Hedging & Risk Management
Masterclass

06 November 2018

John Rife, Partner, Debevoise & Plimpton

John advises institutional and independent sponsors of funds on a broad range of matters, including fund formation and ongoing operational matters, co-investments, carried interest arrangements and internal reorganisations.

Haakon Blakstad, Partner, Validus

Haakon represents a leading independent financial services firm providing strategic advisory, outsourced hedging services and technology solutions. Previously he traded structured credit for Hoare Capital and then led a specialist credit desk at Société Générale.

Tom Smith, Partner, Debevoise & Plimpton

Tom acts for borrowers, sponsors, funds and financial institutions on a range of financing transactions, including complex acquisition and leveraged finance transactions, and capital call facilities and other alternative capital transactions for investment funds.

Joe McKenna, Fund Solutions, Investec

Joe is part of the Investec Fund Solutions team. Previously he was UK head of sales at foreign exchange brokerage World First. In 2014 he joined Investec's FX business focusing on corporate hedging solutions before joining the fund team earlier this year.

Investec

Currency risk management in the alternative investment industry

Haakon Blakstad,

Validus Risk Management

06 November 2018

Independent.
Strategic.
Practical.

Validus is a **leading independent financial services firm**, specialising in the alternative investment industry.

We provide **strategic risk advisory, outsourced hedging services and fund finance solutions** to LPs, GPs, and portfolio companies globally.

Currency Risk Management in the Alternative Investment Industry

Survey Respondents:

- 69 funds managed by 42 managers representing $700 billion AUM
- 67% in Europe, 36% in North America
- Investment strategies include Private Equity, Private Debt, Real Estate, Infrastructure

Main Findings:

- Only 2% consider FX risk to be of no importance
- Only 1% do not attempt to quantify FX risk
- 86% are unable to tolerate a negative FX impact to IRR of more than 150bps
- 83% hedge currency exposure in some form, and 84% of them do it to protect deterioration of investment value
- 61% of all respondents have developed policy-driven FX hedging programmes at the fund level

The What, Why and How

WHAT kind of FX risk are funds facing?

- Funding risk
- Investment risk
  - Direct
  - Indirect

WHY do funds hedge?

- Risk management, protecting alpha
- Competitive advantage
- LP requirements

HOW do funds hedge?

- Swaps / Forwards
- Options
- Other

Particular Considerations

- **Hedge ratios and tenors:** Adjusting for uncertain future cash flows
- **Liquidity risk:** How to avoid cash drag and/or unforeseen liquidity events
- **Counterparty risk:** Do you have a robust hedging framework in place?
- **Best Execution:** Not just about price

Questions?

Investec

Hedging: relationship with fund level financing and fund documentation

Thomas Smith & John Rife,

Debevoise & Plimpton

06 November 2018

Legal Structuring Aspects – Where to hedge within structure

- Fund level within facility
  - Hedging limited to credit facility lenders
  - Uses up capacity under facility
  - Consider cap arrangements
  - Alternatives:
    - » Drawing under the facility in multi currencies as embedded hedge
    - » Redenomination
- Fund level outside facility
  - Wider market of hedge counterparties
  - Consider collateral arrangements / pricing
  - Relationship with subscription line financing

Legal Structuring Aspects – Where to hedge within structure

- SPV hedging
  - Credit support
  - Other issues (e.g. German tax)
  - Relationship with subscription line financing
- Feeder hedging
  - Credit support
  - Relationship with subscription line financing

Legal Structuring Aspects – Fund Documentation

- Restriction on hedging / derivatives
- Restriction on indebtedness at fund level
    - Contingent liabilities
    - ILPA guidelines
- Diverging LP demands
- AIFMD considerations

