

How tenor management enhances passive currency overlay programs



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Dealing with the reward-risk profile of FX exposure

Institutional investors with foreign currency exposures in their investment portfolio are regularly faced with the question: How best to deal with the reward-risk profile of a foreign currency exposure.

We believe that a central currency overlay manager like 7orca can be the ideal sparring partner on these decisions, advising on which currency pair is best suited to

- a **passive** currency overlay program, which implements a pre-agreed static hedge for the exposure throughout the hedging period
- an **active** currency overlay program, which allows participation in favourable developments and hedging unfavourable moves, through dynamically adjusting hedge ratios

Some institutional investors are sceptical about passive currency overlay programs due to various reasons,

either because it seems like a naive and static approach, or due to the cost of hedging an FX exposure (especially for currency pairs with high carry). However, when it comes to an efficiently implemented passive currency overlay program, there is more than meets the eye. 7orca has published several [white papers](#) on topics like transaction costs, choice of instruments (FX forwards vs. FX futures) and on other issues dealing with the additional questions associated with passive currency overlays.

In this paper, we will discuss a component of the passive currency overlay program that can help institutional investors reduce their cost of hedging or derive an additional alpha in the process of hedging their foreign currency exposure. This component, tenor management, arises from the choice of the duration of the currency hedge being put in place, and can be un-correlated to the moves of the underlying currency pair. In the following sections, we discuss the idea behind tenor management and its various aspects.

Tenor management: What is it all about and how does it enhance currency overlay?

The utmost priority of any institutional investor in a passive currency overlay program is to stay hedged to the pre-specified level at all times. However, specifying the time horizon, the so-called tenor of this hedge is mostly left to the currency overlay manager or the individual investment managers of the underlyings. Nevertheless, this is an input variable which should not be neglected and which can play a decisive role in the success of a passive overlay.

It may be tempting to simplify this decision by using International Money Market (IMM) dates, standard tenors or liquidity as arguments in isolation to choose the tenor of the hedge. Decisions based on a forwards point curve which looks cheap in comparison to other curves

on the roll date are also prevalently used to determine the tenor of the hedge.

7orca's analyses have revealed several advantages of employing a quantitative process to define the optimal tenor of FX forwards. These advantages for the client are not limited to cost savings only.

In its role as a currency overlay manager overseeing a broad array of currencies in the G10 as well as emerging markets space, 7orca has developed a transparent and quantitative process to determine the optimal tenor and monitor the various input factors. The tenor of the FX forward is dynamically selected and/or adjusted by the tenor management process. It is important to emphasize that the customer is, at all times, fully hedged according to a predetermined hedge ratio.

In general, FX forwards with tenors of between two weeks and twelve months are used in the quantitative process. A narrower set of tenors can also be used as the tool set for the tenor management process as per the customer's preference or cash-flow requirements. Most of 7orca's customers use a rolling three-month benchmark for performance evaluation as a standard, although other maturities can also be used.

The main determinants of the optimal tenor

The benefit or cost of hedging a foreign currency exposure broadly boils down to receiving or paying the forward points on the tenor of the currency pair in question. 7orca's tenor management process aims at minimising this hedging cost or to maximise returns.

Therefore, either term structure trends or a favourable

curve twist compared to the benchmark curve are identified. The forward points term structure of a currency pair depends on a variety of factors.

We provide a brief overview of the factors in play:

