

# A strategic approach to risk management.

A risk target strategy versus percentage hedging policies.

Recently, a public company reported a double digit percentage decline in earnings mainly due to foreign exchange losses on operations. This is a recurring phenomenon with many large, sophisticated multi-nationals. These companies have well established and board approved policies aimed at curbing precisely such swings in earning volatility. They are typically using a market standard approach to hedging operational FX risk that has been around for decades. Why is it then that public companies are still making these kinds of announcements?

The reason is that often, currency fluctuations impact a company's cash flow and earnings differently. Earnings at Risk (EaR) is a calculation of the possible deviation to earnings due to FX rate movements at a specified confidence level and over a time horizon, while Cash flow at Risk (CFaR) is a calculation of the possible deviation in expected cash flows due to FX rate movements over the same period. Therefore, hedging certain cash flows may negatively impact earnings at a group level.

Treasurers have liquidity objectives and are concerned about minimizing cash flow volatility, while also managing FX risk. Thus, a treasurer's hedging activity to accomplish their goals may be in direct conflict with the CFO's objectives of delivering earning results that match their commitment to analysts.

A solution to this quandary that enables a more predictable earnings announcements, requires an understanding of this tradeoff for each specific company as well as the group entity. It requires adopting an optimization strategy and choosing where along the spectrum of Earnings-at-Risk (EaR) vs Cash-Flow-at-Risk (CFaR) a firm needs to be.

For example, a Risk Committee can adopt an approach with a maximum EaR target that has a 95% confidence level and leave the CFaR to be slightly higher than they may have tolerated in the past to accommodate the group goal of less volatility to earnings due to FX rate movements.

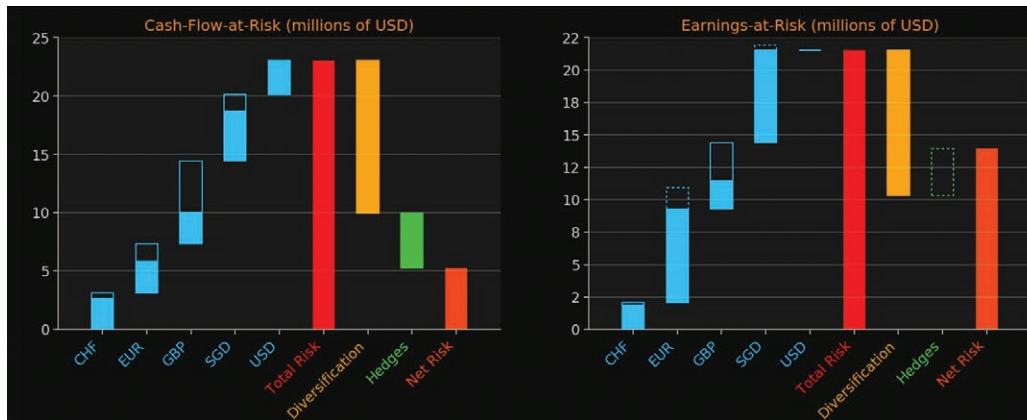
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## Shortcomings of the Current Percentage Hedging Orthodoxy

The market standard for hedging FX is a simple percentage of exposure methodology, typically approved by the Board and chiseled into policy years ago. However, ask any Board, CFO or Treasurer for a rationale on why this percent hedge is better than another and the answer is not particularly compelling.

This percent hedging policy is often managed by treasury departments who receive monthly cash flow forecasts from their business units. They apply a fixed minimum and maximum hedging percentage for the current financial year with rolling, usually lower, thresholds for subsequent years. This reduces cash flow volatility and is generally considered best practice, accepted by auditors and Boards alike.

The treasury department then executes these cash flow hedges, often netting cash flows where practicable. The currency risk management process is complete and gross and net exposures are reported to the Board. Currency risk discussions revolve around what is the right hedge percentage for a given currency or entity. A more appropriate discussion should really be on how much EaR the Board is willing to accept due to FX rate fluctuations.



