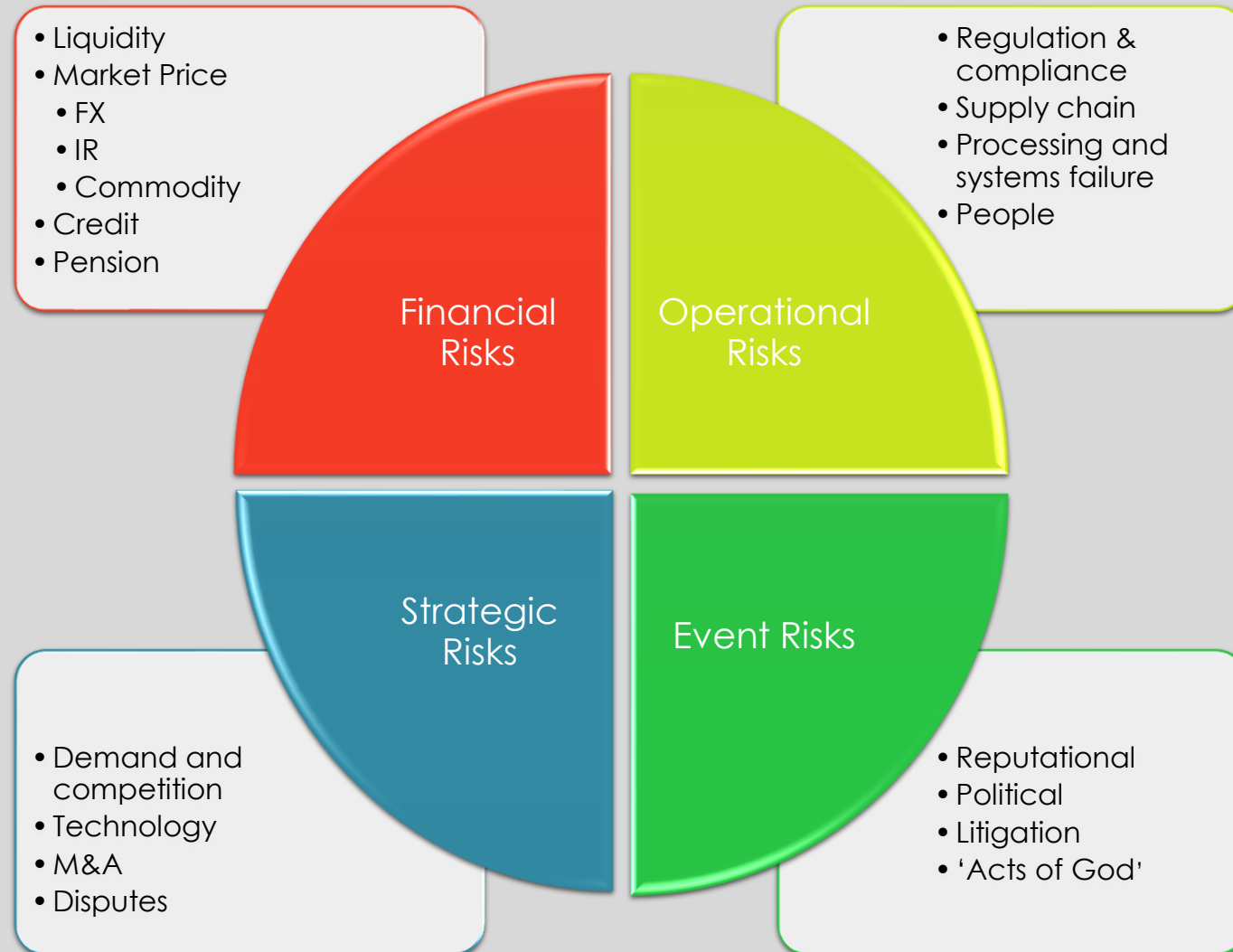




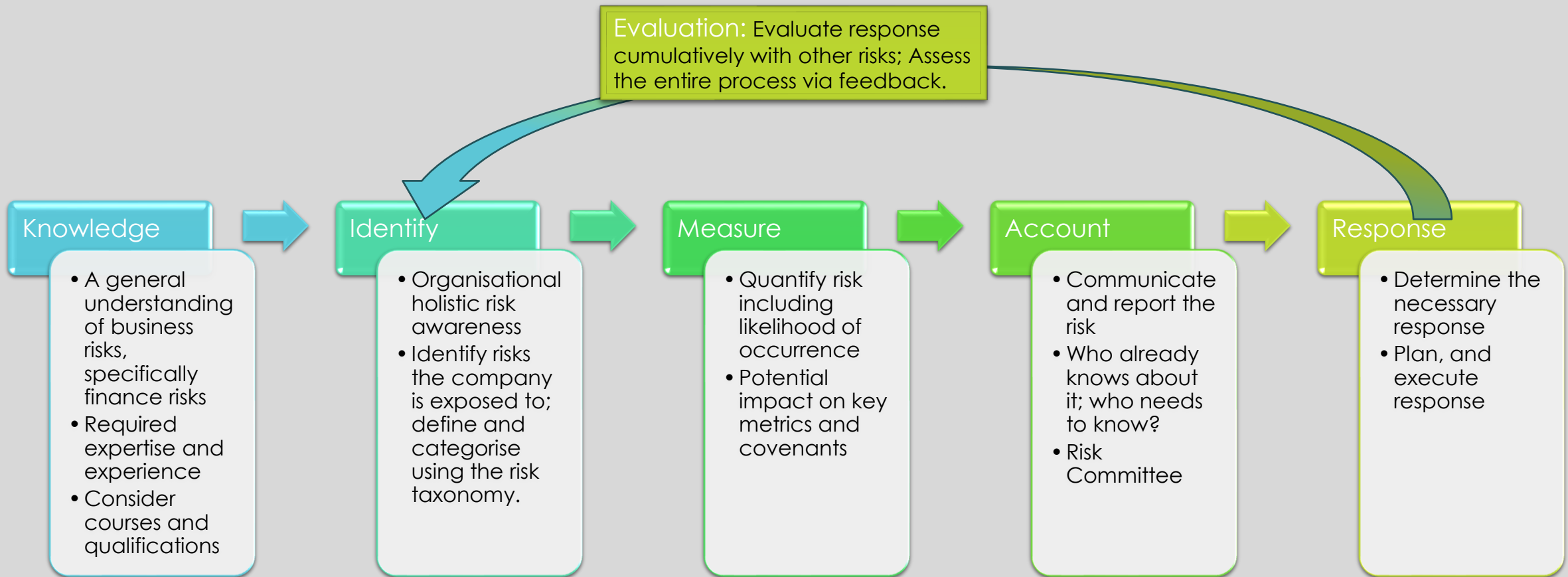
FINANCIAL RISK MANAGEMENT

A New Framework

Risk Taxonomy



KIMARE Framework for Risk Management



KIMARE Risk Framework - Details

Knowledge

- Before business risks can be identified, measured, and appropriately responded to, there should be a base level of risk management knowledge. Either via experience or qualifications (ideally both), knowledge is an essential pre-requisite for operating an effective risk management framework. Further, knowledge of the business is critical

Identify

- The objective is to identify the risks that the company is exposed to, whether the source is internal or external, or both. Then define and categorise using the risk taxonomy. For example, FX risk can be classified as both internal (UK treasury lending EUR to a foreign subsidiary creates internal FX risk; sales made in non-functional currency is an external FX risk)
- To aid in the identification, a line-by-line analysis of the financial statements should be the starting point, logging the potential risks in each area in a risk register. Consider not just financial but operational, event, and strategic risks

Measure

- Using simple measures to quantify each risk, and measuring the probability of occurrence, often gives better results than more complex time-consuming measurement models. Scenario analysis and sensitivity of key covenants and metrics to changes in the risk's drivers provides the potential impact, *ceteris paribus*. The probability of occurrence can be simply measured using knowledge of the business and categorising as low, medium or high
- More sophisticated models exist, e.g. volatility, correlation, VaR, if the team has the time to use and maintain them