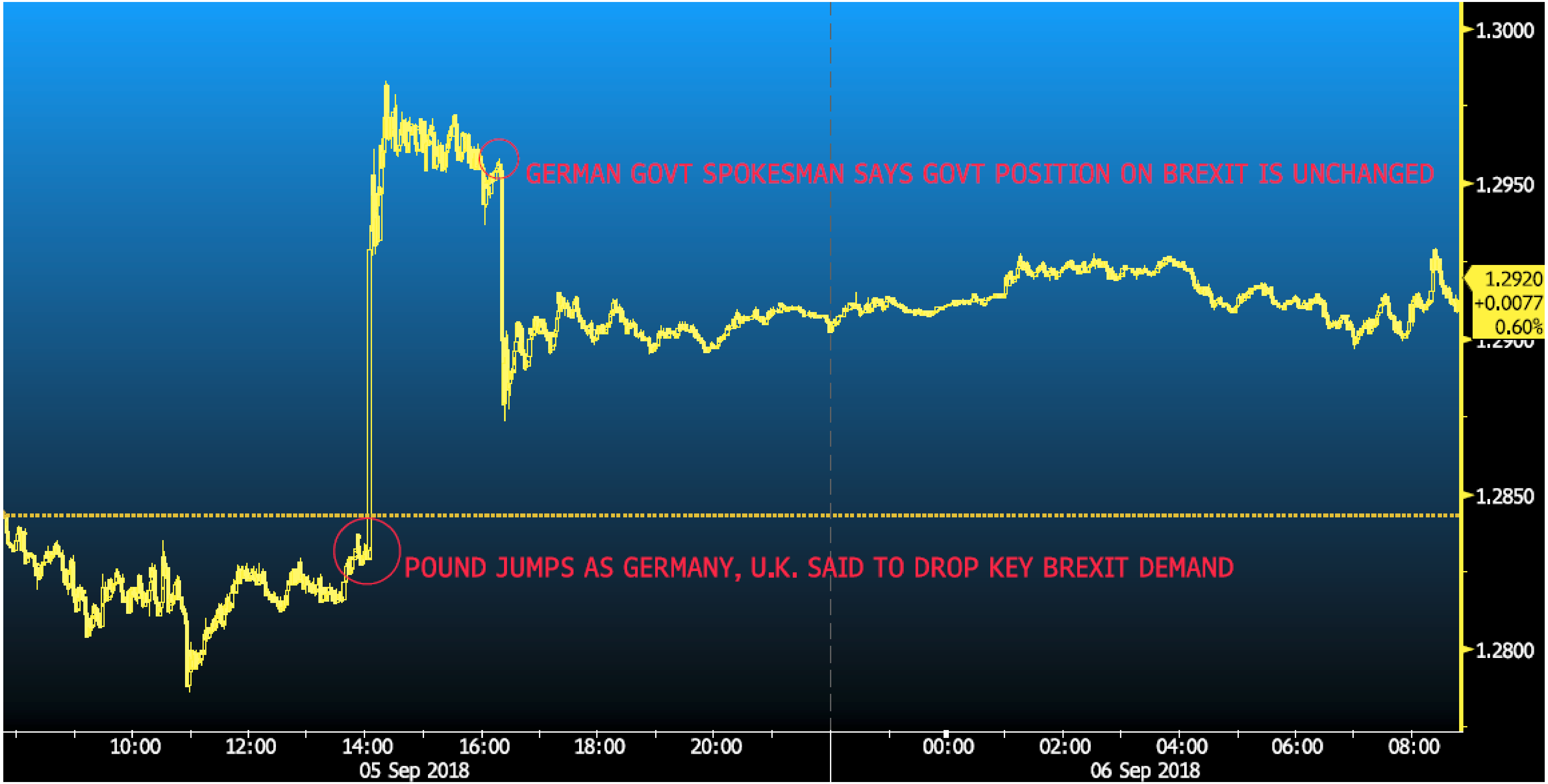
Investec

Hedging for funds

Joe McKenna,
Investec Fund Solutions

06 November 2018

Investec



Source: Bloomberg, September 2018

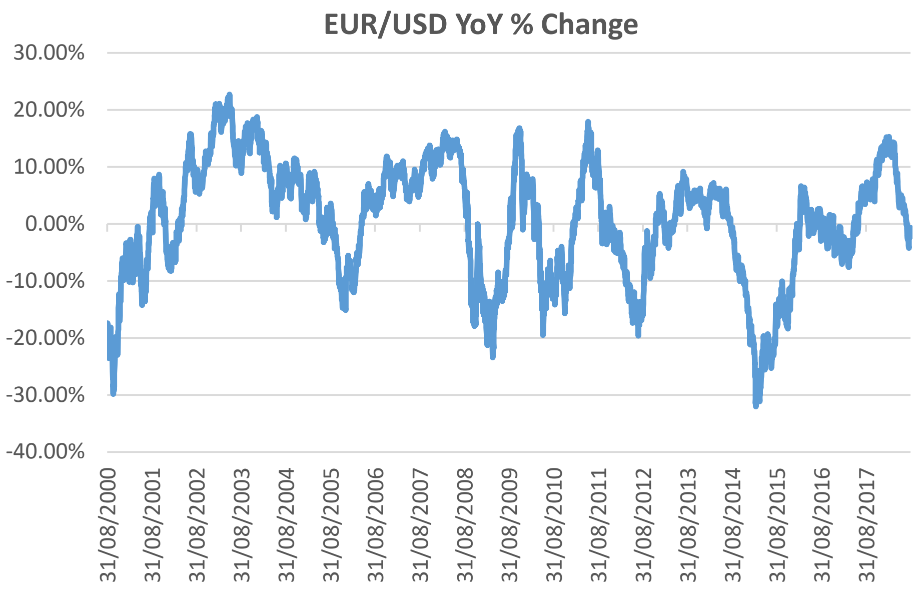
Investec

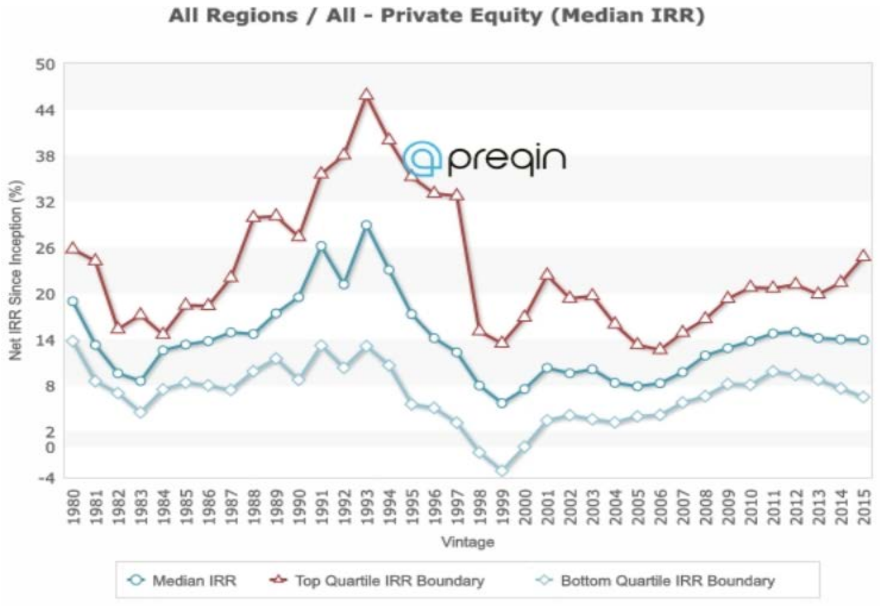
Source: Bloomberg, September 2018

Investec

Source: Bloomberg, September 2018

Why do funds hedge?





Private Equity IRRs since 2000 between 10% and 14% *(Source: Preqin)*