## An EaR / CFaR Optimization Focused Approach

Rather than managing to a hedging percentage, one Bloomberg client has taken a more thoughtful approach by managing both earnings and liquidity with the Bloomberg Cash flow at Risk (CFaR) and Earnings at Risk (EaR) optimization tool. Treasury departments will need to understand and identify all cash flows that can impact the FX gain or loss reported on the earnings statement as well as those cash flows that impact the business units' earnings and net cash flows.

An EaR target agreed with the Board will change the way FX risk is managed by the treasury department. They will now need to identify all cash flows that will impact earnings and how they can mitigate it to comply with the Board policy, the amount of CFaR remaining can then be reported using a risk model approach the Board understands.

## Why would a Treasurer consider this approach?

For a company with a good credit rating and low liquidity risk, very often our optimization methodology will identify inefficiencies in the companies' hedging strategy. This means that for the same level of CFaR you can lower your EaR by moving your hedges closer to an efficient frontier. Beyond the obvious improvements for the same CFaR, there are significant benefits to the organization when the CFO and Treasury offices consistently deliver within an agreed EaR number that the Board understands and has approved.

Take, for example, a highly levered organization. The typical approach of targeting lower EaR may increase the business unit level CFaR, thus impacting financial liquidity. If a company's gearing is high or their credit rating is low, reducing liquidity risk from FX rate movements may be more prudent than targeting a lower EaR number.

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Understanding the trade-off between hedging a business unit's currency and liquidity risk and the group's earnings means the discussion is no longer about arbitrary hedge percentages. The discussion is about how much risk the Board is willing to take on at the group earnings level and whether they can accept the requisite cash flow impact at the business unit level from FX rate movements. Managing the tradeoff between these risks is a key function of treasury and now it can be enabled by the board.

### FX Risk Optimization: How does the Bloomberg EaR/CFaR model work?

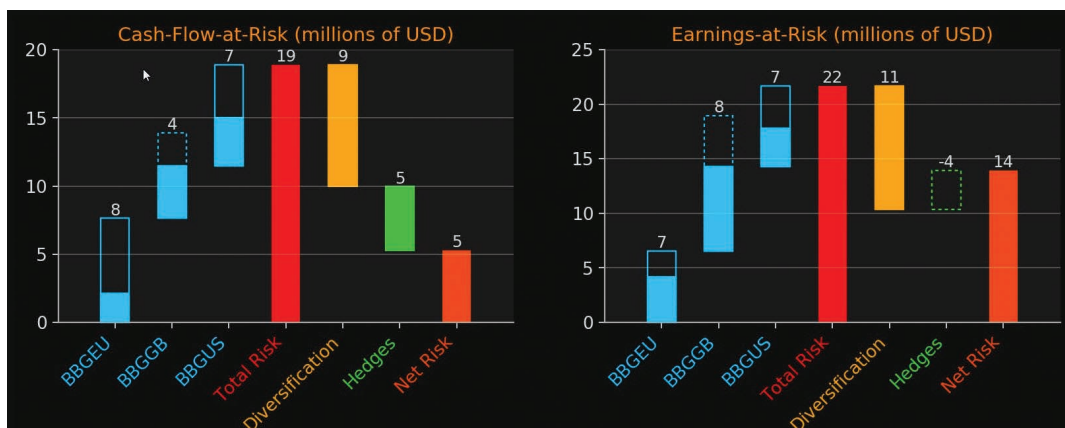
We begin by assuming that all cash flows are going to impact either group earnings or business unit earnings or both. The model targets FX risk, so we exclude all cash flows that are in the reporting currency of the group and any business unit with the same reporting currency as the group. For a U.S. subsidiary with a US holding company reporting in USD, all USD cash flows can be excluded from the analysis.