Account

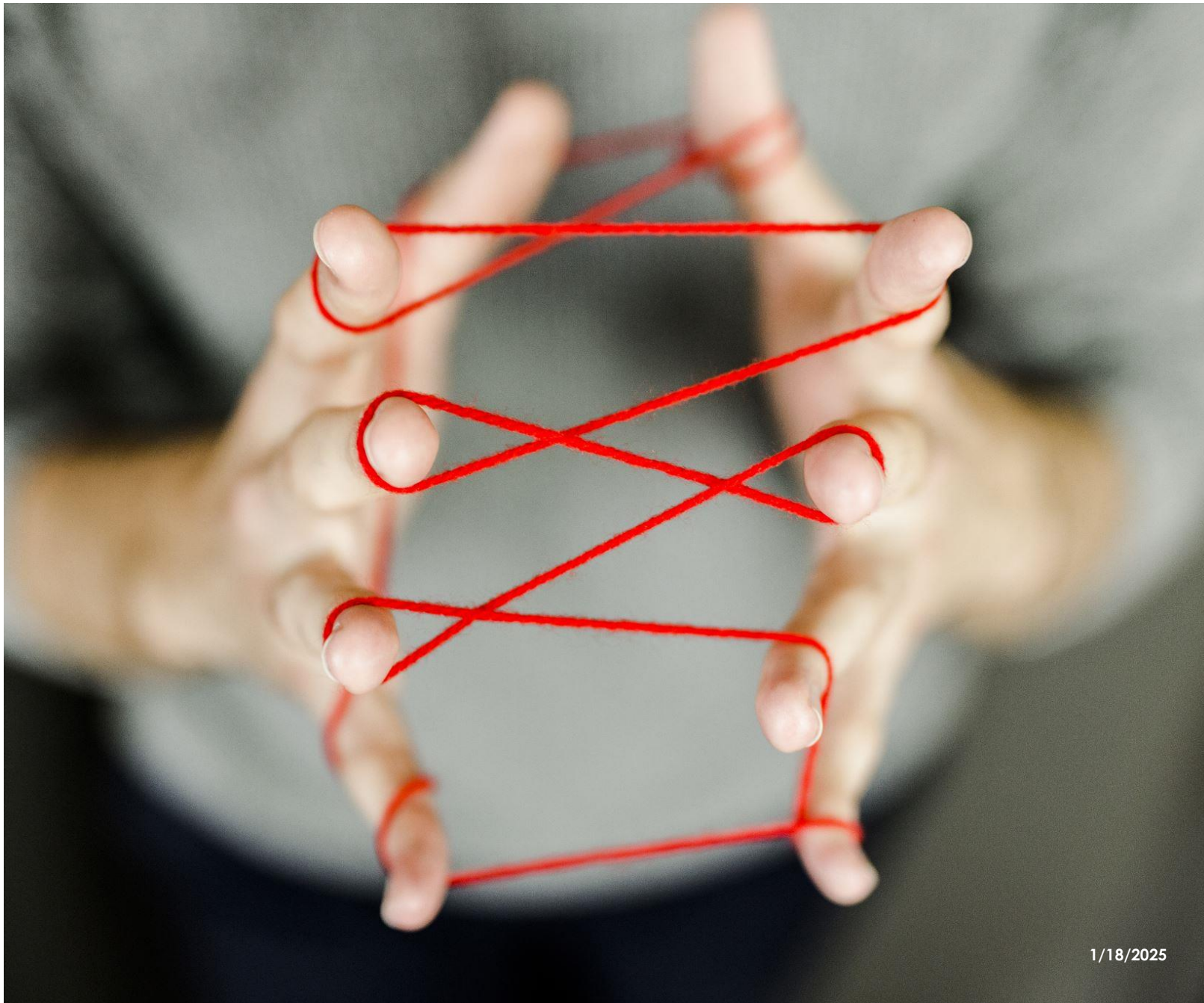
- Before you produce an effective response, communication with the business is crucial to ensure that the risk has not previously been identified and is not already being managed
- Initial comms to the risk committee and financial control should prove useful

Response

- Considering all the information gathered, you will now be in a strong position to produce a robust and effective risk response. Will you hedge the risk? How and over what time horizon? Will you accept and absorb the risk or simply avoid it by **not** doing something (e.g. not borrowing in FX). Consider the accounting and your response will 'present' in the financial statements

Evaluation





1/18/2025

Examples using the KIMARE Risk Management Framework

FX Risk

Knowledge

- Changes in FX rates affect businesses in a myriad of different ways. Therefore, to identify FX risks correctly, the treasurer needs a sound understanding of how the business works and where FX risks may arise
- The four main types of FX risk are transaction, pre-transaction, economic (these three affect the PV of future cashflows), and translation risk (accounting impact on key metrics and covenants)