The world's largest currency cross, EURUSD, has seen year on year changes ranging between **+23% and –31% since 2000** *(Source: Bloomberg)*

Source: Bloomberg, September 2018 and Preqin September 2018

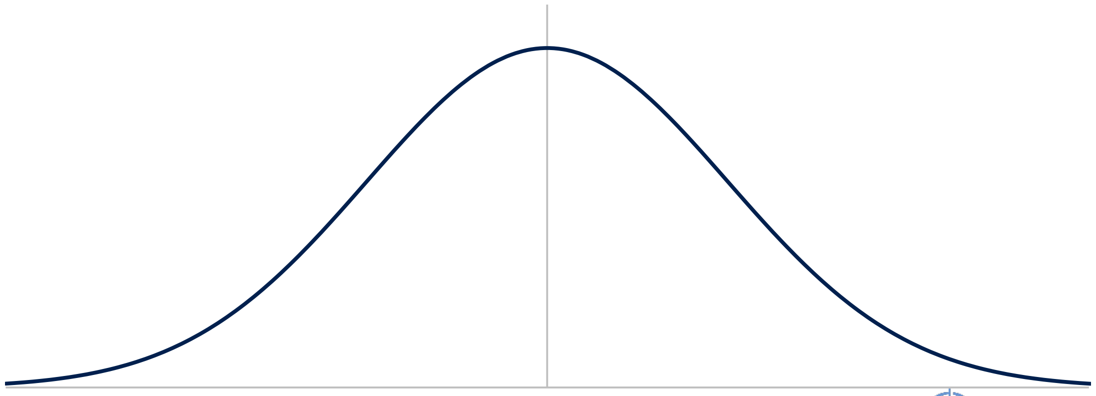
Mark-to-Market - an accounting practice that involves recording the value of an asset to reflect its current market levels OR what are my current gains or losses if I was to sell my contract today?

What is our potential exposure?

