2006 CitiFX Corporate Risk Management Study

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Corporate Risk Advisory Group

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Executive Summary

This summer, we conducted our second corporate risk management study and received a much higher number of responses than last year. Our findings this year include:

- Hedging activities continue to be focused on hedging transactional cash flows.
- Twelve-months is the most common maximum tenor for hedging forecasted transactions. However, the regional breakdown reveals a different picture.
- Forward contracts continue to be the hedge instrument of choice. Options, however, seem to be used more frequently than previously thought.
- While minimizing earnings volatility is the most frequently cited main risk management objective, precisely defining the concept is not as easy as one thinks.
- Most North American & European companies make hedging decisions and execute hedge centrally while Asia-Pacific participants show a much higher propensity to utilize a decentralized structure for risk management.
- Market view and interest rate differential influence hedging activities much more than one might expect.

Introduction

As a sequel to our first risk management study last year[1], we conducted a follow-up study this past summer. An expanded and refined questionnaire on hedging practices was sent to our major corporate clients around the world. Nearly doubling the number of respondents from last year, 191 of our customers took the time to participate this year.

In a similar fashion to last year, we analyzed the regional results by grouping respondents into three major regions:

1. North America (43%);

2. Europe (31%);

3. Asia-Pacific (26%).

Additionally, respondents were broken down into two groups based on the size of the company:

1. Large Companies: With annual sales of more than US$ 5 bio;

2. Small Companies: With annual sales of US$ 5 bio or less.

The results we present here shed light on the *common practices* amongst our respondents. This information can be useful for companies to benchmark themselves against their peers. However, while benchmarking is an essential exercise, it is equally vital to recognize that these *common practices* are not always the *best practices* for managing risks. Therefore, an inside-out approach is also necessary for a company's risk management program to take into account of its specific needs and constraints.

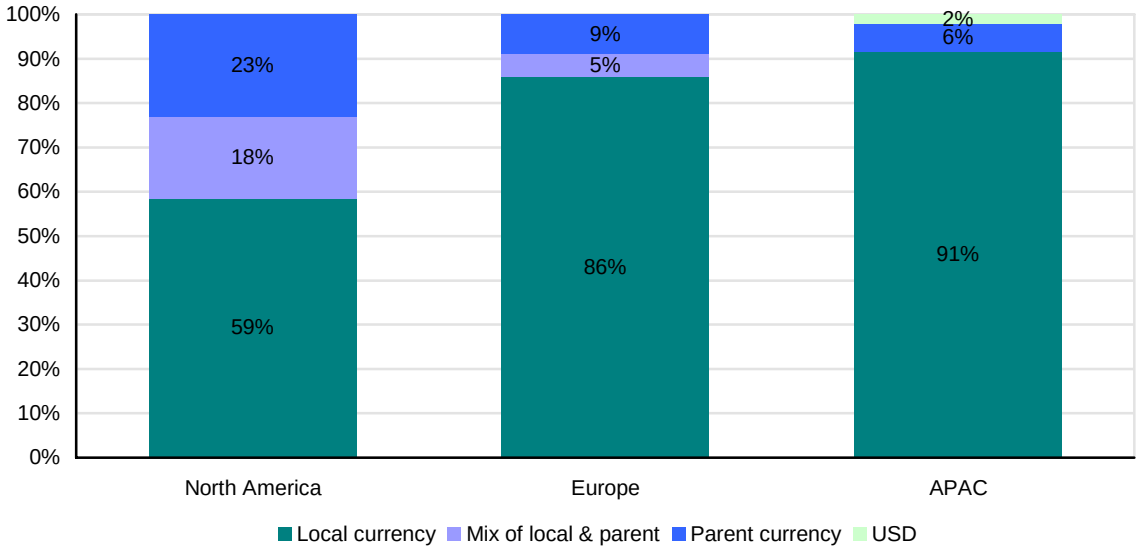
[1] "CitiFX First Annual Corporate Risk Management Survey" by M. Daniel and D. Hirigoyen: The CitiFX Currency Advisor – Corporate Edition, Issue 8 – Oct 2005.

Study Results

Functional Currency of Subsidiaries

Similarly to last year's results, the foreign subsidiaries of a majority (76%) of our respondents are local currency functional. Only 14% use their parent's functional currency. Note that for 9% of our respondents, the picture is not all black or white. Some of their subsidiaries are local currency functional while others use the parent's reporting currency. Since local currency is usually the currency of the primary environment in which subsidiaries generate and expend cash[2], our findings are in line with general expectations. Subsidiaries of North American companies (23%) are more likely to use the parent's reporting currency as their functional currency than their European (8%) and APAC (6%) counterparts (see Figure 1). This may be explained by the fact that several of our North American respondents are involved in the commodities industry where flows are mostly denominated in US dollars. Foreign subsidiaries therefore naturally use the USD as their functional currency, similar to their parents.

Figure 1: Functional Currency of Subsidiaries – by Region



Source: Citigroup Foreign Exchange.

FX Risks by Functional Currency

Our respondents provided details on the currencies that constitute their main exposures. We analyzed the responses for US dollar (USD), Euro (EUR), and Yen (JPY) functional companies.

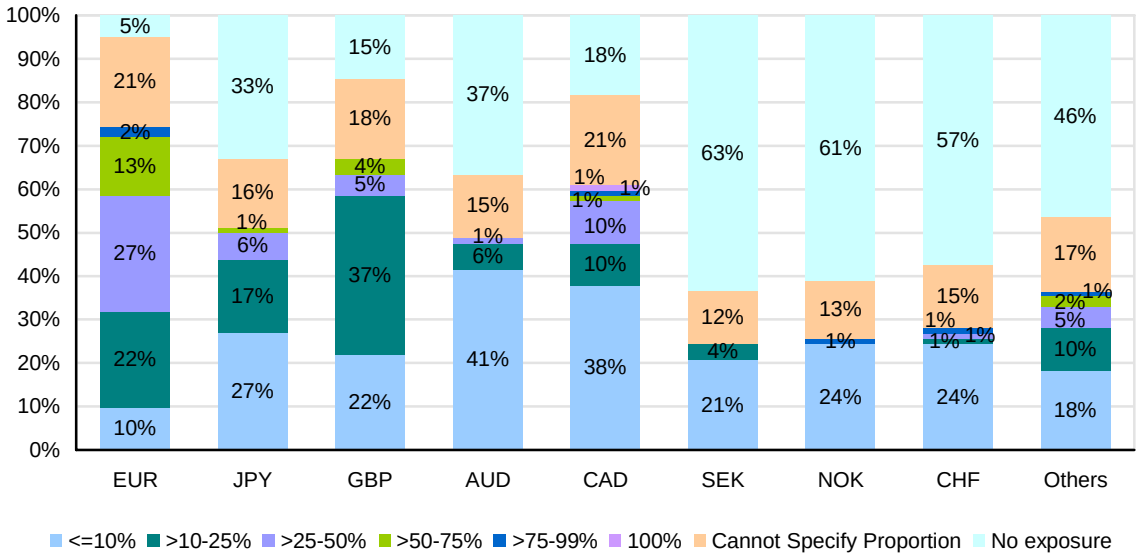
USD-Functional Companies

EUR, sterling (GBP), and Canadian dollar (CAD), in order of ranking, continue to constitute the three largest FX exposures for USD-functional companies that participated in our study (see Figure 2). The percentages of companies with exposures to these three currencies were roughly in

[2] Both FAS 52 & IAS 21 define an entity's functional currency as the currency of the primary economic environment in which the entity operates; normally that is the currency of the environment in which an entity primarily generates and expends cash.

the same magnitude as last year. However, exposure to emerging market currencies (categorized as “others”) increased significantly from 38% of respondents to 54% this year.

Figure 2: FX Exposure Distribution for USD-Functional Respondents



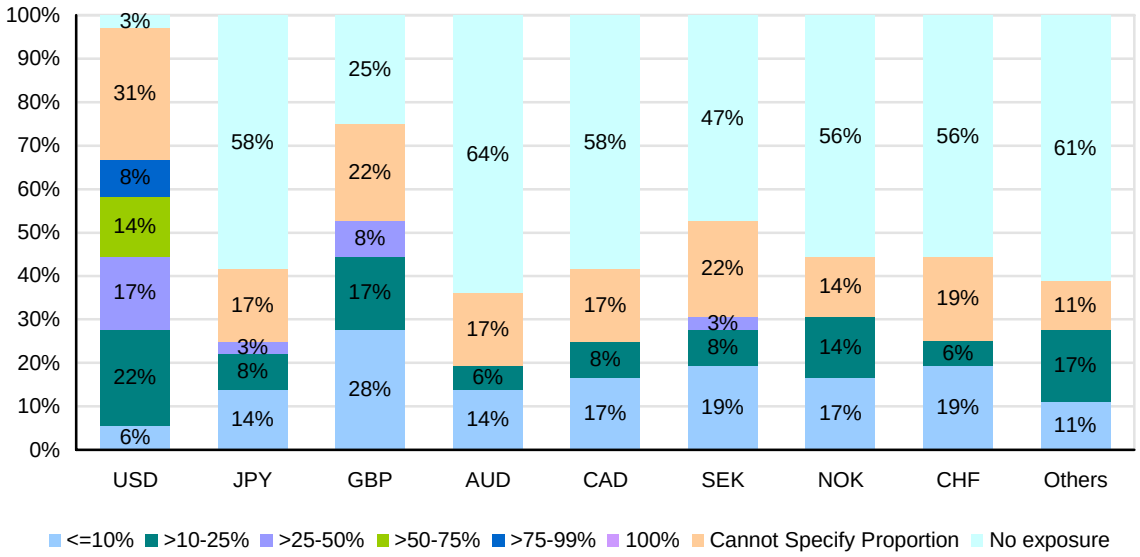
Source: Citigroup Foreign Exchange.