Identify

- FX risk can be identified by analysing the financial statements, in particular the underlying ledgers of sales, expenses, external debt, intercompany debt, among others, that are denominated in non-functional currency
- Transaction risks arise when the actual value of future FX cash flows will differ from the expected amounts because of FX rate changes, whereas economic exposures are strategic, and can occur even when a company has no transactions in FX (a foreign competitor, for example, exposes the business to economic FX risk). Translation risks are non-cash exposures

Measure

- Quantify the impact of FX risk using sensitivity models assuming a reasonable change in rates of the currency pair you are measuring. Analyse the impact on business performance and key metrics
- VaR can estimate the probability of occurrence
- Perform scenario analysis to stress test and provide a real-world check. I recommend calculating low/medium/high numbers

Account

- FX risk is critical to get right. There could be large outflows of cash with associated losses if it is not managed correctly.
- If there are other parts of the business that you have not identified or are already managing FX risk, and you are unaware, then any response you decide to make may exacerbate the situation

Response

- There are many tools in the box to use for a response to FX risk, ranging from the simple to the highly complicated
- Look for any natural hedges and changes to the timing of same currency flows to net them off before hedging
- Future cashflows from sales, expenses, debt interest and payments, even balance sheet translation items, can generally be hedged using simple forwards, swaps and options

Evaluation



Liquidity Risk

Knowledge

- In its broadest terms, liquidity risk includes all the risks that adversely affect a company's ability to access funds as and when required (i.e. a mismatch between cash needs and funds available)
- It is therefore vital that the treasurer has a thorough understanding of the business model of their company, including the supply chain and customer and lender profiles to properly identify liquidity risk

Identify

- Identifying liquidity risk involves the definition, identification, and classification of liquidity risk exposures and their sources (e.g. the risks can be classified as global, industry-wide, or company-specific, which can then tailor your response)
- Because liquidity risk is inextricably linked to the strategy of the business and the wider operating environment, the causes of liquidity risk can be wide ranging, from regulatory changes, supply chain interruption and movements in market rates

Measure

- Create a cash flow forecast process. It is imperative that communication with the wider business is performed to understand all cash flow drivers, appropriate time horizons and relevant line items
- Short (few weeks) and medium (13 weeks) cash forecasts are typical. A long-term high-level forecast is also recommended.
- Apply stress testing to these forecasts using sensitivity and scenario analysis, based on global changes (e.g. macro shocks), industry specific issues (e.g. supply of critical raw materials such as CO2) and company-specific problems (e.g. fall in sales)

Account

- To re-iterate, managing liquidity risk is so important to the survival of a company that all business areas should be aware of it. Use this opportunity to ensure you educate the wider business on how they can help manage liquidity risk
- Maintain a weekly reporting update to the risk committee and the subsidiary FDs regarding liquidity risk and create a daily report

Response

- Policy design is critical to effectively manage liquidity risk. Often, a single liquidity policy is not required or too difficult. Instead, it is addressed over several policies including the FX, cash management, IR, and credit risk policies
- I strongly recommend establishing and maintaining a calculated level of target headroom on committed facilities, based on worst case outflows, to cover any emergencies, while maintaining diversified and quick access to funds

Evaluation

Interest Rate Risk

Knowledge

- Put simply, interest rates risk is the probability of an adverse impact on profitability, via changes in debt interest payable, interest income, and changing asset and liability valuations
- Manifests itself through many forms in a businesses' financial supply chain, particular in capital-intensive industries

Identify

- Arises from several sources, principally:
 - Changes in absolute interest rates (interest rate price risk). Impacts borrowing costs, interest income, and bond valuations
 - Changes in the shape of the yield curve (yield curve risk). Shift in the differential between short- and long-term rates leads to varying discount rates and therefore fluctuating valuations. Changes bond debt duration, especially long-term bonds
 - Changes in interest rates prior to instrument maturity (repricing or reinvestment risk), risk of rates being worse than budgeted

Measure

- Like FX risk, sensitivity and scenario analysis are useful to measure interest rate price risk. Quantify the impact on financial statement line items of changes in interest rates assuming a variety of rates. Analyse the impact on business performance and key metrics, including covenants (e.g. interest cover).
- Use stress testing to answer the question: "how far would rates need to move to breach a covenant or key metric?"
- VaR and % confidence levels can be used to estimate the probability of occurrence, as can standard deviation measures.