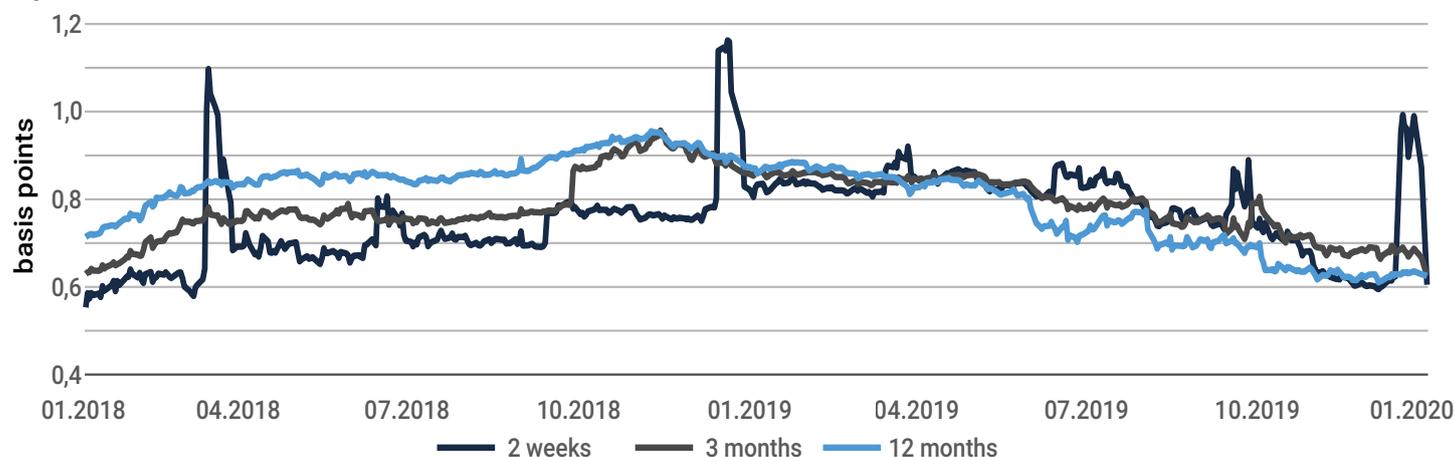
The current macroeconomic sentiment and monetary policies of the respective countries are major factors that influence the forward curve and are observable through the interest rate differentials curves. A parallel shift (i.e a steepening or flattening of all curves) with different degrees of shift in the individual tenors might make a particular tenor more attractive in terms of expected cost savings. This works both ways

- choosing to lock in a cheaper cost basis over a longer tenor and then realising the cost savings relative to the benchmark that rolls up the forward curve, or
- choosing to roll down the forward curve with shorter tenors and then realising cost savings relative to the benchmark that locks in the higher cost basis over a longer tenor.

However, forward curves and their relative cheapness compared to each other is subject to changes even during the duration of the hedge. Hence, a naive „do-and-forget“ strategy might suffer by failing to react to interest rate regime changes or by reacting too quickly to transient changes.

In addition to the above factors, other factors can have significant, albeit, transient effects on the hedging cost locked in for the duration of the tenor chosen. In risk-off environments, liquidity constraints present in the FX markets limit the opportunity set of tenors for hedging. Liquidity constraints may exist in the form of wider than

Fig. 1: Costs of the EUR/USD forward curve



Sources: Bloomberg, 7orca Asset Management AG (01.01.2018 – 01.01.2020)

normal spreads for certain tenors, thereby making mentioned tenors unattractive.

Comparison of spreads across tenors should also be normalised according to how often the tenor needs to be rolled. For example, hedging exposures for two weeks at a time over a year implies paying the potentially different spread for the two weeks hedge 26 times. If the same hedge is implemented directly for the whole year, the spread is paid once.

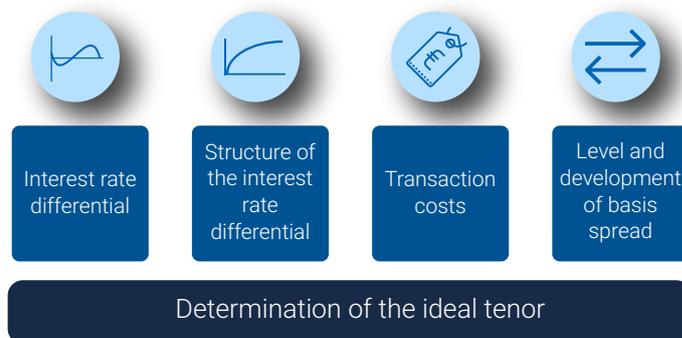
Figure 1 spans a representative time period for a passive EUR/USD hedge, and shows the development of three forward point curves: 2 weeks, 3 months and 12 months. The outliers in the 2 week forward points show the implied cost of basis swap which will be covered in a later section. Ignoring that effect, we still see that the forward curves altered their relative cost significantly.