By and large, USD-functional companies are long foreign currencies. The only exception is in emerging markets, where companies tend to have fairly balanced revenues and expenses.

EUR-Functional Companies

USD, GBP, and SEK, in order of ranking, continue to represent the three largest exposures for EUR-functional companies (see Figure 3). The percentage of companies with exposures to USD increased substantially from 75% to 97% this year. In contrast, percentages of companies with exposures to GBP and SEK remain about the same. Like USD-functional companies, EUR-functional respondents are long most foreign currencies except emerging market currencies where the direction of their exposures is mixed.

Figure 3: FX Exposure Distribution for EUR-Functional Respondents

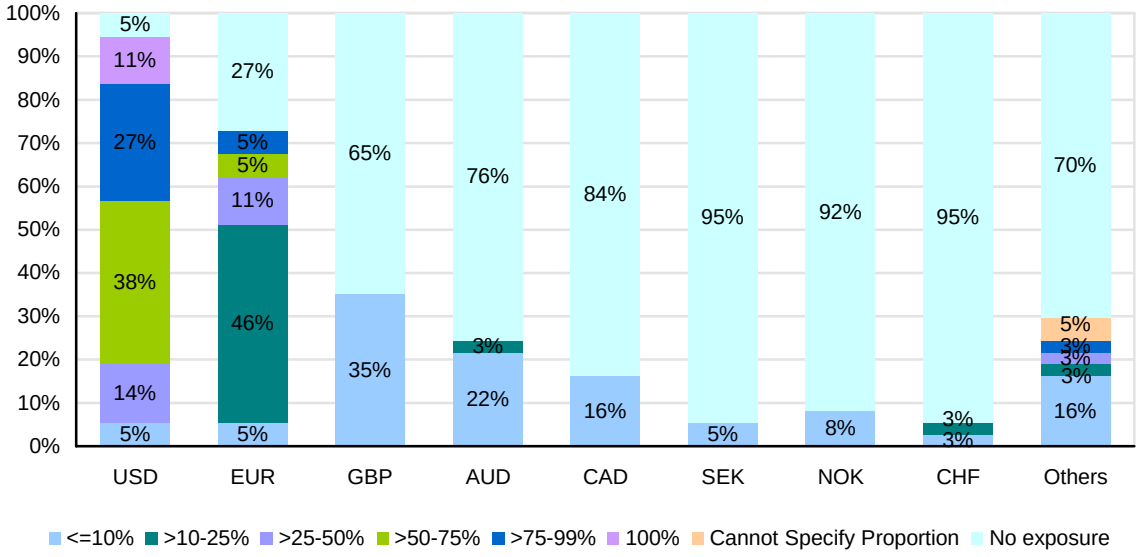


Source: Citigroup Foreign Exchange.

JPY-Functional Companies

USD, EUR, and GBP still make up the largest FX exposures for JPY-functional respondents with 95% exposed to USD, 74% to EUR and 35% to GBP (see Figure 4). Although the percentage of companies with exposure to USD remains similar to last year's, a closer look reveals that the size of their exposure to USD is in fact larger than expected: 76% of respondents (vs. 60% last year) indicated that more than fifty percent of their exposures are against the dollar. Not surprisingly, because Japanese companies are predominantly exporters, JPY-functional companies are overwhelmingly long foreign currencies. However unlike USD and EUR-functional companies, JPY-functional respondents are also long emerging market currencies (mostly south-east Asian currencies), signifying they export to emerging market countries more than they source from them.

Figure 4: FX Exposure Distribution for JPY-Functional Respondents



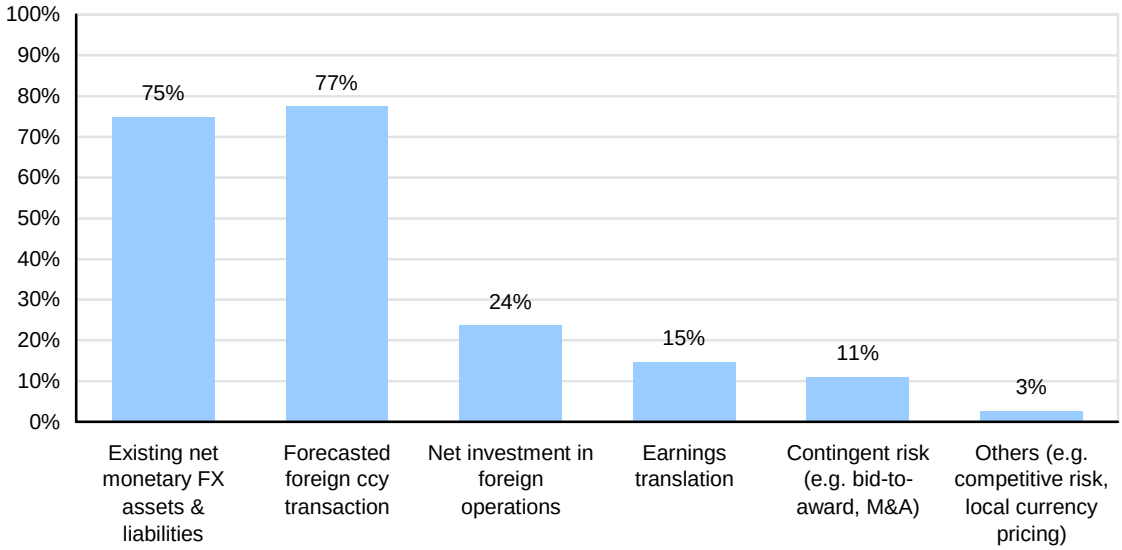
Source: Citigroup Foreign Exchange.

Risks Hedged

This year's results on the types of risks that companies hedge are much more in line with our expectations. We were surprised last year that more respondents stated hedging forecasted transactions (83%) than existing assets & liabilities (60%). We suspected that some respondents categorized hedging estimated revenues and expenses for the upcoming reporting period as hedging forecasted transactions. This year we clarified our question, and the percentage of respondents that hedge existing assets & liabilities increased to 75% (see Figure 5).

We also detected a slight increase (from 19% to 24%) in the percentage of respondents that hedge net investments in foreign operations. Further analysis by region revealed that this is due solely to more European companies hedging net investments. Overall however, the percentage of respondents that hedge net investments abroad is still quite small as companies tend to view foreign investments as long-term and are wary of potential cash outflows on hedges of non-cash generating items. Note that small companies, on the whole, are less likely to hedge this risk than large companies.

Figure 5: Percentage of Companies Hedging Each Type of Risks



Source: Citigroup Foreign Exchange.

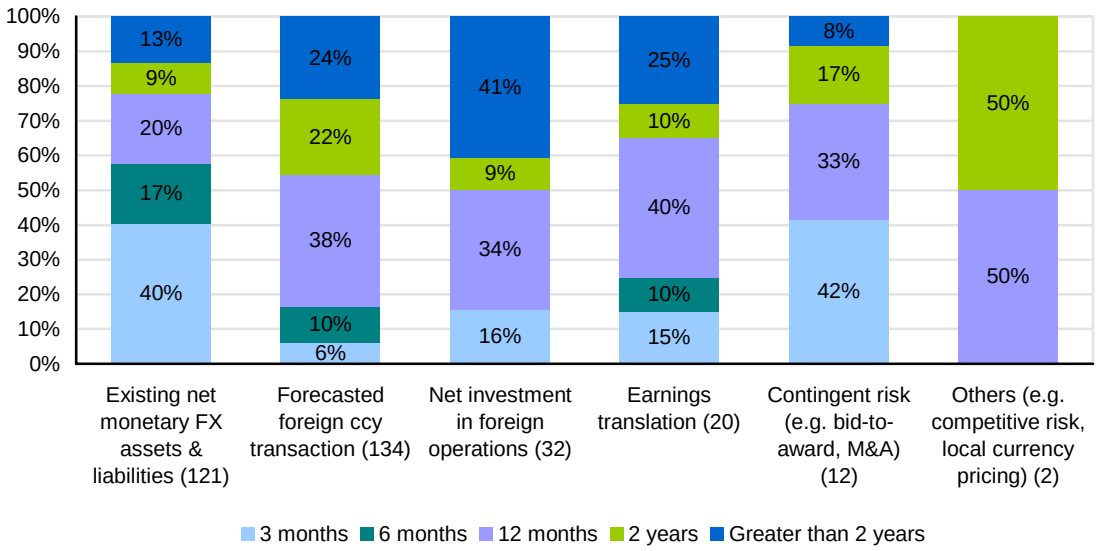
Note that few respondents hedge earnings translation, contingent risk or other risks such as competitive risk. Since these risks cannot be designated as hedged items in a hedge relationship under either FAS 133 or IAS 39, hedges of such exposures would have to be marked-to-market through income. The resulting earnings volatility may be too much for many companies to take on, not to mention that economic exposures such as competitive risk can often be difficult to identify or quantify and therefore difficult to hedge effectively.

Maximum Hedge Tenor

The most common maximum hedge tenor for existing assets & liabilities exposure is 3 months (40% – see Figure 6). This is not surprising since these hedges are used for hedging the re-measurement of foreign currency denominated net monetary assets & liabilities on the balance sheet, and therefore often match the company's financial reporting period.

Since most companies are concerned with building visibility for the fiscal year ahead, 12 months, not surprisingly, is the most common (38%) maximum tenor for hedging forecasted foreign currency transactions. More North American companies (34%) hedge forecasted transactions beyond 2 years than companies in other regions. This may be due to U.S. companies' effort to minimize year-on-year earnings volatility by hedging out multiple years. European respondents, more than in any other region (53%), hedge forecasted transactions out to a maximum of 12-months. Asia-Pacific companies have the shortest hedge tenor of all for that risk with 30% hedging out to 6 months or less. This is not a surprise since the interest rate differential is almost constantly against Japanese exporters that hedge forward their foreign currency revenues against JPY.

