ZESZYT NAUKOWY
Wyższa Szkoła Zarządzania i Bankowości w Krakowie

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IMPACT OF FORWARD CONTRACTS ON COMPANY'S FINANCIAL RESULT

Introduction

The increase in transactions with non-residents has led to an increased exposure of economic entities to the risk of foreign currency rate changes. Forward contracts have become a tool for limiting currency risk in Polish companies. Economic risk is the possibility of occurring an event that an entity is not able to predict and as a result of which it will suffer a loss. Risk is an inseparable element of any activity. Derivatives have become an effective tool for managing exchange rate risk and they contribute to increasing profits or minimizing financial losses.

The article characterizes forward contracts and discusses the role of derivatives in accounting.

A research question was asked: is the forward contract an effective tool for managing exchange rate risk and improving the company's financial results? Moreover, a following hypothesis was formulated: forward contracts have a positive impact on the company's financial result and are an effective tool in managing exchange rate risk.

1. Characteristics of forward contracts

Derivative instruments enable the transfer of risk between contracting parties. They play a significant role in corporate risk management, especially in the case of companies that conduct numerous business operations in foreign currencies or have raw materials whose price may change rapidly. They make it possible to "transfer" the effects of financial risk to other entities[1]. Derivative instruments are financial instruments whose value is dependent on an underlying asset. Initially, the underlying instruments were physically existing assets (e.g., raw materials, securities), but with the progress of financial engineering they are also values that do not have

[1] G.K. Świderska, W. Więcław, S. Borowski, M. Kariozen, M. Karwowski, M. Krysik, M. Pielaszek, A. Pojedynek, M. Świderska, *Sprawozdanie finansowe według polskich i międzynarodowych standardów rachunkowości,* MAC Consulting, Warszawa 2009, p. 7.

a physical form (e.g., interest rates, stock exchange indices) [2]. For a financial instrument to be considered a derivative its value must depend on the underlying asset.

Derivative instruments are most commonly used in the management of:

- exchange rate risk
- interest rate risk
- price risk[3].

Depending on the equality of risk distribution between contract parties, derivative instruments can be divided into:

- symmetric
- asymmetric[4].

Symmetric derivative instruments are characterized by the fact that each party bears the same risk and has certain obligations. This instrument may bring both profit or loss to its owner, and the probability of this is equal. These instruments include forwards, futures and swaps.

The main feature of asymmetric instruments is that one of the parties takes on a greater risk and assumes an obligation, while the other party acquires the right to and may achieve a much higher profit than loss. This type of instruments includes options.

Forward contracts are a type of futures contract. They are transactions where both parties undertake to exchange a specific asset at an agreed time, at a specified price and quantity. Most frequently, currency exchange rates are the underlying asset of forward contracts (and they are referred to as forward currency transactions), and less often, interest rates are the underlying variable[5].

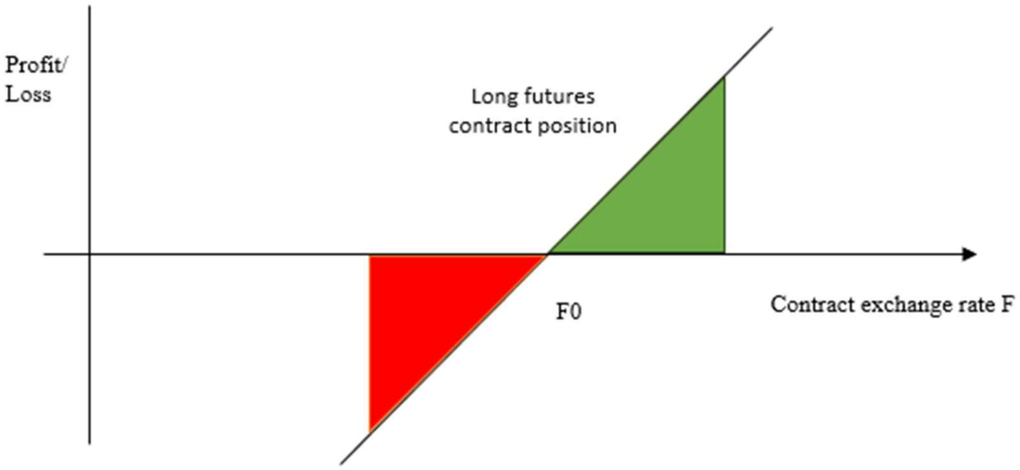
„Both parties of a transaction which have opened a position, have the following rights and obligations:

- Buyer (a long position) – has the right and obligation to purchase assets specified in the contract specification;
- Seller (a short position) - has the right and obligation to sell assets specified in the contract specification"[6].