During this period, an approach of “look for cheapest on roll day” would have given up significant cost saving opportunities. Looking to the ongoing development of the forward curves would have been beneficial over the entire hedging period due to locking in a hedging cost while the curves steepened or realising lower hedging costs while the curves flattened.

The rationale behind 7orca’s tenor management

7orca’s tenor management process deduces the expected implicit hedging costs across all maturities according to a proprietary algorithm that takes into account the following inputs (also summarised in figure 2).

Fig. 2: Factors for determining the ideal tenor



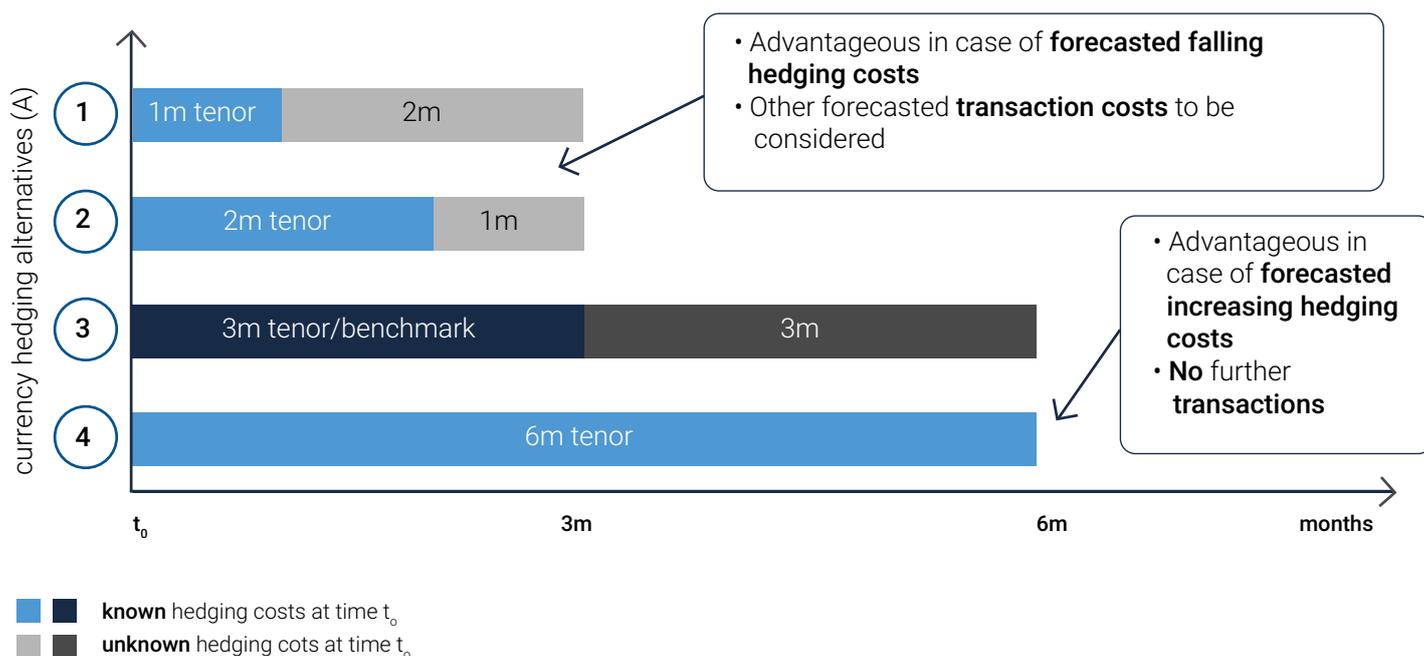
ding to a proprietary algorithm that takes into account the following inputs (also summarised in figure 2).

Interest rate differential development

The tenor management process compares the current cost of hedging across all maturities and establishes a preference order for tenors. However, as we mentioned already in the beginning of this article, this “point-in-time” analysis is not sufficient. It says nothing about the expected hedging costs should the chosen shorter tenor need to be rolled towards the benchmark maturity, or if the benchmark maturity needs to be rolled onto the longer chosen tenor. The period considered at this point in the analysis is the longer of the two tenors of the hedging instrument or benchmark (also illustrated in figure 3).