- MtM evolves over time as market prices evolve
- Potential future credit exposure can be significantly larger than current exposure
- Focusing on current exposure is great, but it doesn't give the foresight needed to approve adequate limits today for what may happen tomorrow

Can't see into the future, but we have an idea of how uncertain it is

Normal Distribution

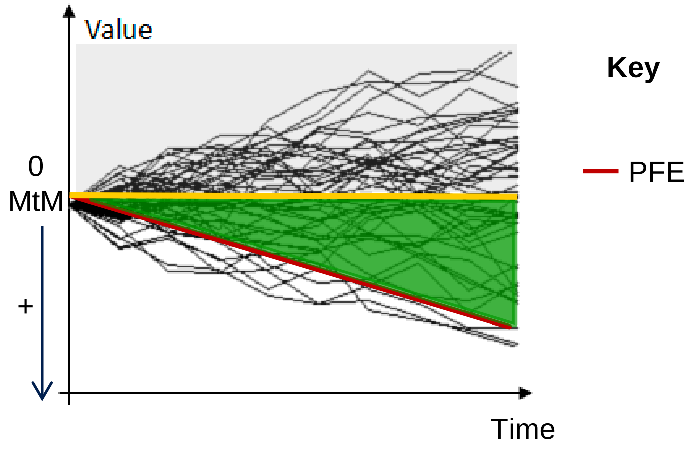


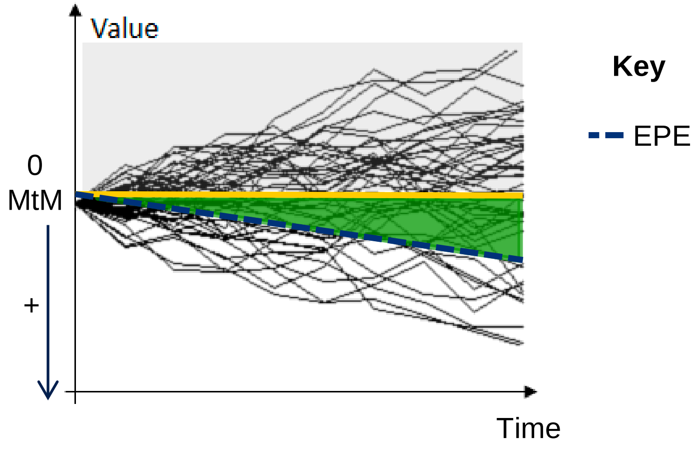
Investec

What is PFE (Potential Future Exposure) and EPE (Expected Potential Exposure)?

- PFE is a simple representation of how much credit exposure a derivative trade might create
- PFE is calculated to a 95th percentile confidence interval. This means that 1-in-20 times, the trade might carry more exposure than the figure calculated on day 1.

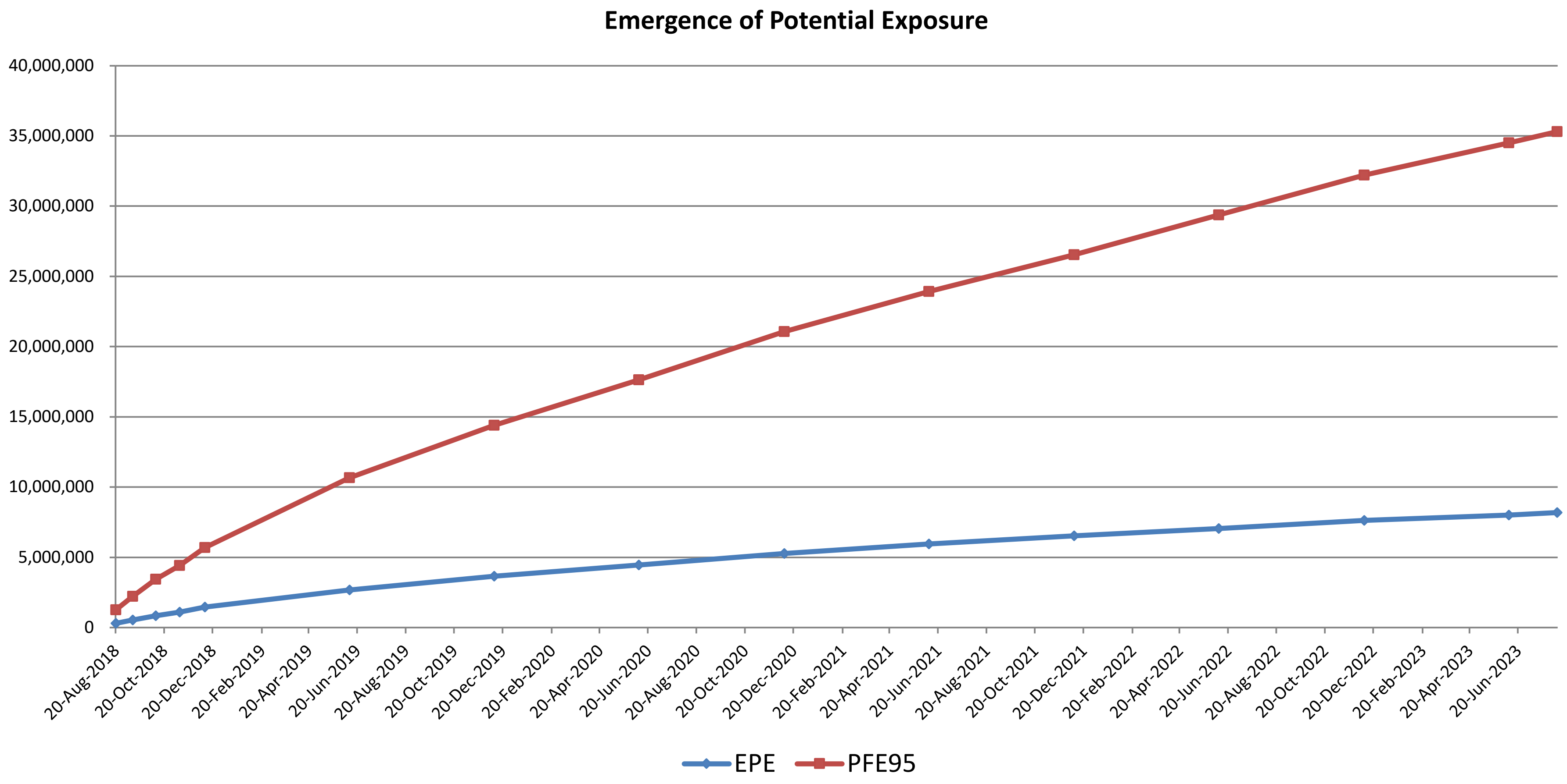
- EPE represents the average of out-of-the-money scenarios. i.e. if a trade goes out of the money for a client, how far would this be on average?
- EPE is a modelled, and therefore estimated number only.





