



# A guide to managing foreign exchange risk

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Melbourne Vic 3000

Australia

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# Table of contents

<b>A guide to managing foreign exchange risk</b>	<b>2</b>
Introduction	2
What is foreign exchange risk?	2
Sources of foreign exchange risk	2
<b>Impact of movements in foreign exchange rates on businesses</b>	<b>3</b>
Effects of a falling domestic exchange rate	3
Effects of a rising domestic exchange rate	3
<b>Methods of measuring foreign exchange risk</b>	<b>4</b>
Register of foreign currency exposures	4
Table of projected foreign currency cashflows	4
Sensitivity analysis	4
Value at risk	4
<b>Methods of managing foreign exchange risk</b>	<b>5</b>
<b>Key foreign exchange management terms</b>	<b>6</b>



# A guide to managing foreign exchange risk

## Introduction

This guide provides an overview of the issues associated with understanding and managing foreign exchange risk, but users may need to make further enquiries to more fully understand them.

## What is foreign exchange risk?

Foreign exchange risk is the risk that a business's financial performance or position will be affected by fluctuations in the exchange rates between currencies. The risk is most acute for businesses that deal in more than one currency (for example, they export to another country and the customer pays in its own currency). However, other businesses are indirectly exposed to foreign exchange risk if, for example, their business relies on imported products and services.

Foreign exchange risk should be managed where fluctuations in exchange rates impact on the business's profitability.

In a business where the core operations are other than financial services, the risk should be managed in such a way that the focus of the business is on providing the core goods or services without exposing the business to financial risks.

## Sources of foreign exchange risk

Foreign exchange risk for a business can arise from a number of sources, including:

- where the business imports or exports
- where other costs, such as capital expenditure, are denominated in foreign currency
- where revenue from exports is received in foreign currency
- where other income, such as royalties, interest, dividends etc, is received in foreign currency
- where the business's loans are denominated (and therefore payable) in foreign currency
- where the business has offshore assets such as operations or subsidiaries that are valued in a foreign currency, or foreign currency deposits

# Impact of movements in foreign exchange rates on businesses

## A falling domestic exchange rate can have the following effects:

- it can increase costs for importers, thus potentially reducing their profitability. This can lead to decreased dividends, which in turn can lead to a fall in the market value of the business
- domestically produced products can become more competitive against imported products
- it can increase the cost of capital expenditure where such expenditure requires, for example, importation of capital equipment
- the cost of servicing foreign currency debt increases
- exporters may become more competitive in terms of costs, potentially increasing their market share and profitability
- the business could become a more attractive investment proposition for foreign investors
- for the business, the cost of investing overseas could increase

## A rising domestic exchange rate can have the following effects:

- exports can be less competitive, thus reducing the profitability of exporters. This can lead to decreased dividends, which in turn can lead to a fall in the market value of the business
- it can decrease the value of investment in foreign subsidiaries and monetary assets (when translating the value of such assets into the domestic currency)
- foreign currency income from investments, such as foreign currency dividends, when translated into the domestic currency may decrease
- the cost of foreign inputs may decrease, thus giving importers a competitive advantage over domestic producers
- the value of foreign currency liabilities will fall. Hence the cost of servicing these liabilities decreases
- the cost of capital expenditure will decrease if it is for the importation of capital equipment, for example
- the business potentially becomes a less attractive investment proposition for foreign investors
- the cost of investing overseas may decrease

# Methods of measuring foreign exchange risk

There are many ways to measure foreign exchange risk, ranging from simple to quite complex. Sophisticated measures such as 'value at risk' may be mathematically complex and require significant computing power. This guide provides some examples of the simpler measures which can be applied and understood by most businesses.

## Register of foreign currency exposures

A very simple method is to maintain a register of exposures and their associated foreign exchange hedges. Basically the details of each hedge are recorded against its relevant exposure. This type of approach may also assist with compliance with accounting standards (for hedging), such as AASB 139: *Financial Instruments: Recognition and Measurement*.

## Table of projected foreign currency cashflows

Where the business both pays and receives foreign currency, it will be necessary to measure the net surplus or deficit for each currency. This can be done by projecting foreign currency cash flows. This not only indicates whether the business has a surplus or is short of a particular currency, but also the timing of currency flows.