Figure 6: Maximum Hedge Tenor by Type of Risk



Source: Citigroup Foreign Exchange.

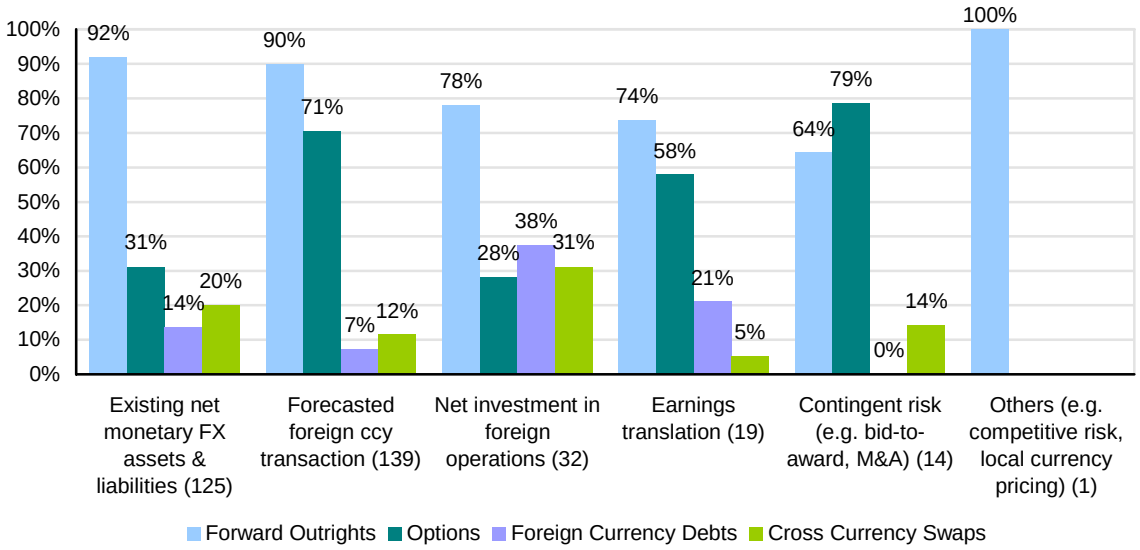
Note that small companies that hedge forecasted transactions are more likely to hedge out to 12 months than large companies. They are also more inclined (63%) to hedge net investment beyond 2 years than large companies (33%).

Overall though, net foreign investments tend to be hedged farther out. This is not surprising considering the lifespan of this type of exposures and the fact that companies want to minimize the frequency of related cash flow events on their hedges.

Hedge Instruments

In this section we analyze the type of instruments companies use to hedge their various risks. Figure 7 below provides a macro-picture by type of risks.

Figure 7: Instrument Usage by Exposure Type



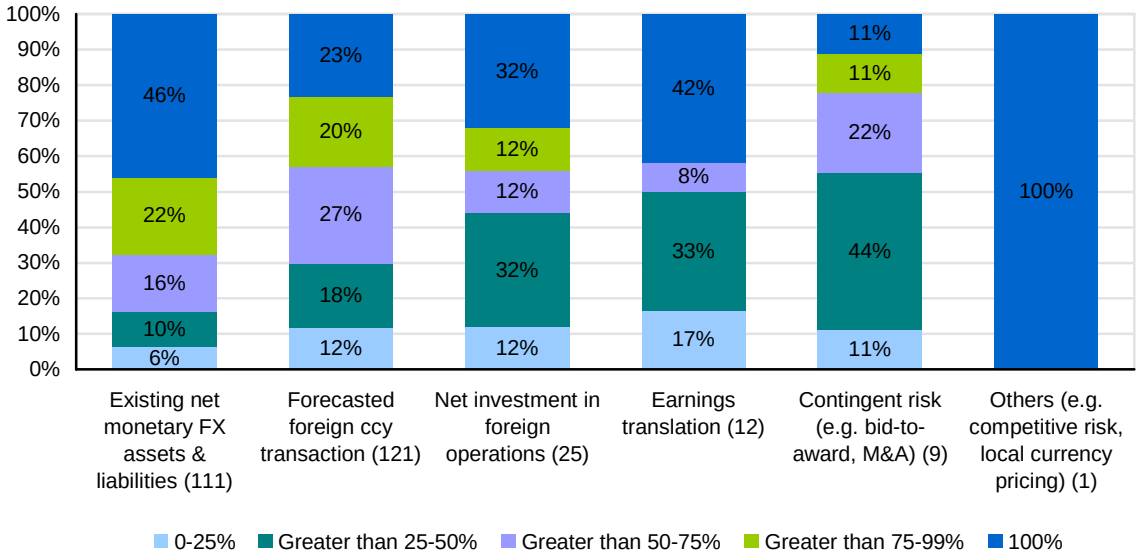
Source: Citigroup Foreign Exchange.

Usage of Forwards

By a wide margin, forward contracts continue to be the hedge instrument of choice across all FX risks (see Figure 7 above).

They are widely used for existing assets and liabilities (see Figure 8) but are also a favourite to hedge net foreign investments, despite the potential cash flow implications this instrument has, while the underlying risk generally has none.

Figure 8: Usage of Forwards by Exposure Type

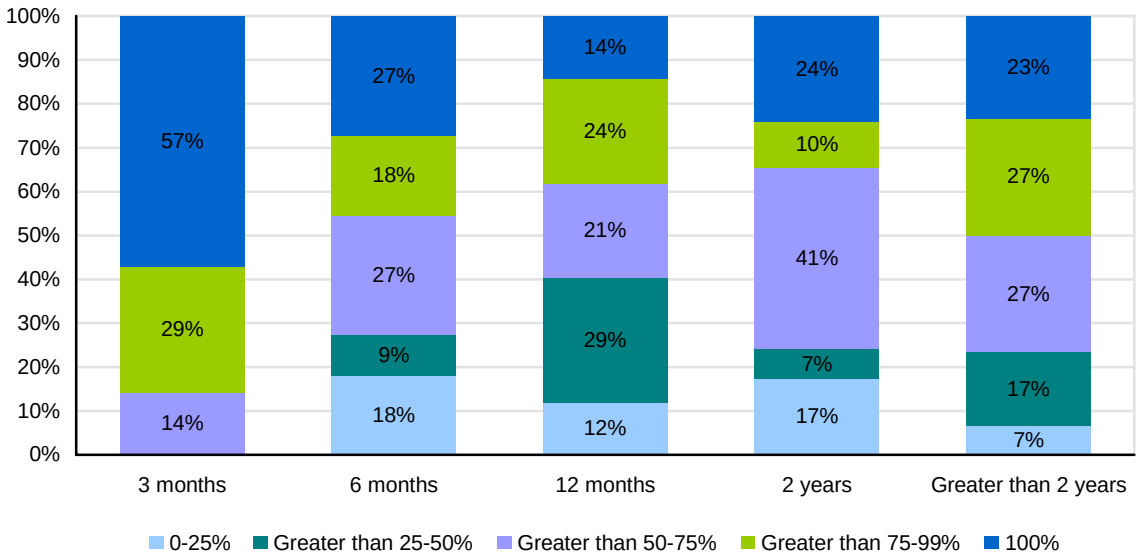


Source: Citigroup Foreign Exchange.

Many companies however seem to be aware of the risk inherent to using forwards when uncertainty exists around the underlying exposure. Hence, they like to vary the hedging mix based on that parameter. For example, almost 50% of respondents that hedge existing FX assets & liabilities use forwards exclusively, while only 23% do so for forecasted transactions.

Forwards are also popular for hedging forecasted transactions, although the number of respondents that use them exclusively for that purpose tends to decrease as the hedge horizon increases (see Figure 9 below).

Figure 9: Usage of Forwards for Forecasted Transactions



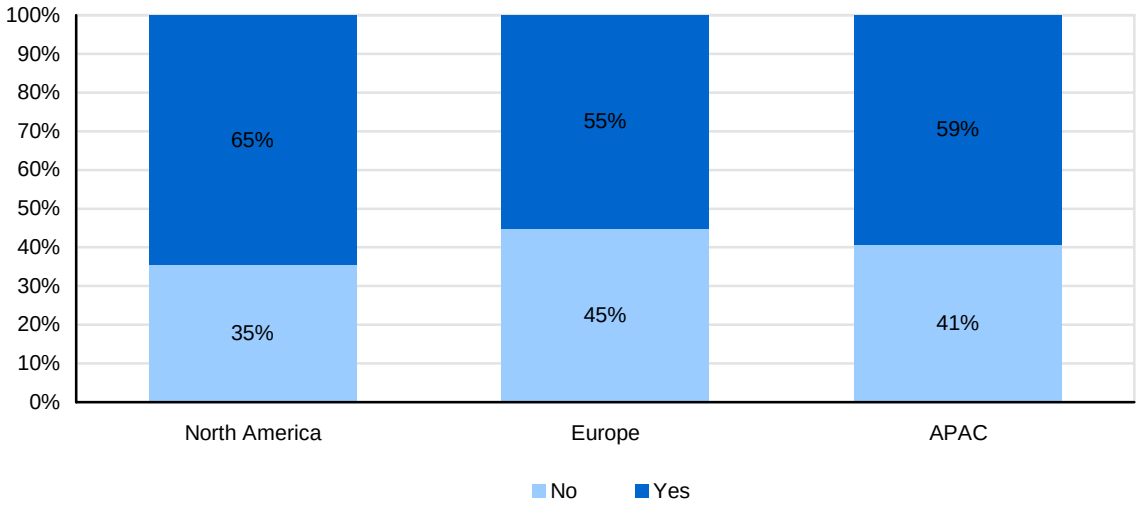
Source: Citigroup Foreign Exchange.