[2] P. Ożga, *Rachunkowość instrumentów pochodnych,* C.H. Beck, Warszawa 2016, p. 12.
[3] P. Ożga, *Rachunkowość instrumentów pochodnych,* C.H. Beck, Warszawa 2016, p. 6.
..[4] K. Jajuga, T. Jajuga, *Inwestycje,* PWN, Warszawa 2012, p. 22.
[5] G.K. Świderska, W. Więcław, S. Borowski, M. Kariozen, M. Karwowski, M. Krysik, M. Pielaszek, A. Pojedynek, M. Świderska, *Sprawozdanie finansowe według polskich i międzynarodowych standardów rachunkowości*, MAC Consulting, Warszawa 2009, p. 7.
[6] https://encyklopedia.skarbiec.biz/kontrakty-terminowe.html

In forward currency contracts , a change in the exchange rate may positively or negatively affect the profitability of the contract.. Graphs 1 and 2 show how changes in the exchange rate affect the amount of profit from a forward contract depending on the position taken.

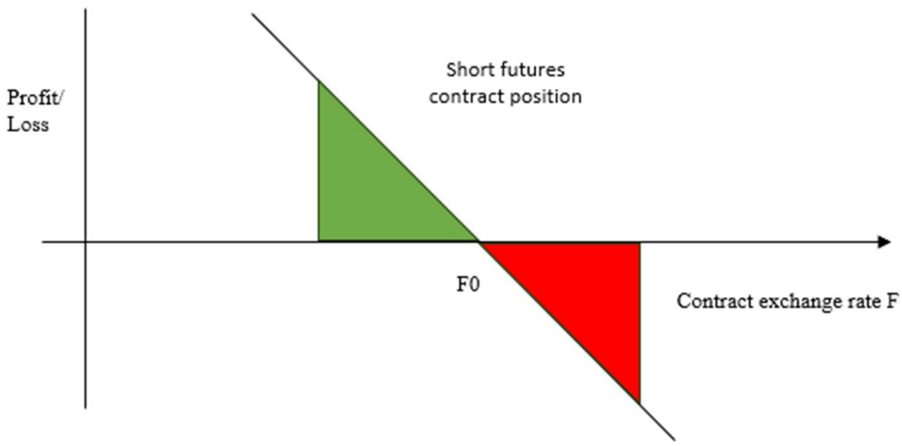
Graph 1. Payment profile for a long futures contract position



Source: https://www.bankier.pl/wiadomosc/Kontrakty-terminowe-1847532.html

The entity taking a long position will make a profit from the concluded contract if the exchange rate on the day of the implementation of the contract is higher than rate F0 established on the date of the conclusion of the contract. It is the obligation of the long position party to purchase the currency at a predetermined rate; thus, if the exchange rate is higher , the entity in question will purchase the currency cheaper than the current market rate.

Graph 2. Payment profile for a short futures contract position



Source: https://www.bankier.pl/wiadomosc/Kontrakty-terminowe-1847532.html

The entity taking a short position will make a profit from the concluded contract if the exchange rate on the day of the implementation of the contract is lower than rate F0 established on the date of the conclusion of the contract. It is the obligation of the short position party to sell the currency at a predetermined rate; thus, if the exchange rate is lower, the entity in question will sell the currency at a higher price than the current market rate.

Thanks to the fact that forward currency contracts protect against the risk of price declines, they are a solution for entities with liabilities or receivables in foreign currencies. They may prove to be an extremely important tool in building a strategy for minimizing company's financial risk.