Investec

Forward contract EPE & PFE



Investec

What size credit threshold can we offer?

Large manager, hedging your flagship fund with lots of undrawn capital?

The market can typically offer an unsecured credit threshold that is 2%-3% of the fund size

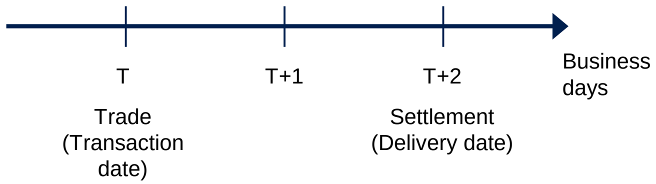
BUT, what if…

- This is a late life fund? An SMA? A more difficult situation?
- This 2 to 3% is not adequate

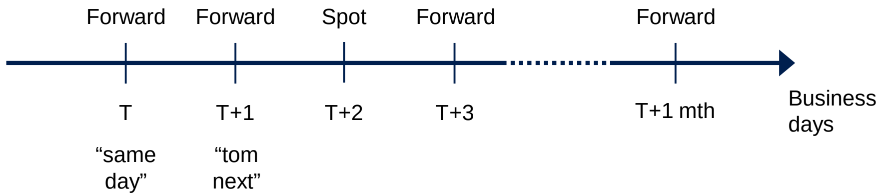
Investec have developed some unique solutions for our clients

Basic Foreign Exchange Instruments

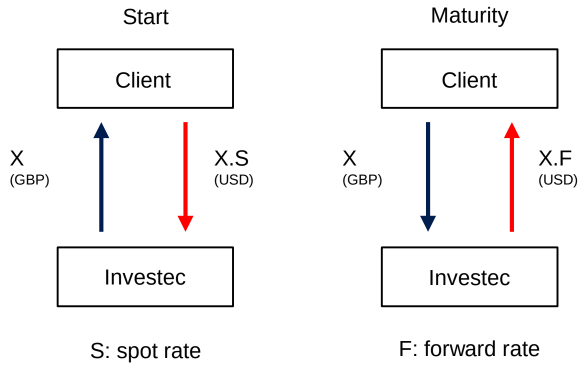
- Spot
  - exchange of one currency for another currency
  - immediate delivery (by market convention, T+2)



- Forward
  - exchange of one currency for another currency
  - future delivery (≠ T+2)
  - forward rate is a function of spot and the relative interest rates in each currency (among other things)



- FX Swap
  - exchange and re-exchange of one currency for another currency for two different delivery dates
  - used to bring hedged cash flows backwards or roll them forwards