The only risks where forwards come in second place are contingent risks. This is clearly due to the high degree of uncertainty that often surrounds the existence of such exposures.

Usage of Options

Figure 10 below summarizes the usage of options by region. Overall, 60% of our respondents indicate that they use options to hedge some FX risk. Note that North American respondents are more likely to use options than companies in other regions. While the reason is unclear, we speculate that DIG Issue G20, and the ability for companies to take the whole change in the option's value to Other Comprehensive Income when hedging forecasted cash flows under FAS 133 (under certain conditions), partially explains this situation. Since no such guidance is yet provided under IAS 39, European companies may be wary of using options until they better understand the implications of taking changes in time value to P&L.

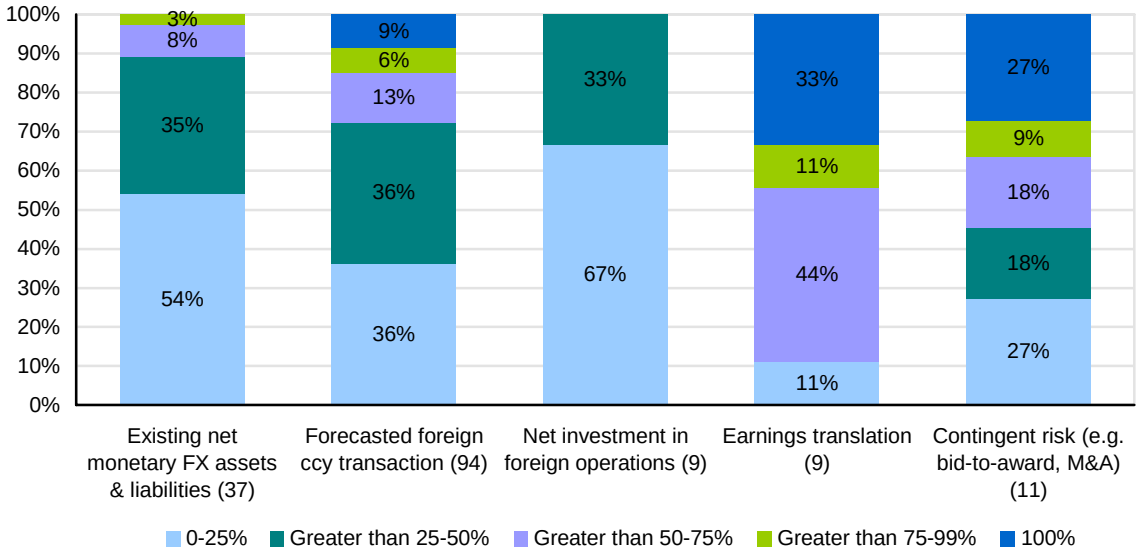
Figure 10: Usage of Options – by Region



Source: Citigroup Foreign Exchange.

Interestingly, 71% of our respondents say that they spend premium to purchase options. This is contrary to our anecdotal experience that companies often look for zero-cost option strategies. Among those that spend money to buy options, only 38% actually allocate a budget to this purpose. For 81% of companies that have a premium budget, that budget sits at the corporate level.

Figure 11: Usage of Options by Exposure Type



Source: Citigroup Foreign Exchange.

Figure 11 above shows how much of each exposure is hedged with options. Note that no one uses options exclusively to hedge balance sheet items, while almost 10% do so for forecasted transactions. It is interesting to note, however, that 35% of hedgers use options to hedge between 25 and 50% of their existing FX assets and liabilities. This highlights the fact that, despite what most people think balance sheet items are not always easy to forecast, and that flexibility is needed there as well.

When hedging net investment in foreign operations, forwards and options are the two most popular instruments when the hedge tenor is 12 months or shorter. However as the hedge tenor extends beyond 12 months, the usage of forwards and options decreases while that of foreign currency debt and cross-currency swaps increases to 50% and 38% respectively. Note that only 19% of companies we surveyed indicated using foreign currency debt and a mere 13% used cross currency swaps when hedging net investment positions out to 12 months. This is not surprising as foreign currency debt and cross-currency swaps can be structured to have longer maturities than traditional FX derivatives.

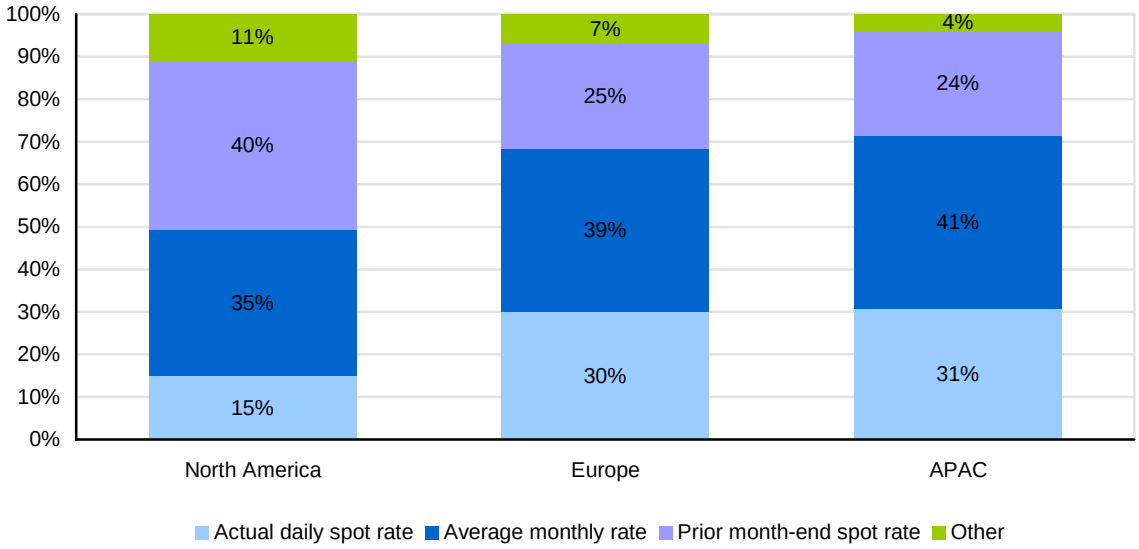
Accounting Considerations

To understand how companies hedge it is important to also understand their accounting practices. In this section of the questionnaire we investigated the kind of accounting constraints firms may have in order to better interpret their risk management approach.

Accounting Recording Rate

When asked to describe the accounting convention used to record foreign currency denominated revenues and expenses, 37% say that they use the average monthly rate. Prior month-end spot is a close second (31%) followed by daily spot rate (24%). While all three regions have similar tendencies to use the average monthly rate, North American participants are more inclined to use the prior month-end spot as their accounting recording rate than European or Asia-Pacific companies (see Figure 12). In a similar fashion, large and small companies are equally likely to use the average monthly rate; large companies however are more likely to use the prior month-end spot while small companies tend to use the actual daily spot rate.

Figure 12: Types of Accounting Recording Rates Used – by Regions

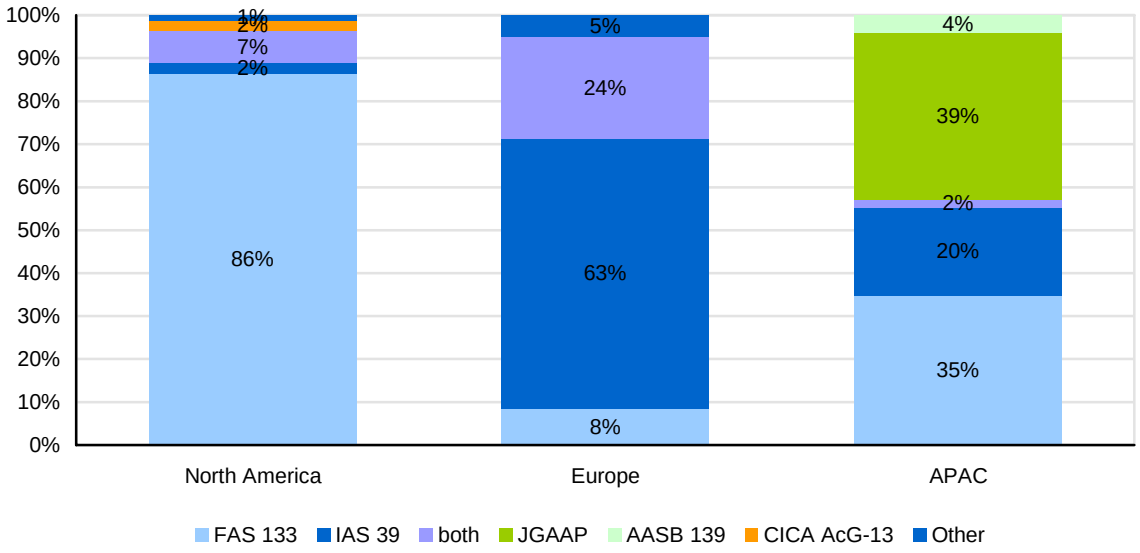


Source: Citigroup Foreign Exchange.

Reporting Standard

FAS133 is by far the most commonly used (49%) reporting standard. Given that only 43% of respondents reside in North America, this denotes that the choice of accounting standard goes beyond regional guidelines as can be seen in Figure 13.