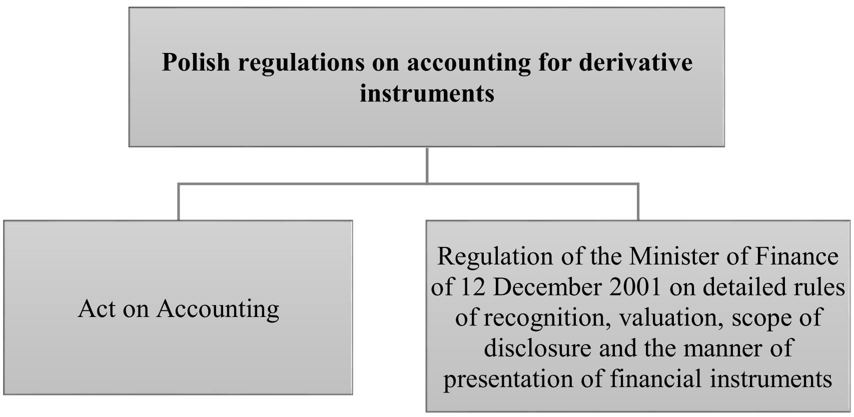
2. Accounting of derivative instruments including forward contracts

2.1. Polish legal regulations on derivative instruments

The concept of derivative instruments and the principles of their disclosure were introduced into Polish balance sheet law in 2000, when the Accounting Act was amended[7]. Detailed issues are included in the Regulation of the Minister of Finance of 12 December 2001 on detailed rules of recognition, valuation, scope of disclosure and the manner of presentation of financial instruments. The provisions of the regulations specified the method of disclosure of derivative instruments in financial reports and the rules of disclosing them in accounting records.

Graph 3 presents Polish legal regulations on accounting for derivative instruments.

Graph 3. The most important legal regulations



Source: P. Ożga, *Rachunkowość instrumentów pochodnych,* C.H. Beck, Warszawa 2016, p. 38.

[7] P. Ożga, *Rachunkowość instrumentów pochodnych,* C.H. Beck, Warszawa 2016, p. 37.

Accounting Act Art.3 (1)(21) includes the definition of a financial instrument for the needs of the Polish balance sheet law. It is "any contract giving rise to financial assets of one entity and a financial liability or an equity instrument of another entity, on condition that a contract concluded by two or more parties clearly results in economic effects, irrespective of whether the execution of contractual rights or obligations is unconditional or conditional"[8].

The minister's regulation defines a derivative instrument as a „financial instrument:

- whose value is dependent on a change in the value of the underlying instrument, i.e., a specified interest rate, the price of the security or the commodity, the exchange rate, the price or rate index, the creditworthiness assessment or the credit index or other similar variable and
- the acquisition of which does not result in any initial expenditure or the net value of such expenditure is low compared to the value of the other types of contracts, the price of which similarly depends on a change in market conditions, and
- whose settlement will occur in the future"[9].

2.2. General rules of disclosing and evaluating forward contracts

General rules of accounting for derivatives can be divided into three steps: accounting for the contract at the date of its conclusion, valuation update at the balance date, accounting for the profit or loss at the date of contract implementation.

In the Polish balance sheet law, forward contracts are classified as financial assets and liabilities held for trading. Tables 1 and 2 show the position in the balance sheet where forward contracts should be disclosed

Table 1. Forward contracts in the balance sheet - assets

B. current assets (…)
III. Short-term investments
1. Short-term financial assets (…)
b) in other entities (…)
- other short-term financial assets

Source: author's own elaboration.

[8] Accounting Act of 29 September 1994, Journal of Laws of 2021, Art. 3(1)(23).
[9] Announcement of 25 January 2017 of the Minister of Development and Finance on the publication of a consolidated text of the Regulation of the Minister of Finance on detailed rules for the recognition, valuation methods, the scope of the disclosure and recognition of financial instruments, Journal of Laws of 2017, item 277.

In the balance sheet on the assets side, forward contracts should be disclosed in the group of current assets, while in short-term investments under "other short-term financial assets".

Table 1. Forward contracts in the balance sheet - liabilities

B Liabilities and provisions for liabilities (…)
III. Short-term liabilities (…)
2. Liabilities to other entities (…)
c) other financial liabilities

Source: author's own elaboration.

In the balance sheet on the liabilities side, forward contracts should be disclosed in the group of external capital, in short-term liabilities under "other financial liabilities".

On the balance date, a fair value (i.e., the price that the bank is willing to implement in the contract) should be established and disclosed appropriately under assets or financial costs. Moreover, at the date of contract implementation, the profit or loss should be disclosed in financial costs. Table 3 presents a part of a profit and loss account regarding financial operations, which shows the valuation and the result.

