

Hedging Strategy to Minimize the Impact of Transactional Risk Associated to Forex

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Public Project Summary

The project is based on proposing a strategy which would resolve the issue the company struggles to deal with, and the problem has been affecting the company's overall performance. The issue is related to the volatility in foreign exchange market and its impact on realizing the total revenue which the company finds cumbersome to predict at the beginning of the process as the change in currency rates would also change the cashflow's value when it is translated from the local currency to the functional currency which is US dollar.

General Electric's global activities span all geographic regions and primarily encompass manufacturing for local and export markets, import and sale of products produced in other regions, leasing of aircraft, sourcing for our plants domiciled in other global regions and provision of financial services within these regional economies. Thus, when countries or regions experience currency and/or economic stress, GE often has increased exposure to certain risks, mainly above foreign exchange risk.

Financial results of GE's non-U.S. activities reported in U.S. dollars are affected by currency exchange. GE uses a number of techniques to manage the effects of currency exchange, including selective borrowings in local currencies and selective hedging of significant cross-currency transactions. Such principal currencies are the euro, the pound sterling, the Brazilian real and the Chinese renminbi.

This project is focused on proposing a strategy to manage transactional risk which the company's regular cashflow is exposed to due to the presence of time interval within the process of receiving the payments.

GE Capital Aviation Services is an American commercial aviation financing and leasing company. The company offers many aviation finance services, including aircraft leasing, aircraft lending, engine leasing, asset management, and aircraft consulting. In terms of aircraft leasing, GECAS purchases aircraft from manufacturers such as Airbus and Boeing, and then leases them to airlines, typically for about eight years, and usually on dry lease contracts. As the company is based in United States, its functional currency is USD however a considerable portion of the business comes from non-US financial partners of more than 245 based in 75 countries around the globe. Thus, a considerable portion of the cashflow is received in non-USD currencies, which means in the absence of a hedging strategy, the company faces volatility every time the cashflow translated to functional currency.

Before the strategy was proposed, it was considered either to use historical foreign exchange rate in order to avoid the volatility throughout the period of the contract, but this process will lead to the application of incorrect account convention IFRS 16, which clearly stated that the items which are monetary in nature will be required to enter in the books using current rate of the foreign exchange. And it is also specified in the directive that lease is one of the monetary items and should be recorded using current rate of foreign exchange. Hence, IFRS 16 confirms that when it comes to translating cashflow arising as result of entering a lease contract will be considered non-monetary items and a current rate of foreign exchange is to be used. In order to understand the issue quantitatively an example of the case is applied in which the company entered into a lease contract for the value of $\notin 10,000,000.00$ with a client based in Europe in January 2017. The inter-bank exchange rate of Euro to the US dollar at the time of the transaction was EUR/USD 1.3169. Settlement for this transaction was to be made over a period of twenty-four months. If the European company pays Euro to GECAS, the amount payable at the time of the transaction was to be made over a period of twenty-four months. If the European company pays Euro to GECAS, the amount payable at the time of the transaction was to be made over a period of twenty-four months. If the amount payable at the time of the transaction was to be made over a period of twenty-four months. If the European company pays Euro to GECAS, the amount payable at the time of the transaction would be approximately USD 13,169,000.00. Settlement for this transaction would be approximately USD 13,169,000.00. But because the lease contract was for the duration of twenty-four months, it required the amount to be split into twenty-four equal installments, starting from January 2017 till December 2018. Due to volatility in EUR/USD pair currency, the company ended up receiving USD 11,959416.67 which means FX loss of 9% to the company's revenue.

This example provided a clear picture on the situation that the company's lease cashflow which the company receives over a period of time is exposed to the volatility of foreign exchange and the loss of reporting revenue can go up to 9% or even higher which completely dependent on how the currency behaves. The example depicts the picture on how vital it is to hedge the cashflow in non-USD currencies against the foreign exchange volatility.

It was an also key issue to filter out which currency is worth the management of transactional risk considering the fact that the currency hedging comes with the cost of hedging and sometime can lead to greater level of loss than the loss expected from volatility of foreign exchange. A detailed analysis on currencies was taken place to come up to a decision whether which currency to hedge and which should not to be hedged. After analyzing the business proportion of the main currencies, its cost for hedging and its volatility to the pair currency it was concluded that Euro is the main currency which is to be hedged primarily.

In addition to the deciding the currency to hedge, it was also vital to calculate value at risk. Value at risk was calculated using historical based data. In this method, historical price data of the paired currencies EUR/USD was extracted from an online source for the duration of two years 2017 & 2018. And then the VaR calculated using the defined formula. Along with calculating VaR, a histogram diagram was also provided in order for better understanding.

Following to deciding which currency to hedge, a strategy was proposed to the company based on a financial instrument Currency Swap. According to the proposed strategy, the company can enter into a currency swap contract with a bank in which the company and the company both will agree to interchange series of cashflow which can be calculated based on a decided principle amount. As it is required by the company to put in place a hedging strategy in which the company will not to worry about the volatility of foreign exchange which means the company is looking to receive a series of cashflow in USD at a fixed foreign exchange rate. By doing so the company would be able to predict the confirmed amount of cashflow to receive in future in the currency of USD.

Thus, in order to achieve this, the company would need to align its need when choosing correct type of currency swap contract. Hence, the company needs to enter into floating to fixed currency swap which is defined as receiving a fixed rate of foreign exchange in return of paying

a floating rate or current rate of foreign exchange market. As per the contract the company as well as the bank will interchange the difference of rates to each other every month or quarter which is pre decided element of the contract. If at a certain period of time, the agreed fixed rate is higher than the current rate, the bank will pay the difference to the company while if the agreed fixed rate is lower than the current rate, the company will pay the difference to the bank. This way, the company can achieve to keep the series of cashflow at the fixed rate throughout the duration of the contract.

There is one more question to come in mind that how much the value of cashflow is interchanged at certain point. In general, both of the interchanging parties exchange the cashflow based on a principle amount which is agreed in the beginning of the contract. As the strategy is to hedge cashflow coming from the lease contract, thus the cashflow from currency swap contract has also to be based on the same principle amount. However, it would be unnecessary to include exchanging of principle amount here as we are only concerned about the hedging the series of cashflow from foreign exchange volatility. In this case the contract has be the one without involving principle amount. Hence, the contract would be called as floating to fixed coupon only currency swap.

On applying the above summarized strategy to our example which is explained above, the volatility of foreign exchange can be eliminated by entering the contract of floating to fixed coupon only currency swap. Considering the same lease contract for the value of $\notin 10,000,000.00$ for the duration of twenty-four months, where the series of cashflow was being impacted by the volatility in EUR/USD exchange rate and caused a loss of 9% of the total expected amount in the end of the contract. By implying the floating to fixed coupon only currency swap, the company's expected total amount in the end of the contract would remain the same as calculated at the beginning of the contract because the series of cashflow would value the same amount in dollar throughout the period of the contract which was at the beginning of the contract and this was achieved by entering the proposed floating to fixed coupon only currency swap contract.

Though the above strategy would assist the company to eliminate the risk of volatility in foreign exchange but the currency swap which is the main driver of the strategy has its own limitations. The foremost limitation is the credit risk as the currency swap contract can last for longer period of time e.g. up to eight years, the counterparty i.e. bank may default on series of the cashflow at any certain period of time or a sudden recession may also bring even greater risk of default. Second limitation is the contracts are vulnerable to the central government's intervention in the exchange markets. This happens when the government of a country acquires huge foreign debts to temporarily support a declining currency. This leads to a huge downturn in the value of the domestic currency.