Figure 13: Usage of Reporting Standard– by Region

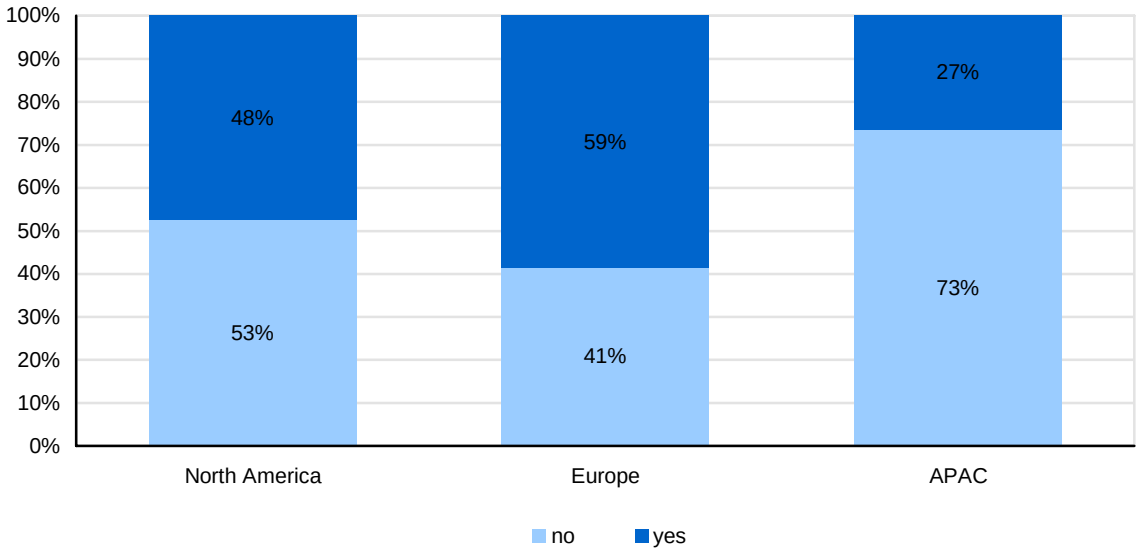


Source: Citigroup Foreign Exchange.

Accounting Impact on Hedging

A majority (55%) of the companies we studied indicated that they would not hedge an economic risk if the hedge does not qualify for hedge accounting. This result does not differ substantially from last year's result where 60% of respondents indicated that accounting directly affected their hedging activities. However, a comparison of responses by region reveals a different picture this year. While European companies continue to be most inclined (59%) to hedge a risk even if they cannot receive hedge accounting, Asia-Pacific region overtook North America as being most concerned with hedge accounting (see Figure 14). An analysis by the size of the company indicates that small firms are more likely (56% versus 41% for large companies) to hedge an economic risk regardless of accounting implications. This result may reflect that cash is more important for small companies than accounting considerations.

Figure 14: Percentage that Hedge without Receiving Hedge Accounting – by Region



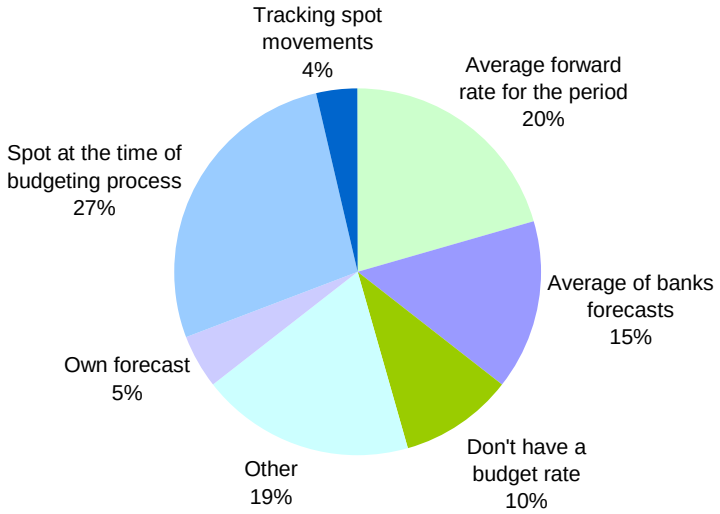
Source: Citigroup Foreign Exchange.

Budget Rates

The topic of budget rates is always present when we discuss currency hedging with our clients. With this section of the questionnaire we looked to better understand how they fit into a company's risk management program.

An overwhelming majority of the companies we surveyed (90%) indicated that they do use budget rates. There does not appear, however, to be a predominant way for setting these budget rates (see Figure 15). North American companies (26%) are most likely to set their budget rates to the average of banks' forecasts, European companies (28%) to the average forward rate of the period, and Asia-Pacific companies (39%) to the spot at time of budgeting process.

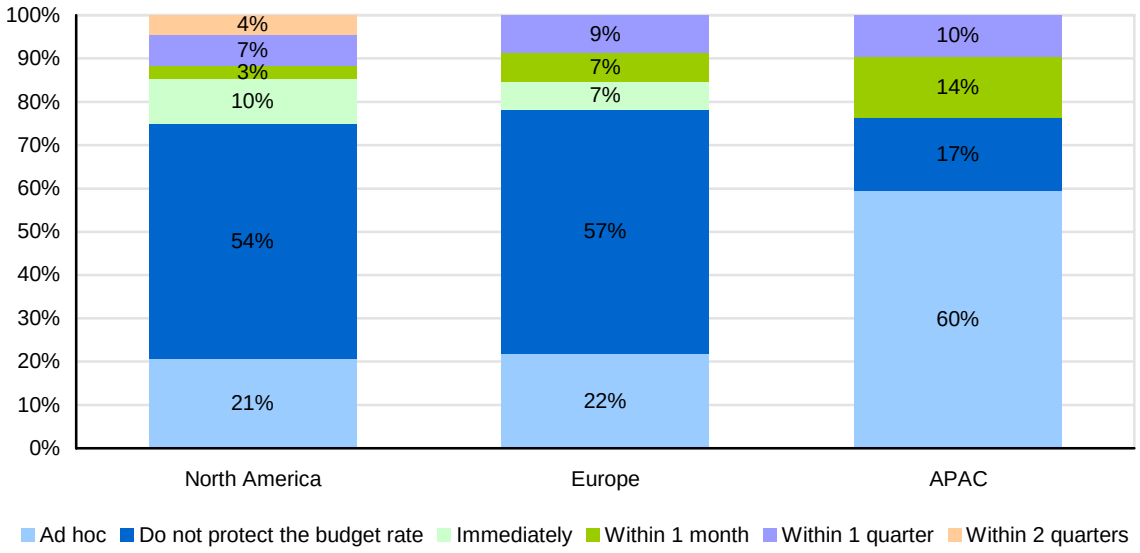
Figure 15: Percentage of Companies Setting Budget Rates by Various Methods



Source: Citigroup Foreign Exchange.

Of the respondents that have budget rates, a majority (54%) does indeed protect them (see Figure 17). This is up from last year when only 43% indicated doing so. When asked how soon they hedge after setting these budget rates, 31% of our respondents indicated hedging on an ad hoc basis depending on their market view. Only 6% indicated that they hedge their budget rates immediately after the rates are set. Further analysis however reveals that disparities exist across regions. Most Asian-Pacific companies (83%), led by Japanese corporations, hedge their budget rates, while a majority of North American (54%) and European (57%) companies do not protect them at all (see Figure 16).

Figure 16: Budget Rate Protection by Timeframe and Region



Source: Citigroup Foreign Exchange.

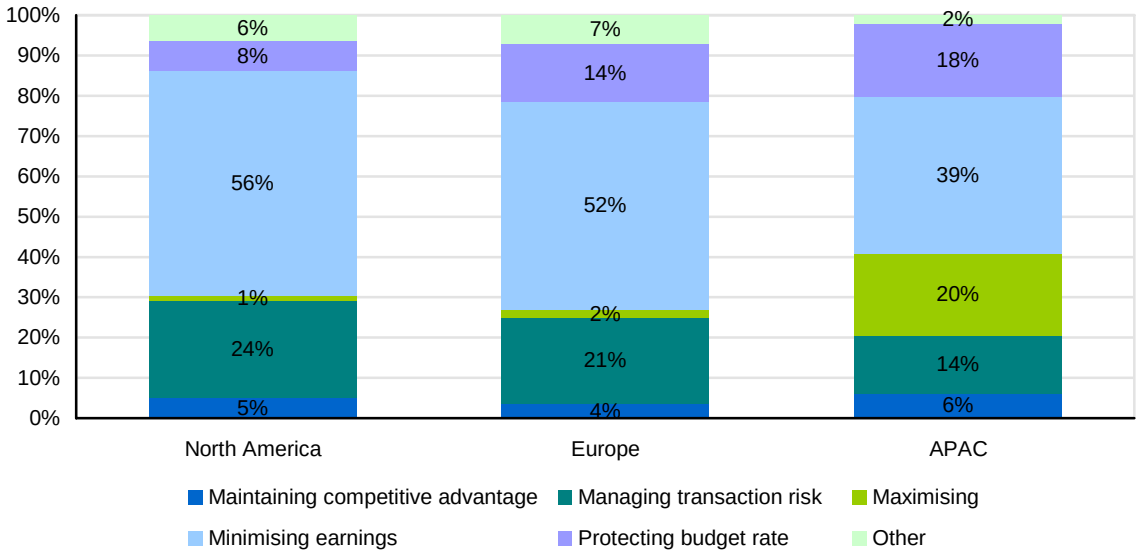
Intuitively, one would have expected companies that protect budget rates to set the rates so that they can be easily hedged. However, our study reveals that only 26% of the companies that protect budget rates set their rates to the average forward rates for the period, which is the only rate that can be readily protected. It is interesting to see such a disconnection between what companies say they want to do and the implementation, which sometimes takes them farther from achieving their goals.

Risk Management Objective

When designing a risk management program, precisely defining the objective is absolutely crucial. Not doing so often results in the poor alignment between the hedging strategy and what the company really wanted to achieve in the first place. This part of the study inquires about firms' general approach to define hedging goals.

In roughly the same proportion as last year, the largest majority of our respondents described their hedging objective as *Minimizing Earnings Volatility* (49%). Looking at the breakdown by regions, it is clear that North American and European participants are, by a wide margin, concerned with *Minimizing Earnings Volatility,* while Asia-Pacific respondents are less so (see Figure 17). Surprisingly, small companies appear to be just as concerned with that same issue as large companies are.