Tools available

Spot – high FX risk, full benefit if the rate moves in your favour

Forwards (& Swaps) – no FX risk, opportunity cost if spot moves in your favour

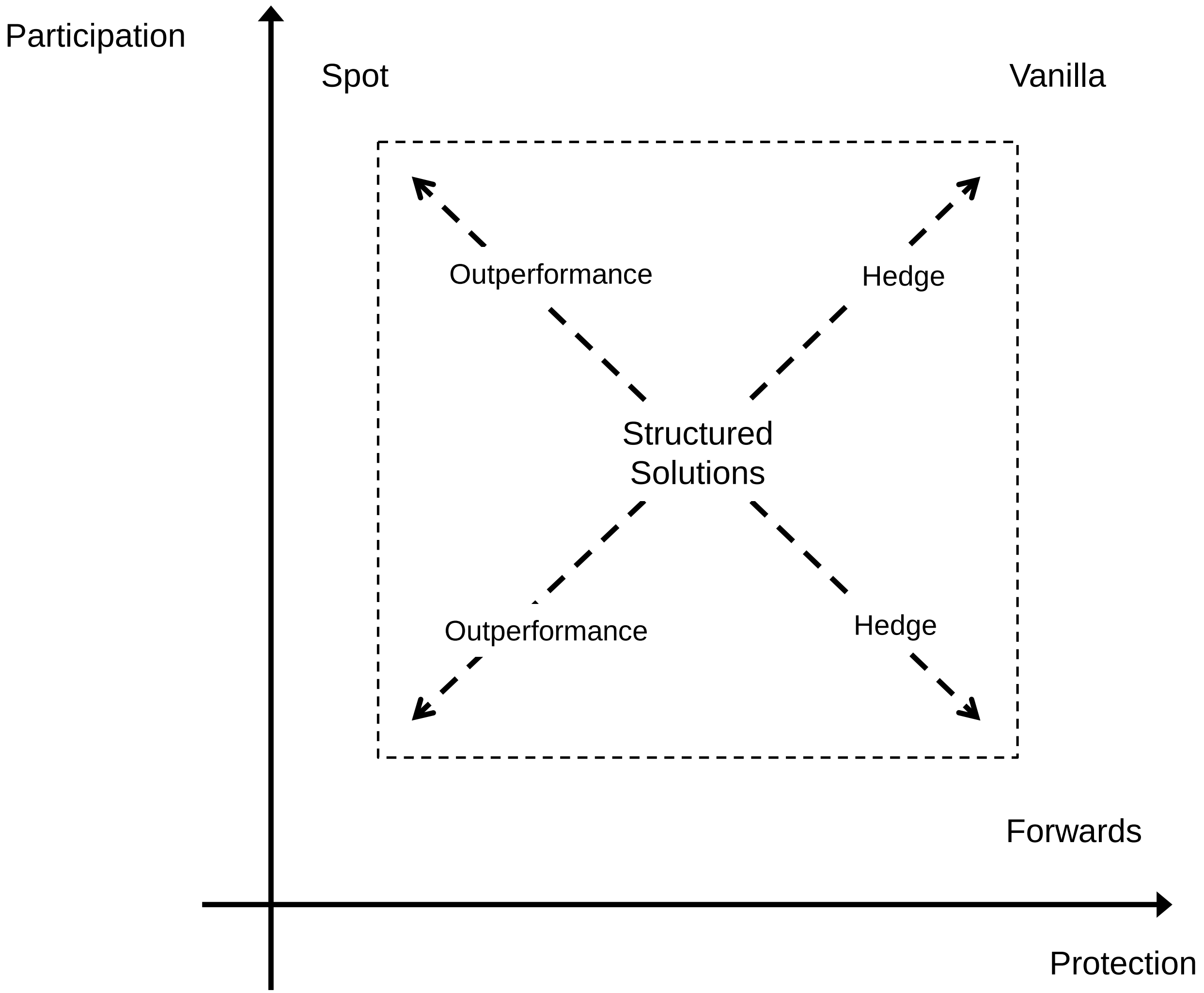
Vanilla Option – no FX risk, full benefit if rate moves in your favour, BUT the client pays a premium for the benefit e.g. GBPUSD 12 month call option is roughly 3%, deferred premium available

