Foreign exchange risk management

Introduction

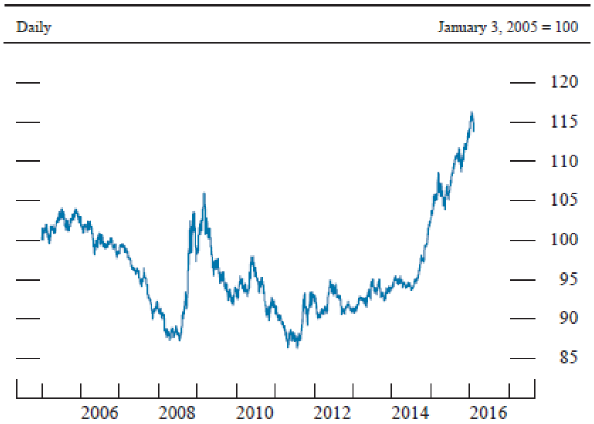
Foreign exchange ("FX") risk management is an important learning outcome. It requires candidates to identify risks to which a business is exposed and to apply appropriate risk management strategies. This article explains the key concepts and application of FX risk management - the two sources of risk: a) FX exposure and b) FX volatility and the FX risk management framework. Finally, we provide a case study to illustrate how FX risk management is implemented and used to reduce earnings volatility.

Key concepts

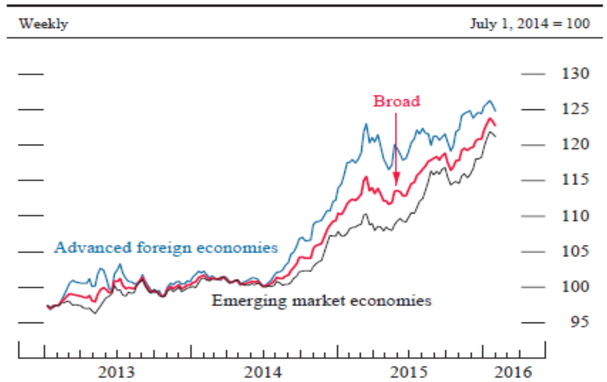
Foreign exchange risk refers to the financial impact arisen from the movement of exchange rates between two currencies. For example, a shipping company receives revenue in US dollar but pays its port charges in Japanese yen. This creates a mismatch between revenue and cost. If the yen strengthens against the dollar, the profit will drop and vice versa. The size of this mismatch is the **foreign exchange exposure**. This is only half of the story. The other half is the **foreign exchange volatility** which is the movement in exchange value between the currency pair. In 1985 at the famous Plaza Hotel in New York the decision was made (the Plaza Accord) to strengthen the yen against the dollar. Within three years the rate moved from 250 to 120 yen to a dollar. The yen cost to the shipping company went up by over 100%. The size of the FX exposure and the movement in FX rate together determine the financial impact of the FX risk.

The financial impact can happen at multiple levels for the company. At the income statement level, it is called **transaction exposure**. At the balance sheet level, it is called **translation exposure**. At the overall business level, it is called **economic exposure** (you should refer to your QP material for detailed explanations of these exposures). Later on in the case study we learn about how global multinational companies (MNCs) like Ericsson choose to hedge only transaction exposure and not translation exposure. FX risk management is one of the most challenging aspects of financial risk management because one tries to control something which by nature is non-controllable, such as the movement in FX rates.

There are many sources of reference on the drivers of FX movement: such as Bloomberg and Thomson Reuters as well as financial newspapers and reports from bank economists. Here I use the charts shown in the US Federal Reserve Bank FOMC minutes where the Fed Chairlady Janet Yellen highlights the movement of the **effective exchange rate** of the US dollar (against all currencies) and against the currencies of advanced foreign economies such as the British pound, the euro and the yen; as well as the currencies of emerging market economies such as the renminbi, the Russian ruble and the Brazilian real.



SOURCE: Federal Reserve Board, Statistical Release H.10, "Foreign Exchange Rates."



NOTE: The data, which are in foreign currency units per dollar, are weekly averages of daily data and extend through February 4, 2016.
SOURCE: Federal Reserve Board, Statistical Release H.10, "Foreign Exchange Rates."