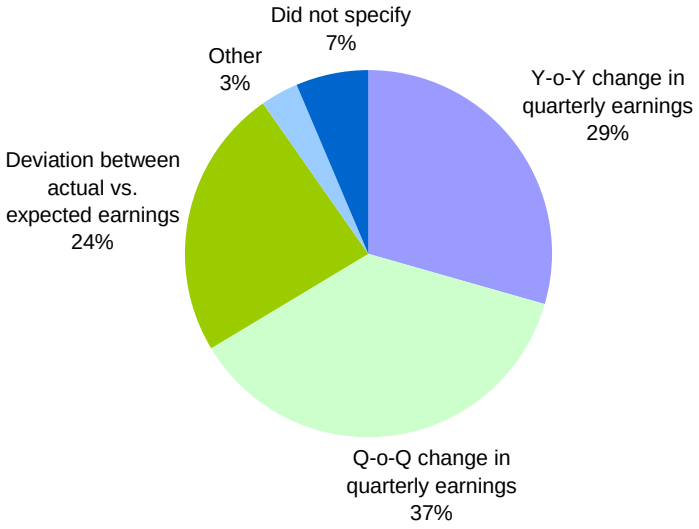
Figure 17: Risk Management Objective – by Region



Source: Citigroup Foreign Exchange.

Drilling further into how companies define earnings volatility, we asked our respondents to describe what they specifically mean. Interestingly, the results show that there is no clear predominant definition. Thirty-seven percent define volatility as the quarter-on-quarter change in earnings while 29% define it as the year-on-year change in quarterly earnings and 24% as the deviation between actual and expected earnings translated at budget rates (see Figure 18).

Figure 18: How Companies Define Minimizing Earnings Volatility



Source: Citigroup Foreign Exchange.

Of the respondents that aim to minimize year-on-year change in quarterly earnings, only 43% hedge forecasted foreign currency transactions 2 years and beyond, which is the only way to reduce this type of volatility (you need to create an averaging process via a multi-year layering approach to smooth the effect of FX over time). Another 48% hedge out to 12 months. Unfortunately, while many companies think that year-on-year hedging reduces volatility of quarterly

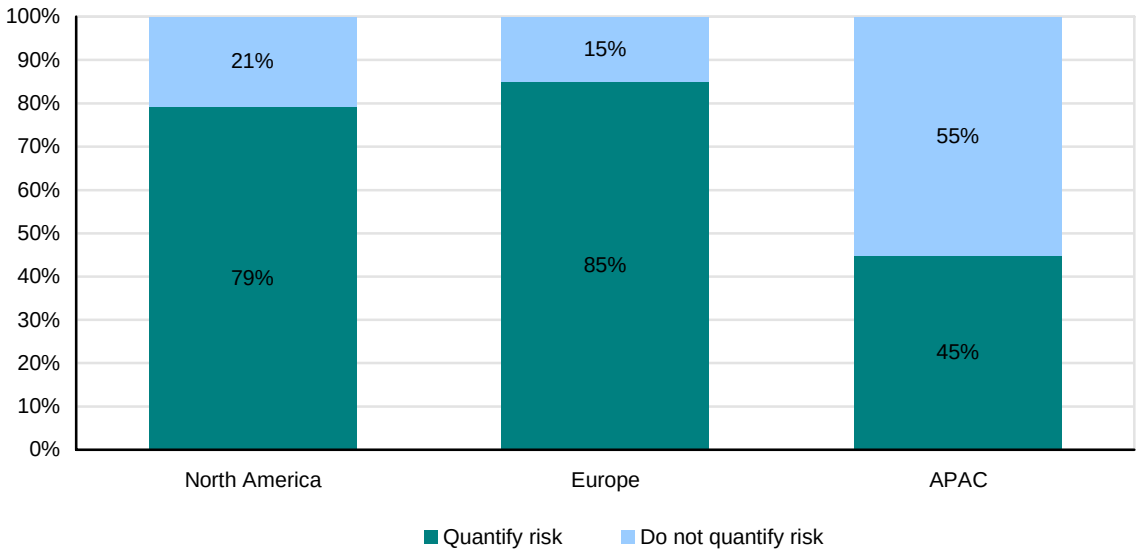
EPS, it only postpones the impact of FX by 12 months. Therefore, one can safely say that almost half of these respondents will not achieve their goal.

Amongst those of our respondents that aim at minimizing deviation between actual and expected earnings at budget rates, only 75% actually protect their budget rates. Furthermore, though 68% of these companies say that their budget rates are effective for one year, only 47% hedge out to one year. Finally, only 47% of them set their budget rates to the average forward rate of the period. All these observations point to a certain degree of inconsistency between the hedge objective and hedging practices. This situation may be due to a variety of internal constraints (forecasting accuracy, decentralization of hedging decisions etc…) specific to each company.

Risk Quantification

Risk quantification is a widely accepted as a best practice in risk management, and it shows: 72% of the companies we studied quantify risk. An analysis by region shows that European respondents are most inclined (85%) to do so, while Asia-Pacific respondents are least likely (45%) to go through the rigor of quantifying risk (see Figure 19).

Figure 19: Percentage of Companies that Quantify Risk – by Region



Source: Citigroup Foreign Exchange.

We were also curious to learn about the risk quantification approaches that are used.

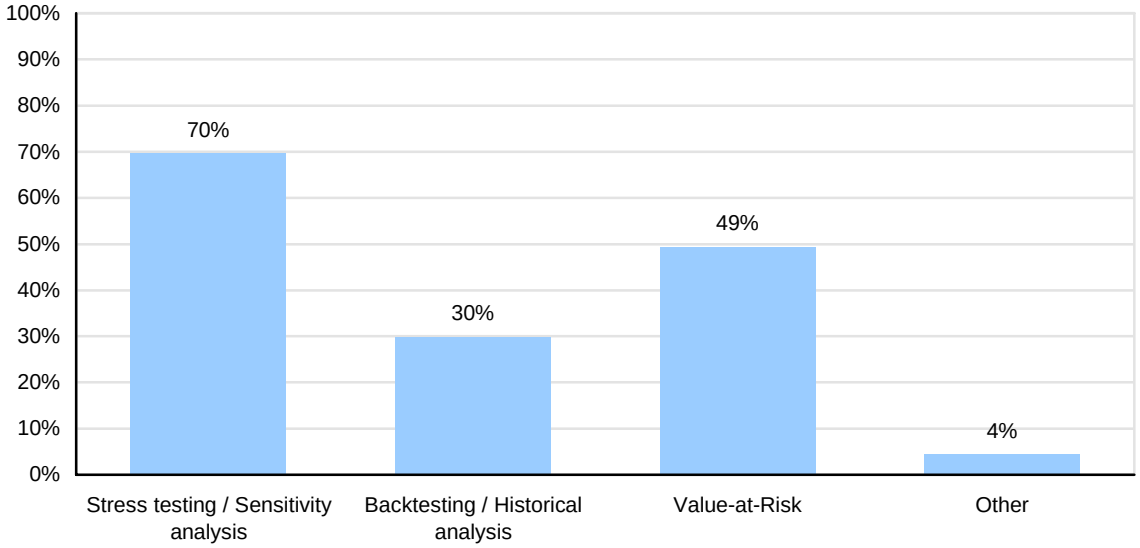
The three most common methods to quantify risk are:

- **Stress Testing / Sensitivity Analysis:** Determine the P&L impact of various percentages of exchange rate movements.
- **Historical Analysis / Backtesting:** Use historical market movements to test the impact on P&L if such moves were to be repeated.
- **Value-at-Risk (VaR):** A probability based estimate of portfolio risk to adverse P&L.

Stress testing is the most commonly used risk quantification tool (see Figure 20). This is not surprising since stress testing offers a low level of complexity and does not require extensive

database of current market or historical data. Almost half of our respondents use the more sophisticated VaR method, which takes into account market conditions as well as effects of portfolio diversification.

Figure 20: Usage of Risk Quantification Tools



Source: Citigroup Foreign Exchange.

When asked to specify the purpose for using these tools, a majority (52%) state that they use stress testing to understand the potential impact of FX risk while historical analysis is mostly used to design risk strategies. Finally VaR is the tool of choice for reporting risk to senior management.

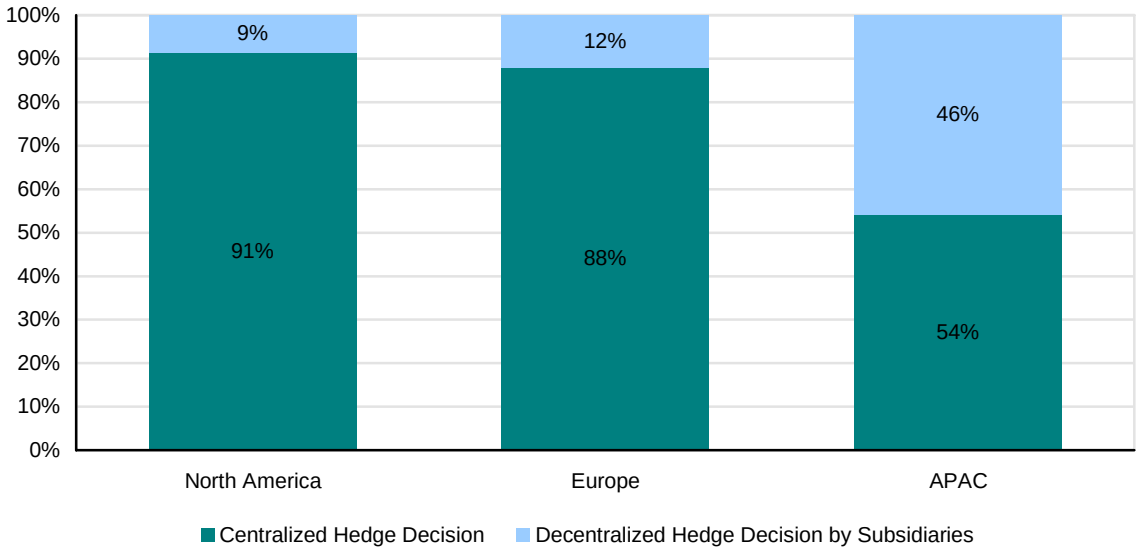
Risk Management Organization

The organization of a company can have a major impact on its hedging process and style. In this section of the questionnaire, we explored the degree of centralization of our respondents as well as their performance evaluation structure.