For example, to judge whether hedging for one month is preferable to hedging for three months (according

Fig. 3: Currency hedging alternatives vs. benchmark hedging



to benchmark), the period under study is the whole of three months, whereas to judge whether hedging for six months is preferable to hedging the 3 months benchmark term, the period under study is the whole of six months.

The total expected hedging cost over this period under study can only be estimated by looking at the structure of the interest rate differentials curve.

Structure of the interest rate differentials curve

The cost savings achieved by choosing the cheapest curve today must be compared to the opportunity cost of choosing the curve that may turn out to be cheaper across the period under study, as mentioned above.

This opportunity cost is mainly visible when the term structure of the interest rate differentials changes.

Transactions costs

The factors discussed above determine a “preliminary” optimal tenor of hedging. In addition, transaction costs of hedging foreign currency exposures across different tenors need to be factored in to the decision of choosing the optimal tenor.

An optimal tenor may look unattractive compared to another tenor due to widened spreads. As discussed briefly in the preceding section, this effect is more pronounced during risk-off scenarios, when markets prefer short-term maturities to longer-term ones.

For example, the top-of-book spread for EUR/USD widened considerably during the COVID-19 crisis of 2020, peaking at over 150% of pre-COVID-19 levels during April 2020.¹

The tenor management process integrates transaction costs while validating the “preliminary” optimal tenor deduced in the step above.

Level and development of the basis spread

The basis spread refers to the difference between the implied cost of hedging a currency pair and the interest rate differential for the currency pair.

A negative basis spread adds to the hedging costs and therefore must be internalised in the hedging costs of the tenor selection process.

For more details on how cross-currency basis spread affects hedging costs, please refer to our earlier publication on the [basis spread](#).

The tenor management process determines the optimal tenor based on the total hedging costs determined by all the points mentioned above.

Other factors such as liquidity are also considered during implementation of the optimal tenor hedge, but fall outside the scope of this article.

Why the tenor management process has to be validated between rolls

As mentioned in the preceding section, a naive “do-and-forget” strategy has significant drawbacks during periods of regime changes or during periods of transient shifts that present opportunities for locking in a lower cost basis.

Therefore, once the optimal tenor is chosen by the investment process as described above, the tenor management process enters into „watch“ mode. Every day and until the due date, the defined tenor is validated and repositioned if necessary. The data basis of this process consists of the running tenor and a proprietary resiliency level associated with the running tenor.

The validation process uses market data for a currency pair and determines the optimal tenor for the day.

If the newly determined optimal tenor differs from the current running tenor, the process deduces the resiliency level of the new tenor. If the new tenor is assessed to have significant resiliency, the process then calculates the costs of extending or curtailing the existing hedge to the newly determined optimal tenor. If the expected costs of keeping the current hedge with the current tenor is higher than the combined

- expected costs of hedging with the new tenor and
- the costs of unwinding and rebuilding the hedge,

the process then recommends the new tenor as the ideal tenor.

The tenor management process then takes over and performs the various checks and validations over a broader set of input factors, as described above, and recommends a new optimal tenor of the hedge.

Current status of 7orca's tenor management process

At present, clients of 7orca use tenor management for the currency pairs EUR/AUD, EUR/CAD, EUR/CHF, EUR/GBP, EUR/JPY and EUR/USD.

As can be seen from the real money performance, the tenor management process has produced significantly positive results in the past year and in the current year, including the COVID-19 pandemic.

To illustrate the results, the performance of 7orca's tenor management process for EUR/USD and EUR/GBP since 2017 are shown as examples:

EUR/USD Tenor Management

Year	Performance Benchmark ²	Performance 7orca ³	Outperformance
2017	-1.78%	-1.79%	-0.01%
2018	-2.71%	-2.14%	+0.57%
2019	-2.85%	-2.37%	+0.48%
01-10/2020	-1.10%	-0.87%	+0.23%

EUR/GBP Tenor Management

Year	Performance Benchmark ⁴	Performance 7orca ⁵	Outperformance
2017	-0.81%	-0.68%	+0.13%
2018	-1.07%	-0.95%	+0.12%
2019	-1.24%	-1.32%	-0.08%
01-10/2020	-0.73%	-0.52%	+0.21%

Conclusion

As has been demonstrated in this INSIGHT, passive currency overlay programs can be implemented with an attractive component of managing the tenors of the FX hedge.