Table 2. Forward contracts in profit and loss account

Financial revenues:	
I.	Dividents and profit shares, including related entities
II.	Interests, including related entities
III.	Profit on disposal of financial assets
IV.	Revaluation of financial assets
V.	Other
Financial expenses:	
I.	Interests, including related entities
II.	Loss on disposal of financial assets
III.	Revaluation of financial assets
IV.	Other

Source: author's own elaboration.

A positive valuation of the forward contract on the balance date should be disclosed in financial revenues in "Revaluation of financial assets," while on the day of implementation of the contract, when a profit is achieved, in "Profit on disposal of financial assets." Negative balance sheet valuation should be disclosed in financial expenses in "Revaluation of financial assets," while a loss in "Loss on disposal of financial assets".

3. Impact of forward contracts on the financial result

The research question asked by the author was *whether forward contracts are an effective tool of currency exchange rate risk management and have a positive impact on company's financial result?*

The study was conducted on the basis of sample data prepared for research purposes.

Table 4 includes crucial information on forward contracts concluded by a company in 2023.

Table 4. Forward contracts concluded by a company

	Forward contract No. B120	Forward contract No. B130
Conclusion date	2023-07-01	2023-07-01
Position	Sell	Sell
Buy currency	PLN	PLN
Sell currency	EUR	EUR
Buy amount	2 275 000	2 275 000
Sell amount	500 000	500 000
Exchange rate	4.55	4.55
Settlement date	2023-10-25	2023-12-15

Source: author's own elaboration.

The entity concluded a contract for 500 000 EUR with the recipient, ALFA S.A company, for each delivery of products. The deliveries were on 10.10.2023 and 1.12.2023 and the company recorded receivables in the ledger valued at the euro exchange rate of 4.45 PLN. Pursuant to the contract, ALFA S.A made payments for the deliveries on 25.10.2023 and 15.12.2023 that were converted at the exchange rate of 4.30 PLN and 4.65, respectively. In order to protect itself against the currency exchange rate risk, the company concluded two forward contracts, No. B120 and B130, for the sale of 500 000 EUR. Table 5 presents the total amounts recorded in ledger accounts.

Table 5. Summary of operations recorded in the company's accounting

	Delivery: 05.10.2023	Delivery: 01.12.2023
A. Receivables	2 225 000 PLN	2 225 000 PLN
B. Payments	2 150 000 PLN	2 325 000 PLN.
C. Exchange rate differences on receivables (B-A)	- 75 000 PLN	100 000 PLN

Source: author's own elaboration.

Table 6 presents the results on exchange rate differences as of 25.10.2023 considering the forward contract and if the entity had not concluded the contract with the bank.

Table 3.Exchange rate differences arising on receivables in EURO and the forward contract at the exchange rate of 4.30 PLN applicable on 25.10.2023.

	Without the contract	With the contract
Exchange rate differences on receivables	- 75 000 PLN	- 75 000 PLN
Exchange rate differences on a forward contract	0 PLN	125 000 PLN
Calculations		500 000 x (4.55 – 4.30)
Total	- 75 000 PLN	50 000 PLN

Source: author's own elaboration based on G.K. Świderska, W. Więcław, S. Borowski, M. Kariozen, M. Karwowski, M. Krysik, M. Pielaszek, A. Pojedynek, M. Świderska, *Sprawozdanie finansowe według polskich i międzynarodowych standardów rachunkowości,* MAC Consulting, Warszawa 2009, pp. 7-12.

Table 7 presents the result on exchange rate differences as of 15.12.2023 considering the forward contract and if the entity had not concluded the contract with the bank.

Table 7. Exchange rate differences arising on receivables in EURO and the forward contract at the exchange rate of 4.65 PLN applicable on 15.12.2023.

	Without the contract	With the contract
Exchange rate differences on receivables	100 000 PLN	100 000 PLN
Exchange rate differences on a forward contract	0 PLN	- 50 000 PLN
Calculations		500 000 x (4.55 – 4.65)
Total	100 000 PLN	50 000 PLN

Source: Ibidem, pp. 7-12.

Table 8 presents the company's financial result for the period from the beginning of the year to 15.12.2023 broken down to the results when the entity did not conclude forward contracts, and when forward contracts were concluded and implemented.