## Sensitivity analysis

A further extension of the previous measure is to undertake sensitivity analysis to measure the potential impact on the business of an adverse movement in exchange rates. This may be done by choosing arbitrary movements in exchange rates or by basing exchange rate movements on past history. For example, the business may wish to know how much it will gain or lose for a given change in exchange rates. Where commodities are involved, businesses sometimes develop a matrix showing the combined result of currency and commodity price movements.

## Value at risk

Some businesses, particularly financial institutions, use a probability approach when undertaking sensitivity analysis. This is known as 'value at risk'. While it is useful to know the potential impact of a given change in exchange rates (say a USD one cent movement) the question will arise: how often does this happen? Accordingly, we can do a sensitivity analysis using past price history and apply it to the current position. Then, given the business's current position, and based on exchange rates observed over the last two years, it can be 99 per cent confident that it will not lose more than a certain amount, given a certain movement in exchange rates. In effect, the business has used actual rate history to model the potential impact of exchange rate movements on its foreign currency exposures.

# Methods of managing foreign exchange risk

Having identified and measured the potential exposure, the next problem is to manage it. There are many methods for this, but before selecting one, the business should determine the risk appetite of its key stakeholders such as directors. This will help to determine which method would be the most appropriate. Guidance in this regard can be found in the CPA Australia publication, *Guide for managing financial risk*.

These are the main methods:

- **Forward exchange contract:** This enables the business to protect itself from adverse movements in exchange rates by locking in an agreed exchange rate until an agreed date. The transaction is deliverable on the agreed date. The problem with this method is that the business is locked into the contract price, even when the rate movement is advantageous to it.

For example, if a business purchasing capital equipment wanted certainty in terms of the local currency costs, it would buy US dollars (and sell local currency) at the time the contract was signed, with a forward rate agreement. This would lock in the local currency cost, ensuring that the cost paid for the equipment will equal the original cost used to determine the internal rate of return of the project.

- **Foreign currency options:** These enable an entity to purchase or sell foreign currency under an agreement that allows for the right but not the obligation to undertake the transaction at an agreed future date.

For example, if an importer is importing goods denominated in US dollars for delivery in three months and enters an agreement with their bank for a forward exchange contract, then the importer is contractually bound to accept the USDs they have purchased at the agreed rate (for local currency) on the agreed date. If the local currency strengthens against the US dollar then the importer must still honour the contract even if the agreed rate is less favourable than the current exchange rate.

If the importer enters into a foreign currency option transaction, then for the price of a premium, the option will protect the importer from downward movements in the value of the local currency against the other currency, but allow the importer to benefit from increases in the local currency against the other currency.

If, for example, the local currency increases in value, the importer can abandon the option (and use the spot price of the currency instead). If the domestic currency decreases in value, the importer can rely on the rate in the option to purchase the goods. The maximum cost to the importer is the premium.

An exporter would enter into a foreign currency option that would protect it from upward movements in local currency and get the benefit of downward movements in the local currency by abandoning the option and using the spot price of the currency.

Essentially, a foreign currency option is like insuring against adverse movements in exchange rates. A premium (which can be relatively expensive) to undertake this transaction is usually required. There are a number of different types of options that can be used to manage foreign exchange risk.

This table shows the differences between the two types of foreign currency hedging products.

Forward exchange contracts	Foreign currency options
Obligation to buy or sell	Right to buy or sell
Eliminates downside risk but no upside potential	Eliminates downside risk retains upside potential
Physical settlement	Only settle if favourable
Rate given by bank	Own choice of rate
Price of transaction in the rate – an all-up rate	Transparency of price paid. The pricing of the premium has a number of variables, such as time value, volatility, which currency, etc. A price comparison can only be done on a case-by-case basis

- **Perfect hedge:** A simple method is to match any outgoing foreign currency payments against foreign currency inflows received at exactly the same time. This method is rarely used due to the uncertainty of timing of the cash flows. The inflow and the outflow must occur at exactly the same time to provide a 'perfect' hedge
- **Foreign currency bank accounts / loan facilities:** These alternative methods of managing foreign exchange risk can be used when the timing of the foreign currency inflows and outflows don't match. The timing issues can be managed by depositing surplus foreign currency in a foreign currency account for later use, or by borrowing foreign currency to pay for foreign currency purchases, and then using the foreign currency to repay the loan.

