing costs. Their research covers a large sample of U.S. companies from 1994 to 2009. According to them, the lower borrowing costs can be explained by factors such as reduced bankruptcy risk and agency costs and lower information asymmetry. Chen and King also state that the effect of derivatives on borrowing costs is statistically and economically significant and consistent across various industries.

4.2.3 Cash flow stabilization

Almost all OMXH25 companies engage in international business, making their exposure to exchange rate fluctuations significant. To stabilize cash flows, firms can, for example, hedge against such fluctuations, as demonstrated by Bartram (2008). According to the study, the impact of exchange rate variations on cash flow can be almost completely neutralized or rendered insignificant through the use of derivatives. Alexandridis et al. (2021) also state that the use of derivatives reduces the likelihood of negative cash flows and indicates more stable future cash flows.

4.2.4 Enhancing firm value

According to Nelson et al. (2005) companies that used derivatives outperformed those that did not by 4.3% in the U.S. stock market between 1995 and 1999. However, they found that almost the entire excess return was explained by companies that hedge currencies. According to the study, firms that used derivatives to hedge against exchange rate fluctuations outperformed the peers by 0.42% per month, equivalent to 5.1% annually. Furthermore, when examining companies that hedge only currency risk, the excess return relative to the market was significant 12.2% per year.

Ji and Wei (2023) also conclude in their study that the use of derivatives can increase a firm’s value. Their sample includes non-financial publicly listed companies from 2013 to 2022. They find a relevant and robust link between using derivatives for hedging and higher firm value. Bachiller et al. (2020) also state in their meta-analysis of 51 studies that, although there is no general consensus on the effect of derivatives on firm market value, it is clear that the use of currency derivatives in particular has a positive impact on firm value. They also note that hedging provides a financial advantage for all companies, especially those operating in developed countries.

5 Practical comparison to OMXH25 companies

Up to this point, this study has extensively discussed various types of derivatives, their mechanics, purposes, and effects on firms. As noted in several sources, the use of derivatives can have a positive impact on a company's performance and market value. However, the outcome largely depends on how derivatives are used, which companies employ them, and what objectives are pursued through their use. This chapter examines, based on the sources presented earlier in the study, how derivatives may specifically affect OMXH25 companies.

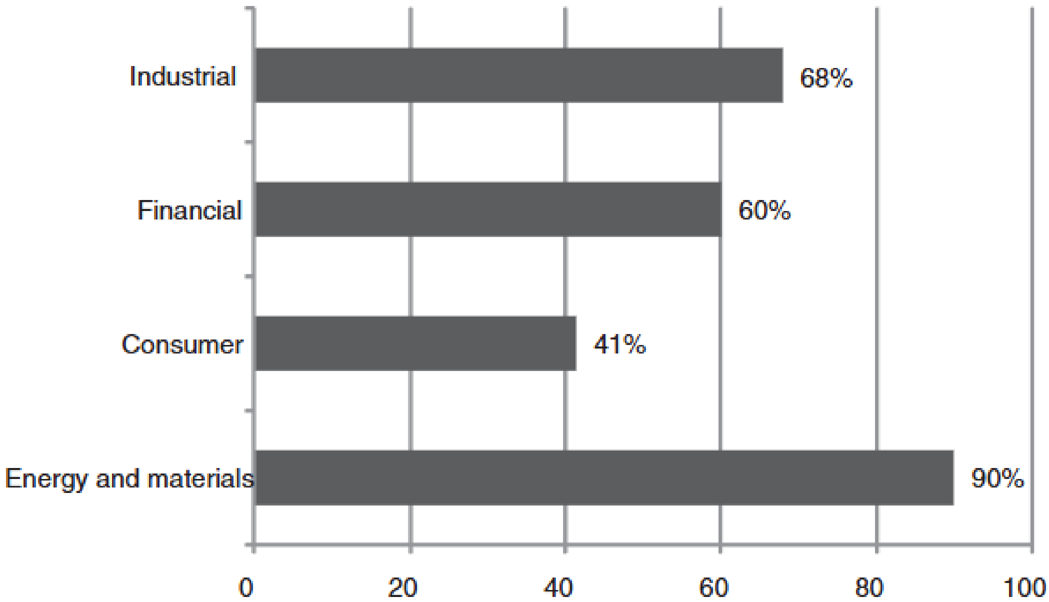

Figure 11. Percentages of companies that use derivatives (Brunzell et al., 2011).