Hedging Decision

The results that describe whether hedge decisions are made centrally by the corporate treasury or in a decentralized fashion by the subsidiaries are somewhat surprising. Even though our anecdotal experience indicates that the majority of corporations make hedge decisions centrally, the magnitude (81%) in which our respondents say that hedge decisions are made at the corporate level is much larger than we had expected. Our experience indicates that many corporate treasuries have a consultative role in hedging decisions but the final hedge decision is often left to the business. As can be seen in Figure 21, responses from our North America participants did not differ much from their European counterparts. However, Asia-Pacific showed a much higher propensity to allow subsidiaries to make hedge decisions on a decentralized-basis.

Figure 21: Centralized vs. Decentralized Hedge Decision – by Region



Source: Citigroup Foreign Exchange.

Hedge Execution

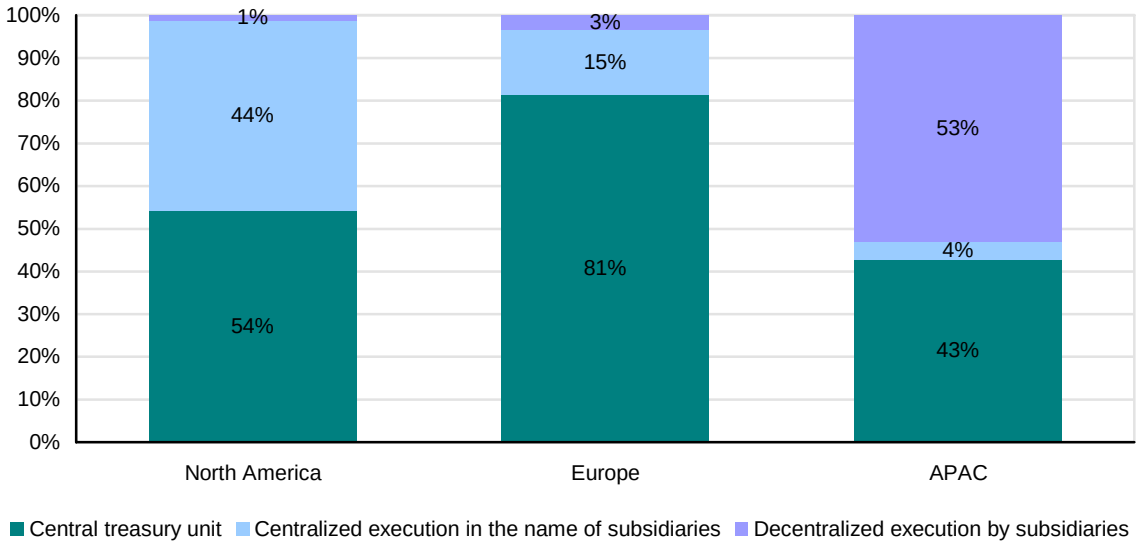
Regardless of where hedge decisions are made, the execution of hedges can take place at various levels. The three common hedge execution models are:

- **Central Treasury Unit:** Central treasury executes hedges externally in its own name and subsidiaries entering into inter-company transactions with the Central Treasury.
- **Centralized Execution In the Name of the Subsidiaries:** Central treasury executes hedges externally in the name of the subsidiaries and no inter-company transactions are executed between the parent and the subsidiaries.
- **Decentralized Execution by the Subsidiaries:** Subsidiaries directly execute trades externally.

The results are not truly surprising. A majority of participants (60%) execute hedges centrally through the parent while 25% execute centrally in the name of their sub and only 15% execute hedges in a decentralized-fashion directly through the subsidiaries.

When we analyzed the results by regions, Europe and North America clearly showed a preference for some form of centralized execution (see Figure 22). Asia-Pacific companies (led by Japanese corporations), in contrast, favour a decentralized execution model. This may be due to the fact that large Japanese companies can be fairly decentralized in nature, either because of the nature of their business or their geographic distribution.

Figure 22: Centralization of Execution – by Region



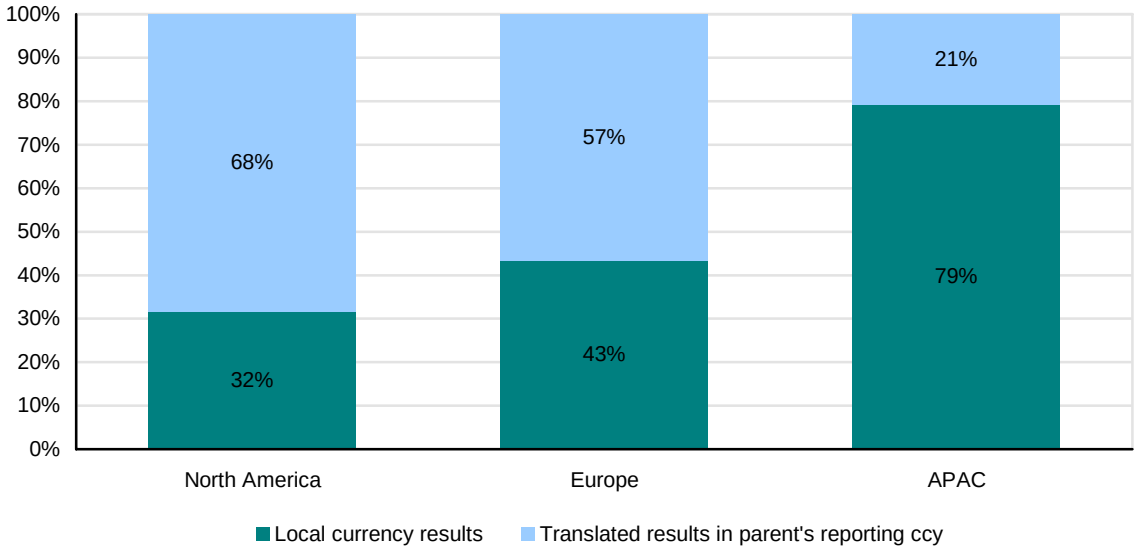
Source: Citigroup Foreign Exchange.

Currency Used for Performance Evaluation

While the relevance of this question regarding risk management is not obvious, the currency of evaluation can play a major role in hedging decisions, as FX potentially has broad implications with respect to a subsidiary's performance.

On an aggregate-basis, just over half (52%) of respondents indicated that their subsidiaries are evaluated after translating the results back into parent's reporting currency. An analysis by regions revealed that Asia-Pacific companies prefer to evaluate subsidiaries' performances in local currency terms (see Figure 23) while North American companies prefer to measure their subsidiaries in the parent's reporting currency.

Figure 23: Currency Used to Evaluate Financial Results of Subsidiaries – by Region



Source: Citigroup Foreign Exchange.

Market Considerations and Hedging Activities

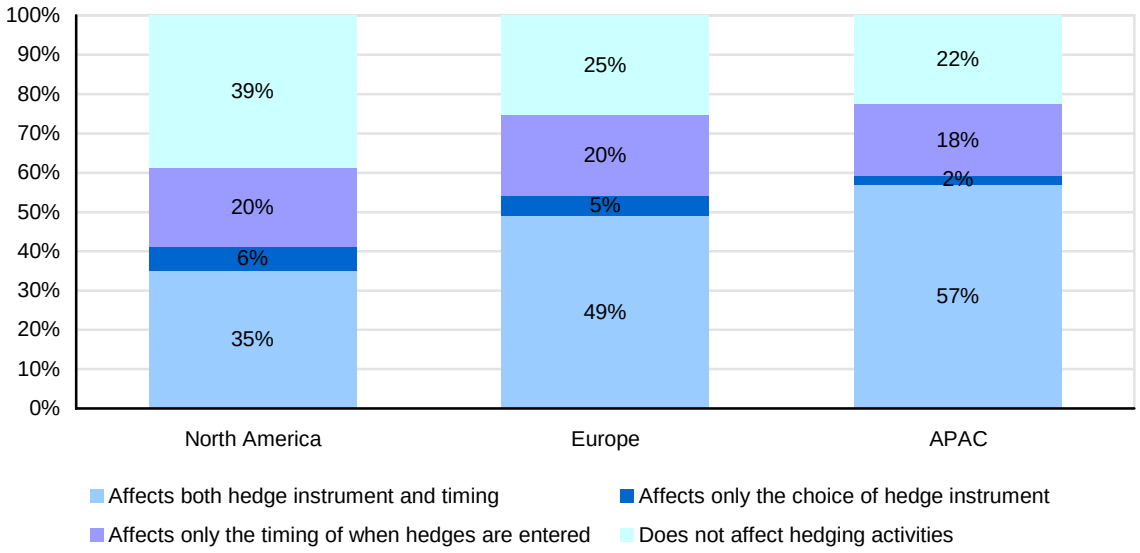
Whenever companies are asked whether they take into account market parameters when hedging, the answer is often: "We are not in the business of speculating on exchange rates". In practice however, we often hear companies talk about the market level, timing of hedge execution etc… which suggests that market conditions, in fact, do matter when making hedging decisions. This section of our survey focuses on this topic, with some interesting findings.

Market View

This may come as a surprise to our readers (or not…) but 70% of our respondents say that their market views affect their overall hedging activities. This percentage is much higher than last year, which suggests that the practice is even more common than we may have thought. Interestingly, North American companies are less likely to use a market view (61%) than their European (75%) and Asia-Pacific (78%) counterparts. Note that last year's survey showed that Europeans were less inclined to use a market view than US companies. This year's result is more in line with what we had thought in the first place.