Account

- As opposed to FX risk - which procurement and/or local subs may already be managing without treasury's knowledge - interest rate risk is often not actively managed by any other part of the business.
- The main areas in which interest rate risk may be being managed without treasury knowledge is in local investment of surplus funds, and contracts linked to a floating interest rate (e.g. property/equipment leases). Hence, report interest rate risk to the risk committee and raise areas where interest rate risk may be inadvertently being managed.

Response

- First, reduce your exposure by using centralised cash management, in-house banking, netting, and intercompany lending
- Consider asset-liability matching: life of debt matches the life span of the asset it is used to fund.
- Then use derivatives to hedge the remaining exposure: FRAs, swaps and options are the principal tools.

Evaluation

Commodity Risk

Knowledge

- Commodities include grain, metals, fuel (coal, jet fuel, gas), electricity etc.
- Commodity risk is the risk that future cash flows are adversely affected by changes in commodity prices. It affects most companies to a greater or lesser degree.
- Companies that are fully integrated along a particular supply chain may face offsetting price risks.

Identify

- Like FX risk, there are four main types of commodity price risk: transaction, pre-transaction, economic, and translation risk
- The reserve currency for many commodities is usually USD. If USD is not the functional currency of your business, you will also be exposed to FX risk. Therefore, it is often necessary to consider both the foreign exchange and commodity price risks when identifying and managing commodity price risk.

Measure

- Like FX and IR risk, sensitivity and scenario analysis are useful to quantify commodity price risk. Using forecasts, analyse the impact on key metrics and business performance; stress test the forecasts, and use VaR to answer 'what if...?' questions.
- As mentioned, FX risk can be a factor when identifying commodity risk. In fact, some commodity prices are strongly correlated with certain foreign exchange rates, adding a further dimension to the management of both risks. To manage either FX or commodity risk effectively, consider the interplay between these two risk elements in your analysis.

Account

- While commodity risk can be explicit (e.g. mining), it can also arise as a secondary factor (diesel prices for a haulage business). Procurement usually have a significant input into commodity supplies, hence identifying the full exposure of a business to commodity prices requires thinking outside the typical channels and to widen the scope of traditional business risks. Hence, reporting initial analysis to risk committee or/and procurement committee can ensure no duplication of risk management

Response

- Unlike for FX risk, the majority of companies are only either producers or consumers of commodities and so there is far less scope to reduce risk by netting or natural hedging than for other risks.
- Hence, most companies will transfer at least some of the risk by either passing it on to customers or/and using derivatives.
- Typically, commodity forwards, swaps and options are used. Settlement type can be either physical delivery or cash settled

Evaluation

Counterparty Risk

Knowledge

- I prefer to split this risk into two: 1) Financial institution **counterparty** risk is typically a risk that treasury is responsible for; and 2) **Credit** risk of customers and other third parties, usually managed by accounts receivable.
- We will focus on counterparty risk.

Identify

- Counterparty risk arises whenever payment or performance to a contractual agreement with another entity is expected and there exists a risk of default, non-payment or non-performance, as written in the contract terms
- Hence, identifying this risk should be relatively easy for treasury: Any financial institution that treasury or subsidiaries deal with, will expose the business to counterparty risk

Measure

- Settlement risk: the amount due to be delivered under the contract terms at settlement date
- Pre-settlement exposure is the risk of non-payment before settlement (e.g. default by the counterparty). The exposure is measured using fair value: the price that would be received to sell the asset or pay to transfer a liability (the 'exit price'). By valuing your derivatives each day vs the market, the risk of loss can be measured; however, only if it is showing a profit does it matter. If showing a loss, your risk is zero

Account

- ISDAs should be agreed with all financial counterparties prior to dealing (break clauses and CSAs)
- Daily monitoring of counterparty risk (e.g. using credit default swap (CDS) spreads and credit ratings). Produce counterparty deal limits based upon certain criteria/ratings and maintain a real-time counterparty report to distribute to the risk committee
- Ensure subsidiaries are reporting all their cash balances with counterparties in the treasury system (or ERP)

Response

- Most corporate treasury transactions are short term, reducing the extent of pre-settlement risk. However, swaps can be a particular challenge due to their length. Consider net settlement where possible
- Consider if using collateral is a useful and viable option (e.g. repos)
- CDSs can also be traded, which are triggered when a counterparty has defaulted

Evaluation