According to Brunzell et al. (2011) 62% of Nordic companies use derivatives and as seen from the Figure 11, the highest usage rate 90% is in "Energy and materials" sector, followed by "industrial" (includes telecommunications and IT) with 68%. Their study also showed that forwards, futures and swaps were the most used derivatives. The companies conducted in the study stated that exchange rate was the biggest reason for using derivatives, followed by interest rate and commodity prices. The main objectives for derivative use were cash flows, accounting earnings and balance sheet accounts and in that order.

Industrial, energy and materials cover nearly 65% of OMXH25 companies and as stated earlier, most of those companies have large global trade and therefore exposure to currency fluctuations. Exchange rate was also mentioned as the main reason for derivatives use in the study conducted by Brunzell et al. (2011). As can be summarized from studies mentioned earlier, for example Bachiller et al. (2020), currency rate hedging has a positive impact on firm value.

According to Von Gerich and Karjalainen (2006) nearly 50% large Finnish companies stated that rising interest rates would not affect their financial result negatively and approximately 50 percent stated that rising interest rates would weaken their financial result. From a sample of 61 companies, 71.2% used interest rate swaps and 27.1% used interest rate futures. The resistance for rising interest rates could be from the utilization of derivatives, but like Von Gerich and Karjalainen stated, no hard conclusions can be made due to the subjectivity of the measure.

As noted earlier, a large portion of OMXH25 companies' trade is conducted in currencies other than the euro, making them exposed to exchange rate fluctuations. According to studies, many of these companies are also subject to interest rate risk. In addition, a significant number of companies either produce or heavily consume materials or energy in their production processes. As a result, these firms are exposed to commodity price fluctuations. Therefore, it can be concluded that there are clear grounds for the use of derivatives among OMXH25 companies. Consequently, based on the sources cited in this study, the null hypothesis (H0) does not hold, meaning that the use of derivatives does have an impact on a company's performance and market value.

Although several sources and studies support the first hypothesis (H1), it cannot be concluded that all use of derivatives enhances a company's market value. Derivatives may also be used for speculative purposes, which has been shown to have a negative effect. Since there is no sufficiently clear consensus on the positive impact of derivative use, the findings of this study do not support the validity of the first hypothesis.

6 Conclusion

This study examines the utilization, principles, purpose, and impact of derivatives on companies, particularly OMXH25 firms, in their performance, and market value. The use of derivatives has increased significantly, especially over the past 30 years, and their importance to companies has grown accordingly. The expanding range of derivative instruments enables an increasing number of firms to utilize them in operations. Today, more and more companies are paying attention to and allocating growing amounts of resources toward managing various risks, such as interest rate, currency, and commodity risks. Derivatives play a key role in these risk management strategies.

There is a substantial amount of literature and research on the impact of derivatives on companies, and their conclusions are relatively well interpretable. However, the lack of a general consensus and the heterogeneity of the research field pose challenges. It cannot be directly assumed that if commodity derivatives are found to have a positive effect on mining companies, the same would apply to a retail chain or an elevator manufacturer. Different types of derivatives also function in very different ways, and their effectiveness depends on factors such as expected outcomes and the quality and scope of the hedging strategy. Therefore, it is very difficult to draw broad conclusions, especially across a large number of industries, such as those represented by OMXH25 companies.

Based on the sources used in this study, it can be concluded that derivatives do have an impact on a company’s performance and, consequently, possibly on its market value, hence the null hypothesis is false. However, without further research, it cannot be stated that the use of derivatives increases the market value of OMXH25 companies. Based on the literature, the first hypothesis is therefore neither accepted nor rejected. This question could be clarified through a more extensive study that examines the use of derivatives at the company level among OMXH25 firms.

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