While maintaining a constant hedge ratio, 7orca's tenor management offers institutional investors many advantages, including the reduction of hedging costs and the ability to generate alpha compared to other naive approaches or a static tenor.

In conclusion, we at 7orca believe that implementing a sophisticated passive currency overlay program has many benefits for the institutional investor, and adding a tenor management component to their passive currency overlay programs is something every institutional investor should look into.

Please do not hesitate to contact us and learn how tenor management can improve your customised passive currency overlay.

Sources

¹ Source: Source: Market studies of two leading, competitive liquidity providers. (15.05.2020)

² The benchmark is a passive, rolling forward currency hedge with a fixed tenor of three months

³ Source: 7orca Asset Management AG. The calculation of the performance is based on the standardised set-up of 7orca's passive currency overlay strategy, which was executed at average market cost. Until August 2018, this is a simulated performance. The performance is not a reliable indicator for future results. (01.01.2017 – 31.10.2020)

⁴ The benchmark is a passive, rolling forward currency hedge with a fixed tenor of three months

⁵ Source: 7orca Asset Management AG. The calculation of the performance is based on the standardised set-up of 7orca's passive currency overlay strategy, which was executed at average market cost. Until August 2018, this is a simulated performance. The performance is not a reliable indicator for future results. (01.01.2017 – 31.10.2020)

Disclaimer

The strategy presented in this document for hedging currency risks (currency overlay management) is aimed exclusively at professional clients according to the German Securities Trading Act (WpHG) and can only be implemented for such clients (typically in a fund structure). All assumptions, forecasts and disclosures are based on the standardised set-up of the passive currency overlay management strategy, which was carried out at average market costs. Further information on this standard investment process can be found in the Generic RfP, which is available from 7orca Asset Management AG upon request. Due to the different investor needs and situations as well as the resulting specific pricing, further individual costs for administration and custody are not taken into account. However, 7orca Asset Management AG will be pleased to provide you with a specific offer that reflects your individual requirements and conditions. The investment strategy of a passive currency hedging has a trend-following character. It should therefore lead to the same results under the same market conditions. Since market conditions repeat themselves regularly, but not in identical form, the hedge ratios and performance indicators listed in this document can illustrate the characteristics of our strategy. **However, they refer to past price developments of currency pairs and are therefore not a reliable indicator of future results.** All information in this document has been compiled to the best of our knowledge based on the data available to us. However, no civil liability can be assumed in this respect. References to specific financial instruments are purely exemplary and should under no circumstances be construed as recommendations in the sense of investment advice. A publication of 7orca Asset Management AG. (17.11.2020)

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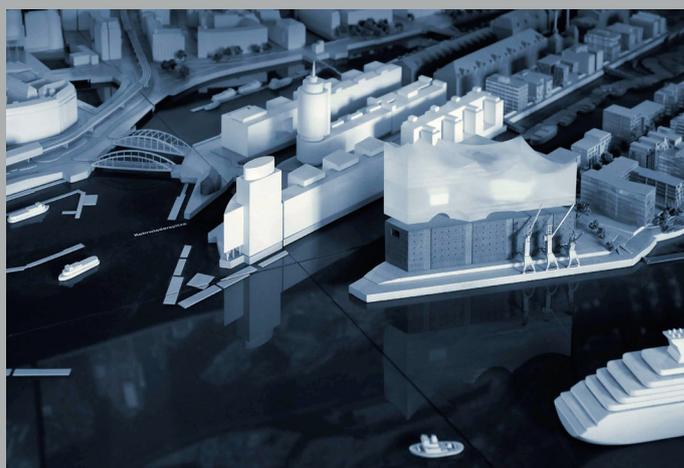
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7orca Asset Management AG is an independent, systematic and well-focused asset manager. With its experienced team, the company serves institutional clients with overlay management and short volatility strategies. More information at www.7orca.com

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