



Foreign Exchange Risk Analysis and Countermeasures of Chinese Multinational Corporations

Based on the Analysis of China National Petroleum Corporation

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Abstract. In recent years, Chinese multinational companies are facing increasing exchange rate risks with the deepening degree of internationalization. This paper takes China National Petroleum Corporation as the object, based on the financial data of the company in recent three years, and discusses mainly from three aspects: the relationship between exchange rate fluctuations and finance, the types of foreign exchange risks faced by the company, and foreign exchange risk management countermeasures. Through the above analysis, it can be seen that in the years of intense exchange rate fluctuations, the foreign exchange risk faced by the company has caused a certain impact on profits, and it is urgent to take necessary measures for management.

Keywords: Foreign exchange risk and finance · foreign exchange risk types · foreign exchange risk Management

1 Introduction

The RMB exchange rate fluctuated sharply, especially in 2022, which brought great challenges to Chinese multinational companies. Most of China's multinational corporations' awareness of proactive risk prevention is insufficient, and the application of how to use a variety of means to prevent foreign exchange risk is less. The current research on foreign exchange risk prevention mainly analyzes related strategies from the perspective of domestic enterprises. In the analysis of relevant strategies, there are few comprehensive explanations from the perspective of comprehensive risk management, which has a certain one-sidedness. Therefore, it is an urgent task to put forward comprehensive countermeasures for foreign exchange risks faced by multinational enterprises to provide guidance for enterprises to prevent foreign exchange risks.

2 Status Quo of Petrochina's Foreign Exchange Risk Management

The company's net exchange loss (revenue) declined as shown in the Table 1.

Table 1. Corporate net exchange loss (revenue)

Year	2020	2021	2022
Net exchange loss (revenue)	1.08	5.38	18.18
Net profit	334.85	1146.96	1639.82
Ratio of net exchange loss to net profit	0.32%	0.47%	-1.11%

In order to better analyze the relationship between the company's exchange loss (revenue) and the RMB exchange rate, the average monthly exchange rate of the onshore RMB against the US dollar from 2019 to 2022 is selected as the analysis sample. Based on the monthly average exchange rate, the RMB appreciated by 6.71% in 2020, appreciated by 1.65 percent in 2021 and depreciated by 9.63% in 2022.

According to the above analysis, the company's net exchange loss (income) is positively correlated with the RMB exchange rate.

Petrochina has firmly grasped the risk control from the source and attached great importance to the company's foreign exchange risk management [1]. The company has arranged a special financial department, formulated detailed foreign exchange management plans, arranged internal control department, independent directors, board of supervisors and other institutions to supervise foreign exchange risks, and regularly checked its actual operation, use of funds, treatment of income and expenses, and conversion status of financial statements in foreign currencies.

At the same time, petrochina strengthens the management of foreign exchange funds. First, implement centralized management of foreign exchange funds. Second, in addition to requiring enterprises to take good precautions against exchange rate risks at the technical level, the group also takes advantage of the fact that both sides of settlement are Chinese petroleum enterprises to realize natural risk hedging and reduce the group's overall exchange rate risk exposure. Third, group's financial company is the platform for professional management. Advanced financial sharing technology is used to facilitate the realization of risk hedging within the group.

3 Assessment of Foreign Exchange Risks Faced by Petrochina

The main risks faced by Petrochina are transaction risk and conversion risk. The conversion risk is the capital change of some items in the foreign currency balance sheet caused by the change of the enterprise's exchange rate. When the invoice is entered into the account, the risk exposure of the foreign currency accounting items is recognized. Until the foreign exchange purchase and repayment, the exchange rate change compared with the accounting date will be directly included in the exchange profit and loss account of the income statement, and the exchange rate risk is mainly the conversion risk [2].

As shown according to the above data analysis in Table 2, the conversion difference of the company's financial statements in foreign currency in the recent three years is inversely correlated with the RMB exchange rate. In the case that the company's dollar risk assets are greater than dollar risk liabilities, the conversion difference of foreign

Table 2. Difference in conversion of foreign currency financial statements

Years	2020	2021	2022
Net exchange income (loss)	1.08	5.38	18.18
Difference in conversion of foreign currency financial statements	39.09	26.84	37.58

Table 3. Income and loss from Transaction g risk

Years	2020	2021	2022
Net exchange loss (revenue)	1.08	5.38	18.18
Difference in conversion of foreign currency financial statements	39.09	26.84	37.58
Transaction risk income (loss)	40.17	32.22	55.76

currency financial statements is positive when the dollar appreciates, and negative when the dollar depreciates.