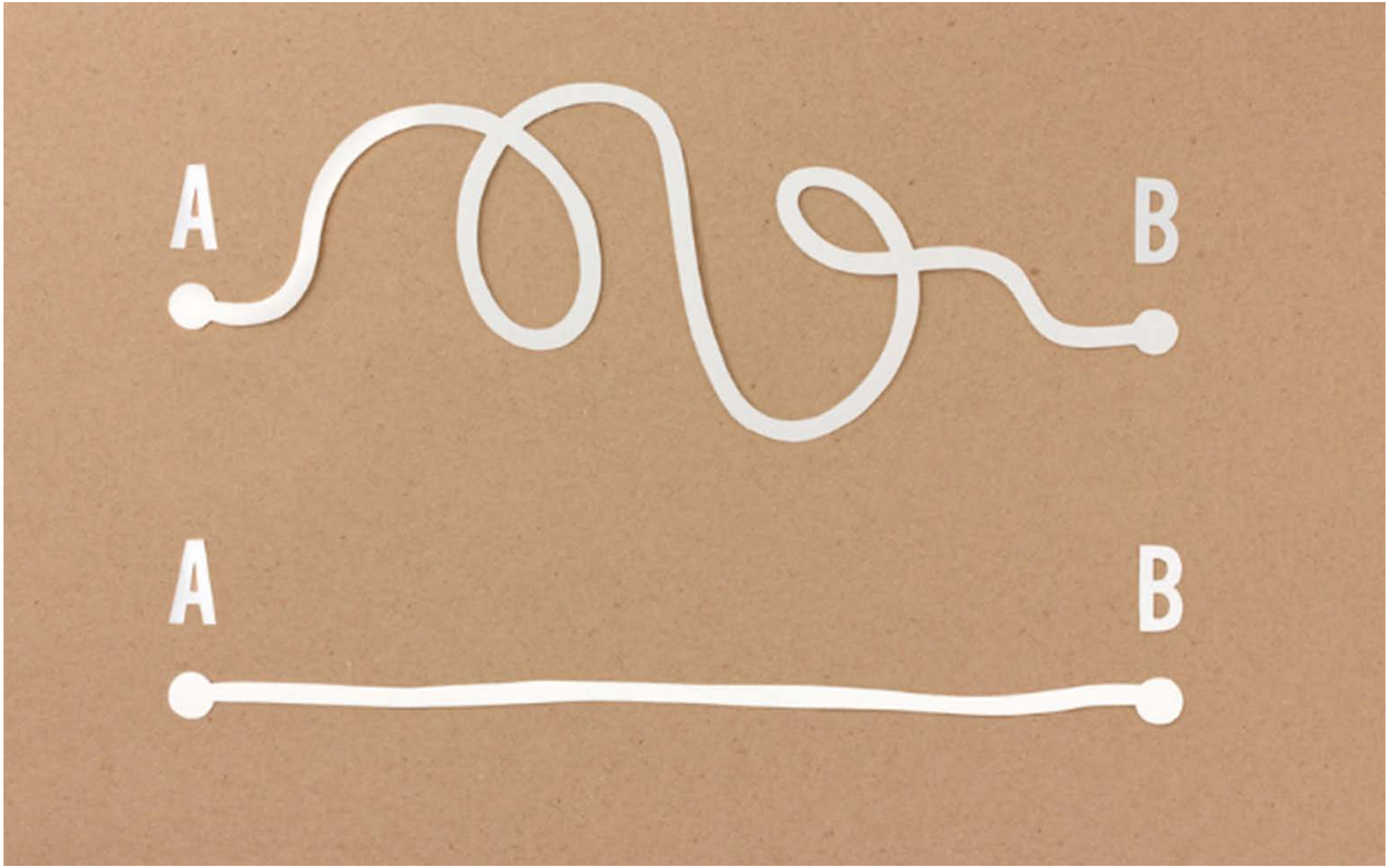
Zero premium option structures - participating forward, forward extra, collar / range forward, no FX risk, some benefit if spot moves in your favour but might not leave you in a stronger position versus the forward rate e.g. GBPUSD 12 month forward rate is 1.31 versus 1.27 on participating forward

Outperformance – Leveraged forwards, extendable forwards, TARFs (the list is endless!)

N.B. Almost 100% of FX deals for funds have been Forwards or Swaps – 2 recent Vanilla options, GBP puts on behalf of a US fund holding GBP assets, a Brexit hedge