We include all intercompany cross border payments, where the payment is not in the reporting currency for at least one of the entities. These cash flows have a CFaR impact on the individual subsidiary but no impact at a group level. Hedging at a subsidiary level can increase risk at the group level, as is explained later.

The example below in Diagram 1 is a series of cash flows between subsidiaries, customers and suppliers in different currencies for a group with USD reporting currency. CFaR is only measured at a business unit level while EaR is measured at a group company level.

Event	Sub UK CFaR	Sub European CFaR	Group EaR	Sub & Group CFaR & EaR
UK Sub pays EUR to European Sub in 6 months	Yes	No	No	No
UK pays EUR to Supplier				Yes
European Sub Receives USD in 9 months		Yes	No	No
UK Sub receives GBP in 3 months	No		Yes	No
European Sub hedges USD receivable in 9 months EURUSD		Close	Yes (B)	No
UK Sub hedges EUR payment in 6 months GBPUSD		Close	Yes (B)	No

At a business unit level, hedging can create group level risk. For example, hedging the cash-flow in the first row above by buying EUR forwards to pay the European subsidiary in six months reduces the CFaR risk for the UK subsidiary. This creates EaR at a group level on both cash flows of the FX hedge. If the group had no exposure before, the hedge is effectively a new risk. Hedging the European supplier payment removes the CFaR for the subsidiary and removes the EUR exposure at the group level, but creates a GBP EaR.



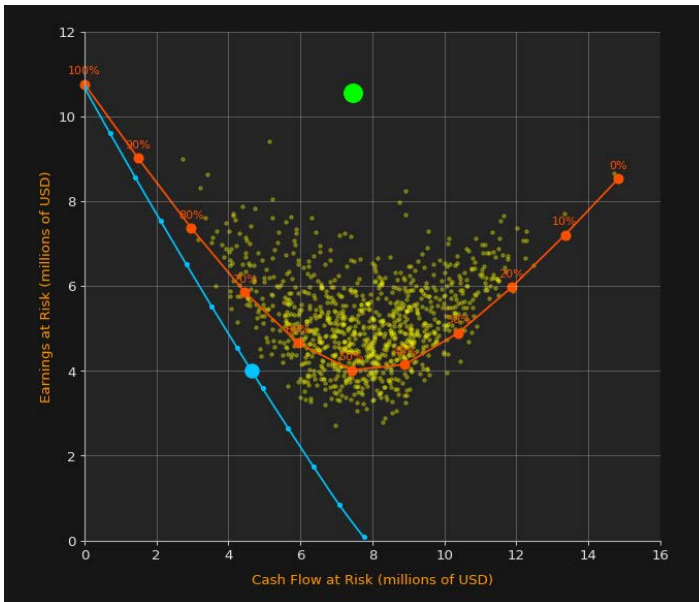
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## Why is this?

If the value of the cash flow at a group level is variable because of FX rates, then it will have an impact on Group level earnings. Since it is the reporting currency of a foreign business unit, it is not a risk at a group level. For example, does GBP net revenue in a UK (GBP) subsidiary have an impact on the Earnings of the US (USD) group company? The answer is yes. A fall in the GBPUSD FX rate will reduce the earnings of the group.

Looking holistically at the problem, we are managing the cash flow movements of the business. This does not include amortizations, accruals or other non-cash items that are part of a business P&L, therefore cash flow movements are a quasi-earnings currency risk position. We are applying a solution to identify cash flows that create volatility to earnings because of FX rate movements.

Modeling and monitoring EaR and CFaR is something treasury departments should consider engaging in either as their main FX risk management process or as a check and validation on an existing risk policy approach. Consistently applying this methodology could prevent your company from being in the news for a double digit percentage fall in earnings due to unforeseen FX rate movements.



We may have to relabel the axes. The y axis should be: "Earnings at Risk (millions of USD)" and the x-axis should be: "Cashflow at Risk (millions of USD)"

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