The movement of the US dollar exchange rates on an overall effective rate basis and on a bilateral basis against the individual currency basket of advanced foreign economies and of emerging market economies

Application

The management of foreign exchange risk involves two aspects – one is the control of the extent of the exposure and another is the control of the impact from FX volatility.

Two aspects of controllable decisions:	**Description of FX management actions**
Control of the extent of the exposure	Business can control the extent of the exposure through "natural hedging" where it is possible to align the currency of the revenue to the cost to reduce the mismatch or to build in the "currency adjustment factor" to pass on the FX risk to customers. The extent of the exposure that is appropriate to the business must be determined by management and approved by the board. The earnings at risk* due to FX volatility should be built into the profit targets (e.g. return of equity). *earnings at risk is a calculation of the range of earnings at different points of FX scenarios in the future assigned with the probability of their likelihood. The probability can be based on historical volatility or implied volatility (based on how banks price their derivative products). It is mathematically described as a stochastic model based on probability rather than a deterministic model based on linear calculation.
Control of the impact from FX volatility	Business can use hedging instruments (such as forward, option, futures) to "lock in" future FX settlement rates at today's pricing. Candidates should refer to QP materials for details of these instruments. The hedging cost and payoffs from each instrument are different. Formulating and execution of the hedging strategy must be performed by a "fit-for-purpose" corporate treasury function headed by a treasurer or CFO.

The coordination of such decisions must be performed in a coherent and integrated manner. In order to properly manage foreign exchange risk, the board should adopt a **foreign exchange risk management framework** which starts with a top-down policy determination of how foreign exchange risk should be handled at the board level (governance and compliance), followed by strategy formulation and execution by management (CFOs and treasurers), and performance monitoring.

Key control	Actions
Governance and compliance	• Establish treasury risk management oversight accountability at board level • Set up risk committee or embed risk management role in audit committee • Periodic review with CFO to provide treasury updates • Policy breaches to be tracked and reported • Delegation of authority set in policy
Strategy formulation	Hedge ratios to be dynamically determined (prior to hedge execution) considering: • Future exchange rates • Variability of anticipated FX exposures • Volatility of the currency • Evaluate and leverage alternate hedging instruments • Cost of hedging
Strategy execution	• Establish the panel of banks (FX counterparties) • Set the FX transaction limits (currency pairs, approved instruments, duration and transaction size etc.) • Prepare the required documentation (e.g., ISDA agreement) • Decide the appropriate hedge accounting treatment (HKAS39 or HKFRS9) • Ongoing risk assessment of exposures and hedge positons
Performance monitoring	Performance management reports to include: • Hedge effectiveness • Gross and net exposure • Status of hedging programme • FX market trend • FX impact and sensitivity analysis (revenue/profit/cash flow)

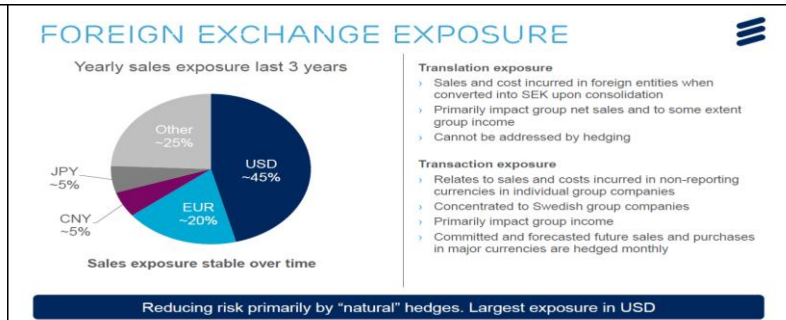
<u>The foreign exchange risk management framework</u>

The management of FX risks has never been easy. Here are some common lessons:

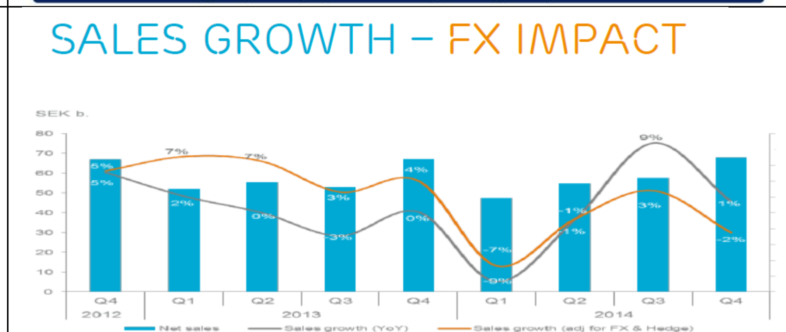
Challenges in FX management	**Description of the lesson**
Misunderstanding of the nature and inappropriate choice of hedging instruments	Target redemption forward and accumulator are complex derivatives which can potentially offer gain at certain range of FX rates but unlimited loss at other ranges
Unauthorized FX trading (bad corporate governance)	One large Chinese conglomerate in 2008 experienced significant FX loss from unauthorized FX trades, resulting in regulatory actions and adverse impact to its reputation
Lack of visibility and control measures of FX exposure leading to undesirable under hedged position	Organisation does not have a reliable measurement and reporting of cash flow and balance sheet currency mismatch • Inappropriate currency mix in the asset allocation of corporate cash portfolio • Inappropriate currency mix in ALM (e.g., financing in USD bond but assets in RMB) • Inappropriate currency mix of expected cash flow (e.g., AR in Euro but AP in USD)
Lack of FX management policy Lack of a proper treasury function Lack of risk governance	No pre-approved hedging ratio, no pre-approved hedging instruments, no pre-approved limits and list of counterparties, no pre-set FX lines, no appropriate delegation of authority to treasurer to execute the FX trade, no hedging strategy (the evaluation of the cost/benefit of each instrument, the ongoing price discovery) and execution (delayed time to market)
Lack of appropriate tools (e.g., treasury management system or TMS) and expertise	• No TMS to support the analytics and control (e.g., the segregation of duties) • No knowledge of the treasury market best practice (such as the TMA code of conduct and practice endorsed by the HKMA) [https://www.tma.org.hk/PubFile/tmacode.pdf] • No decision on the suitability of hedge accounting (HKIAS39 or early adoption of HKFRS9 which becomes mandatory by 2018)

Case study

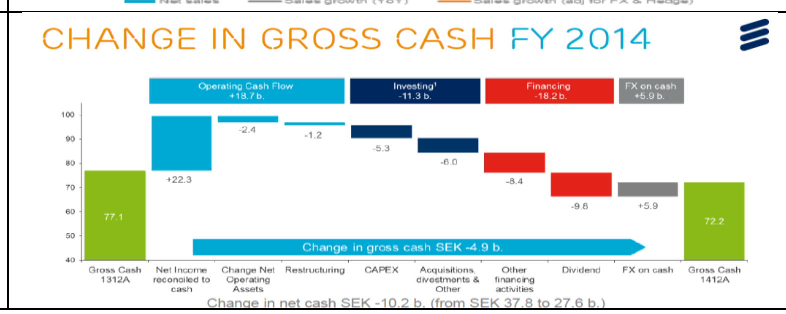
At Ericsson, the foreign exchange exposure is identified as either translation or transaction exposure and only the latter is hedged on a monthly basis:



The use of hedging has stabilized the earnings volatility illustrated as follows:



The effect of foreign exchange was a positive cash flow impact of SEK 5.9 billion in 2014. Without it, the cash position would have declined 14 percent instead of 6 percent.



Conclusion

Foreign exchange risk management is a key aspect of financial management. Management and the board should adopt a structured approach using the foreign exchange risk management framework to: 1) manage the sizing of the FX exposure and 2) choose the hedging instruments used to transfer out the FX risk considering the risk budget (how much the business can afford to lose) and the cost of hedging.

About the author

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The author has been the HKICPA QP Assessor for over 15 years and a fellow member of the Institute since 1992. He was the President of CIMA Hong Kong in 1997 and the Chairman of the Hong Kong Association of Corporate Treasurers during 2000-2012. He is Founding Chairman of IACCT (China) established by HKACT in 2006 to promote treasury best practice in China. He has been appointed by the Hong Kong Monetary Authority as Board Member of the Treasury Markets Association since 2006 and a member of the Working Group on Corporate Treasury Development since 2012. He held positions of Director of Finance/Treasurer of one top 10 global shipping conglomerate for six years and the Regional Director and Treasurer of AIA/AIG for over 13 years. He is currently the Director of PwC Consulting specialized in treasury advisory practice in Greater China.