# Key foreign exchange management terms

- **Bid** – the rate at which a dealer is willing to buy the base currency
- **Domestic currency** – the currency issued for use in a particular jurisdiction. For example, this would be Australian dollars for Australia
- **Exercise price** – the price at which the call or put foreign currency option can be purchased (if a call) or sold (if a put). Also referred to as ‘strike price’
- **Exercise** – the action taken by the holder of a call option if he/she wishes to purchase the underlying foreign currency or by the holder of a put option if he/she wishes to sell the underlying foreign currency
- **Forex / FX** – an abbreviation of ‘foreign exchange’
- **Forward exchange contract** – an agreement to exchange one currency for another currency on an agreed date (for any date other than the ‘spot’ date)
- **Forward points** – the interest rate differential between two currencies expressed in exchange rate points. The forward points are added or subtracted from the spot rate to give the forward or outright rate
- **Forward rates** – the rate at which a foreign exchange contract is struck today for settlement at a specified future date
- **Forward contract** – the contract undertaken at the forward rate as specified above
- **Functional currency** – The currency that a business prepares its accounts in. This may not be the domestic currency of the country which the business is mainly based in
- **Hedging** – a hedging transaction is one which protects an asset or liability against a fluctuation in the foreign exchange rate
- **In-the-money option** – an option with intrinsic value. A call option is in the money if its strike price is below the current spot price. A put option is in the money if its strike price is above the current spot price
- **Offer** – the rate at which a dealer is willing to sell the base currency
- **Open position** – any transaction that has not been settled by a physical payment or is matched by an equal and opposite deal for the same value date
- **Options** – options are similar to an insurance contract. For a premium, the purchaser can insure against an adverse exchange rate. If the insured exchange rate moves adversely for the purchaser, the purchaser can exercise the option. If the exchange rate moves favourably, the purchaser can abandon the option and take advantage of the favourable exchange rate. The buyer has the right but not the obligation to exercise the option
- **Out-of-the-money option** – an option with no intrinsic value, i.e. a call whose strike price is above the current spot price or a put whose strike price is below the current spot price. Its value is solely time related
- **Outright forward** – a foreign exchange transaction involving either the purchase or the sale of a currency for settlement at a future date. It is the same as a forward contract
- **Outright rate** – the forward rate of a foreign exchange deal based on the spot price plus or minus the forward point, which represents the difference in interest rates between the two currencies
- **Pre delivery** – where the foreign exchange contract is settled prior to the agreed contract date. In this instance, the original foreign currency rate agreed will be amended in line with time value and interest rate differential
- **Premium** – the amount paid for the option transaction. It is usually expressed in currency terms or as a percentage of foreign exchange rate
- **Put** – an option to sell a foreign currency amount at a specified price at any time between now and the expiration of the option contract
- **Rollover** – where the settlement of a deal is rolled forward to another value date based on the interest rate differential of the two currencies e.g. next day
- **Settlement** – actual physical exchange of one currency for another between dealer and client
- **Spot contract** – spot means the settlement date of a deal which is two business days forward
- **Spot rate** – The arrangement to exchange currencies in two working days. For example, if a currency is sold ‘spot’ on Monday, it will be exchanged on Wednesday with the counterparty
- **Spread** – the difference between bid and offer prices



- **Stop loss order** – an order to buy or sell when a particular price is reached either above or below the price that prevailed when the order was given
- **Strike price** – refer to 'exercise price'
- **Time value** – the amount of money option buyers are willing to pay, above the intrinsic value, for an option in the anticipation that, over time, a change in the foreign currency value will cause the option to increase in value. In general, an option premium is the sum of time value and intrinsic value. Any amount by which an option premium exceeds the option's intrinsic value can be considered as time value
- **Value date** – settlement date of a spot or forward deal
- **Volatility** – a measure of price fluctuations