Table 4. Company's profit and loss account for 01.01.2023 - 15.12.2023

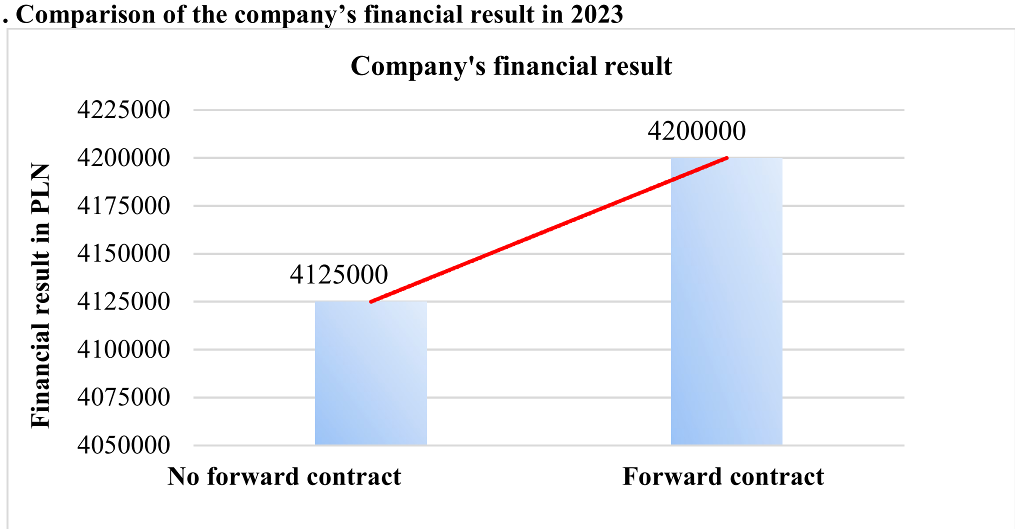
Profit and loss account		Without forward contracts	With forward contracts
A.	Sales profit (loss)	4 000 000 PLN	4 000 000 PLN
A.	Other operating revenues	250 000 PLN	250 000 PLN
B.	Other operating costs	150 000 PLN	150 00 PLN
C.	Financial revenues	25 000 PLN	100 000 PLN
D.	Financial costs	0 PLN	0 PLN
E.	**Gross profit(loss)**	**4 125 000 PLN**	**4 200 000 PLN**

Source: author's own elaboration.

4. Research conclusions

It can be concluded from the conducted research that forward contracts had a positive effect on the financial result of the company and they are an effective tool in currency exchange risk management. Graph 4 presents the comparison of the entity's financial results when it implemented forward contracts and its gross profit if it had not concluded any forward contracts.

Graph 1. Comparison of the company's financial result in 2023



Source: author's own elaboration.

Due to changes in the euro exchange rate, currency changes occurred in ledgers between the recording of receivables and the cash delivered. Forward contract B120 was executed at a higher exchange rate than the rate on the contract conclusion and, as a result, the sum of the exchange rates on receivables and on the forward contract was positive, while forward contract B130 was executed at a lower exchange rate than the exchange rate on the day of the contract conclusion which resulted in a decrease in the amount of positive exchange rate differences. Despite the fact that one of the forward contracts was financially disadvantageous, the forward contracts minimized the loss resulting from the euro rate of exchange and the gross profit was higher by 75 000 PLN in 2023. Thus, the thesis was proved that a conclusion of a forward contract to manage currency risk accompanying transactions with foreign entities is effective and results in the improvement of company's financial result.

Conclusions

The article analyses the impact on the company's financial result of forward contracts used as a tool for managing exchange rate currency risk. In its numerous transactions with foreign entities, the entity protected itself against changes in the currency market by concluding two forward contracts. The author proved the thesis that forward contracts positively affect company's financial results and are an effective tool in managing currency exchange rate risk.

Bibligraphy

[1] Jajuga. K., Jajuga T., *Inwestycje,* PWN, Warszawa 2012.
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[7] Kontrakty terminowe, https://encyklopedia.skarbiec.biz/kontrakty-terminowe.html.

Abstract

The article presents the concept and significance of forward contracts. It discusses Polish regulations on derivative instruments and accounting issues related to concluding and implementing forward contracts in a company. A study was conducted based on sample data prepared for research purposes. The research results were discussed. The conclusion is that concluding forward contracts improved the company's financial results.

Key words

Derivative instruments, forward contracts, foreign currency exchange rate risk, risk management.