In the import trade and foreign currency loan business of Petrochina, when it makes the budget and signs the contract, the required amount of foreign currency expenditure is determined in accordance with the current exchange rate in the business contract, but the payable has not been confirmed [3]. The exchange rate fluctuations mainly affect the actual foreign exchange purchase cost, and such risk is transaction risk. Generally, net exchange loss (income) = transaction risk income (loss) + the conversion difference of foreign currency financial statements.

As shown in the Table 3, the transaction risk of the company in the recent three years is positively correlated with the RMB exchange rate. There is a negative correlation between transaction risk and translation risk, and the income (loss) generated by transaction risk is greater than that generated by foreign currency conversion risk.

4 Analysis of Petrochina's Foreign Exchange Risk Management

4.1 Foreign Exchange Risk Monitoring and Evaluation

Petrochina establishes a system of foreign exchange risk, and the parameters include the exchange rates of various major currencies, import and export business, risk assets and risk liabilities denominated in foreign currencies, etc [4]. It can identify and measure various foreign exchange risks in real time, and then carry out risk assessment on the basis of which the probability of foreign exchange risks, the severity of losses and other factors are comprehensively considered to obtain the possibility and harm degree of risks, so as to provide reference for taking necessary risk management measures.

4.2 Contract Management in the Early Stage

With the increasing international status of the RMB, and with the increasing number of countries entering into currency swaps with China, companies can adopt the RMB as

the settlement currency to avoid exchange rate risks. Scientific exchange rate forecast is used to define the range of exchange rate fluctuations to incorporate exchange rate risk into cost control. For example, if the exchange rate of the US dollar is predicted to rise about 3%, the company can consider reducing the price by 3% when quoting the import business. The company can also agree with the customer that if the exchange rate fluctuation range is exceeded, the risk and loss will be shared. During periods of intense exchange rate volatility, the company should shorten the validity of the quotation and adjust the price in a timely manner [5].

4.3 Financial Transactions

The company can cooperate with banks to apply for financing based on export receivables and settle foreign exchange in advance to avoid risks. When the foreign exchange rate is high, the company can also apply for import financing and delay foreign exchange purchase to avoid exchange rate risks. Companies can also cooperate with banks to avoid exchange rate risks through various foreign exchange transactions, such as forward settlement and sale of foreign exchange, options, swaps and other products [6].

4.4 Gap Management

The core idea of gap management is to calculate the size of risk assets and risk liabilities sensitive to exchange rate and adjust them to zero, so as to avoid losses caused by exchange rate fluctuations. First of all, the correct measurement of the size of various foreign currencies in each account of petrochina's balance sheet, and calculate the size of the conversion risk. Second, according to the nature of the risk position to determine the adjustment direction. Finally, it is necessary to further determine which items should be adjusted, and the adjustment of some items may create new risks. Due to the large scale of petrochina's overseas business, risky assets outweigh risky liabilities, so it needs to increase risky liabilities, which can be achieved by increasing liabilities in US dollars, specifically by two ways: increase dollar borrowing and issue dollar-denominated bonds. Of course, the increase of dollar liabilities should also take into account the factors of financing costs.

4.5 Effect Evaluation of Foreign Exchange Risk Management

Petrochina shall make a comprehensive evaluation of the foreign exchange risk management, review, analyze and evaluate the Company's corresponding foreign exchange risk management strategy in combination with the exchange rate fluctuations and exchange losses (income) of the previous year, and make corrections to provide a basis for the foreign exchange risk management strategy of new financial year.

5 Conclusion

By analyzing the impact of different exchange rates on the company's exchange loss (revenue) in different years, this paper concludes that the company's exchange loss (revenue) in the recent three years is basically positively correlated with the RMB exchange

rate. However, the intense fluctuations of exchange rate in certain years (such as 2022) expose the company to greater foreign exchange risks. Therefore, it can be concluded that multinational companies must improve their foreign exchange risk management system to meet the needs of their further development.

Through the analysis of transaction risk and translation risk, we can see that the two are negatively correlated. The transaction risk of Petrochina is mainly generated by the import business and the loan business. In the case of the depreciation of the RMB exchange rate, the transaction risk increases. On the other hand, overseas business forms risky assets, and the conversion risk is smaller in the case of RMB depreciation.

In terms of foreign exchange risk management strategy, the company should first establish a management information system to monitor and measure foreign exchange risk in real time, so as to provide reference for decision-making. Then, through pre-contract management, in-process financial transaction and gap management, as well as post-evaluation of the effect of foreign exchange risk management, a constantly improved foreign exchange risk management system should be established to meet the needs of the continuous development of transnational corporations' business.

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