It is also interesting to understand in which respect companies' activities are affected. In this respect, Figure 24 displays how a market view affects companies' decisions, by region.

Figure 24: Percentage of Companies that Use Market Views – by Region



Source: Citigroup Foreign Exchange.

In general, market views are likely to impact both the hedge timing and the hedge instrument. This is particularly clear for APAC companies. This is not a surprise, as most Japanese companies suffer a high cost of carry when hedging forward; and since the role of Japanese treasuries' responsibility is often to beat a budget rate, they often need to take some market risk to achieve that goal.

Contrary to what one might expect, a majority of the respondents who indicated *minimizing earnings volatilities* as their hedge objective also said that they use their market views to shape their hedging strategy. This is a reminder that hedging practices are not always well aligned with risk management objectives.

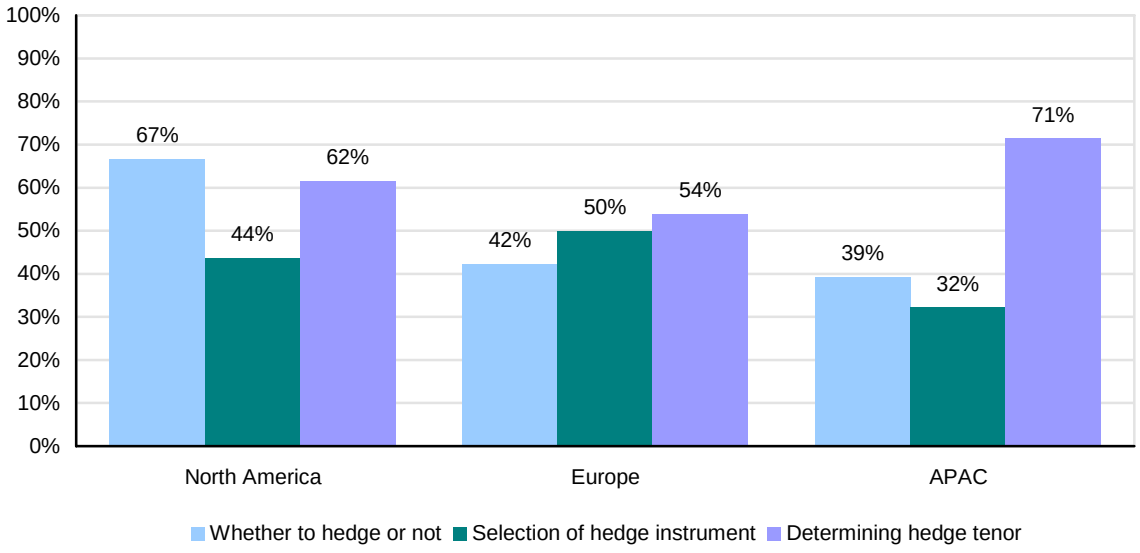
Interest Rate Differential

Forward contracts are the most common hedge instruments. Since the forward price is simply the reflection of the current spot rate adjusted for the interest rate differential between two currencies, one may wonder how large a part the interest rate differential plays in a company's hedging decision.

In fact, half of our respondents consider the interest rate differential a determining factor in their hedging strategy. As expected, the interest-rate differential matters more to Asia-Pacific companies (because it's generally wide and unfavourable) than companies in other regions.

When asked how the interest rate differential impacts their hedging activities, the majority of our respondents (62%) indicate that the hedge tenor is affected, while only 42% indicate that the choice of the hedge instrument is impacted. Approximately half of our respondents will choose to remain un-hedged depending on the interest rate differential. Despite facing an adverse interest rate differential, Asia-Pacific companies are least likely to allow the interest differential to affect their decision to hedge or not. Rather, they use it to determine the tenor of the hedge (see Figure 25). Surprisingly, North America companies are most likely to allow interest rate differential to influence their decision to hedge or not, which would hint that they have more flexibility in terms of hedge ratios. This has not been obvious in our experience.

Figure 25: Impact of Interest Rate Differential on Hedge Decisions – by Region



Source: Citigroup Foreign Exchange.

Active Management of a Hedge Portfolio

Once hedges are on the books, a company can decide to amend the hedges based on a variety of factors. In this section, we refer to the active management of hedge portfolio as the practice of altering or closing out a hedge already in place as a result of a change in market view. This may include unwinding an existing hedge and entering into a new hedge, or unwinding a hedge to remain un-hedged. It does not include implementing a new hedge.

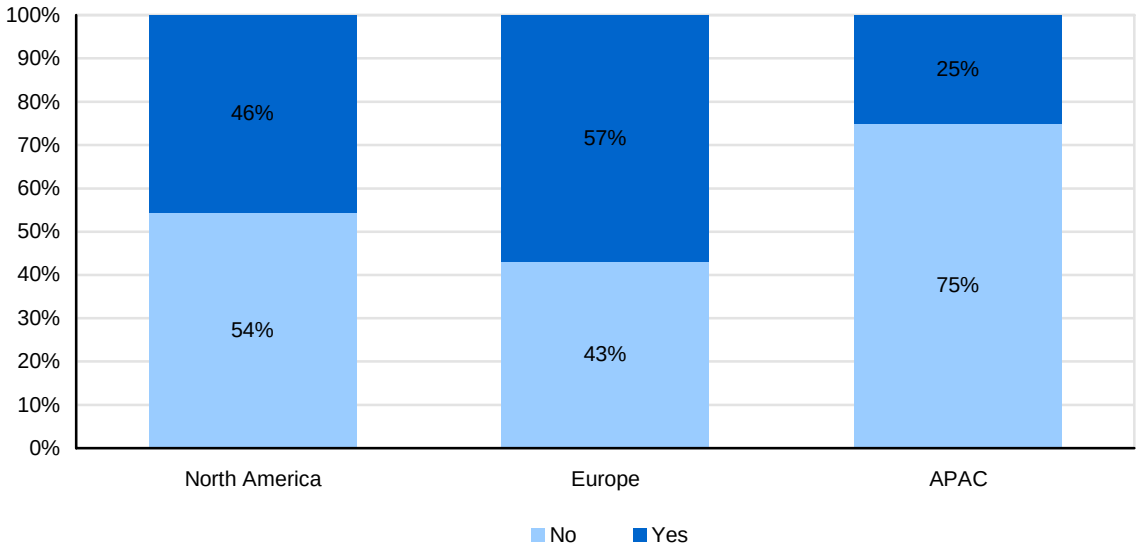
When asked if they actively manage their hedge portfolios, only 43% of our respondents say that they do. The main reason for this is probably that management of hedges, although possible under major accounting standards, is also synonymous with added documentation requirements.

Nevertheless, this result is higher than last year (24%). While the precise reason is unclear, we suspect that it is merely a reflection of the broader spectrum of companies in our study this year.

On an aggregate-basis, of the 44% that do actively manage their hedge portfolios, a majority (50%) manage both forwards and options while 35% manage forwards only and 15% manage options only. This result is counter-intuitive. Our experience is that companies very rarely unwind forward contracts prior to the contracts' maturity. It is also surprising that of the companies that state minimizing earnings volatility is their hedge objective, 42% actively manage their hedge portfolios. Since an active management of hedges usually aims at taking advantage of prevailing market conditions, we would have expected this number to be much smaller.

This year, European respondents (57%) prove to be more inclined to actively manage hedges than North American companies (46% – see Figure 26).

Figure 26: Active Management of the Hedge Portfolio – by Region



Source: Citigroup Foreign Exchange.

This year's results make more sense at least based on our experience that European companies, historically less accounting driven than U.S. companies, have been more inclined to actively manage their existing hedge portfolio than U.S. companies. This could change however as documentation gets more stringent with the implementation of IAS 39.

It is also interesting to note that although Asia-Pacific companies are most inclined to use a market view to shape their hedge decisions, they are the least likely to actively manage hedge portfolios. This may be explained by the fairly short hedge tenor Japanese companies hedge out to, leaving them little time or opportunity to effectively re-structure their hedge portfolio.

Conclusion

This year's study reinforced certain findings from last year's survey while shedding some light on previously unexplored areas about corporate risk management practices:

- Hedging activities continue to be focused on hedging transactional cash flows, which include existing FX-denominated monetary assets & liabilities and forecasted foreign currency transactions.

- Across regions, 12-months is the most common maximum tenor for hedging forecasted foreign currency transactions. However, more North American participants hedge this risk beyond 2-years than companies in any other region. Asia-Pacific companies, comprised mostly of Japanese corporations, are more likely to hedge this risk out only 6 months.

- Across FX risks, forward contracts continue to be the hedge instrument of choice. Options, for the most part, are the second most frequently used instrument. While a majority of respondents indicate that they spend premium to purchase options, only a minority of them actually allocate a budget for this purpose.

- European companies continue to be most inclined to hedge an economic risk even if hedge accounting cannot be received. Asia-Pacific region, however, overtook North America as being least likely to hedge if the hedging relationship does not qualify for hedge accounting.

- Most companies say that they use budget rates. While a majority of them aim to protect these rates, only a small portion set the budget rates to the average forward rate of the period, which is the only rate that can be readily protected.

- Most North American & European companies make hedging decisions and execute hedges centrally while Asia-Pacific participants show a much higher propensity for utilizing a decentralized structure for risk management.

- Market view and interest rate differential influence hedging activities more than one might expect. Surprisingly, a majority of North-American companies consider the interest rate differential not only to define hedge tenors but also to decide whether to hedge or not. This seems to be contrary to minimizing earnings volatility, a largely recognized risk management objective in this region.

This year's survey process was extremely successful. We would like to thank all our respondents for their active contribution to this success.

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