Other FX Products



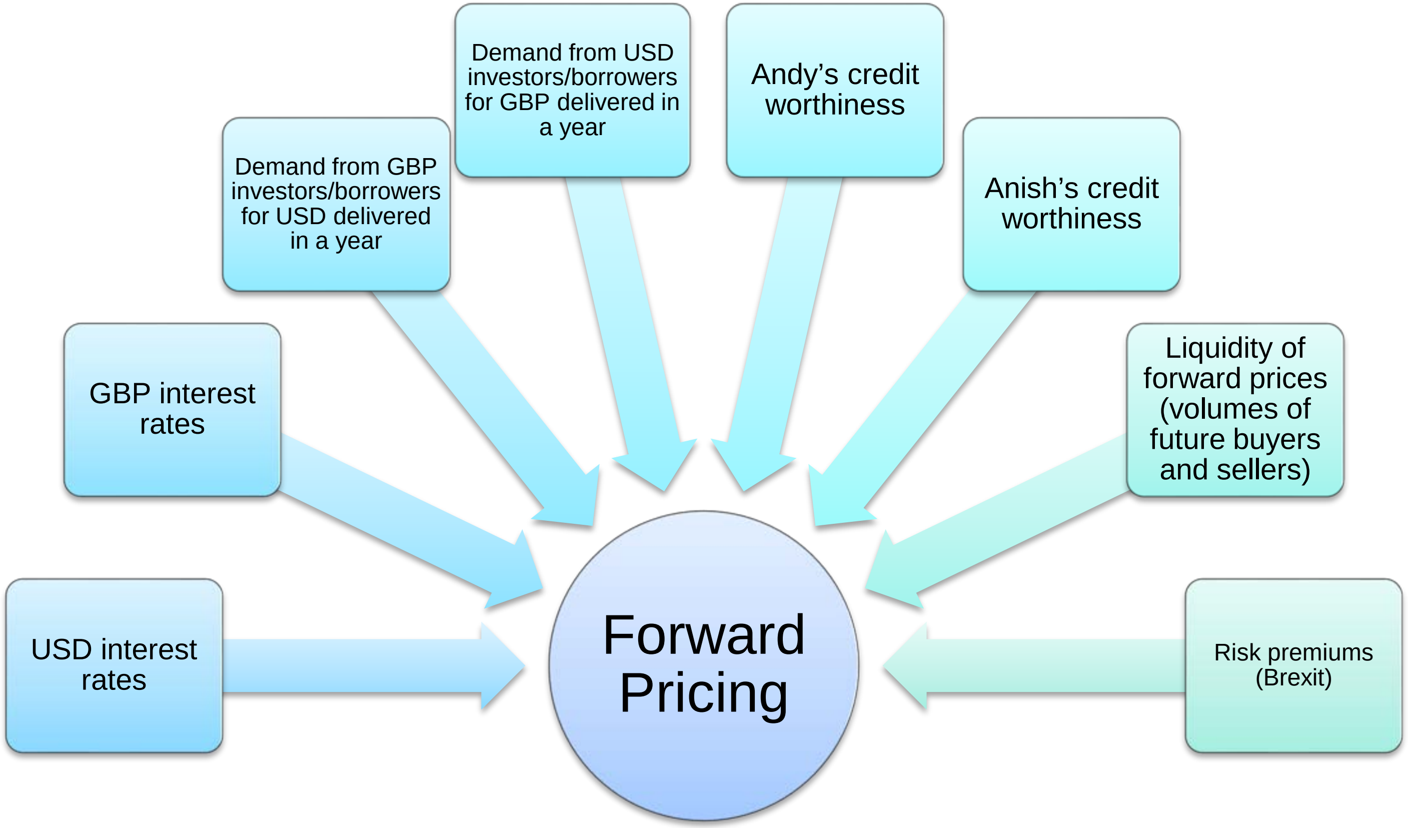


Investec

Why is a forward price different to a spot price?

Assume that Andy can buy USD 10 from Anish today in exchange for GBP 5

What circumstances would need to apply in order to enable Andy to be able to agree today to buy the same USD 10 from Anish for GBP 5 in one year's time?



Interest Rate Differentials and (no?) arbitrage

Why are interest rates so important? The ECON 101 version

Andy has GBP 5

Andy could leave this in a bank account and earn interest

BoE pays <u>2.5%</u>

… after a year, this GBP 5 might have grown to 5.125

Anish has USD 10

Anish could leave this in a bank account and earn interest

Fed pays <u>5.0%</u>

… after a year, this USD 10 might have grown to 10.5

"Spot" rate 2.00

Happy to trade

"Forward" rate at

10.5 / 5.125 = 2.049

<u>Still happy to trade?</u>

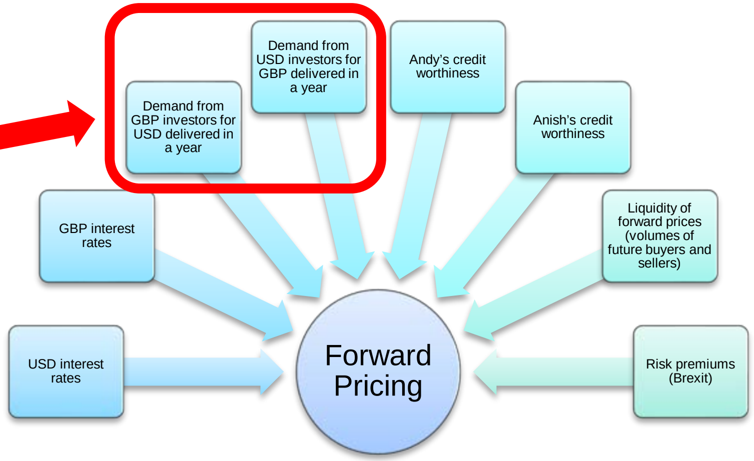
Investec

What is the ‘currency-basis’?

Why was the previous slide incomplete?

The Econ 101 explanation of FX forwards ignores another important Econ 101 lesson…

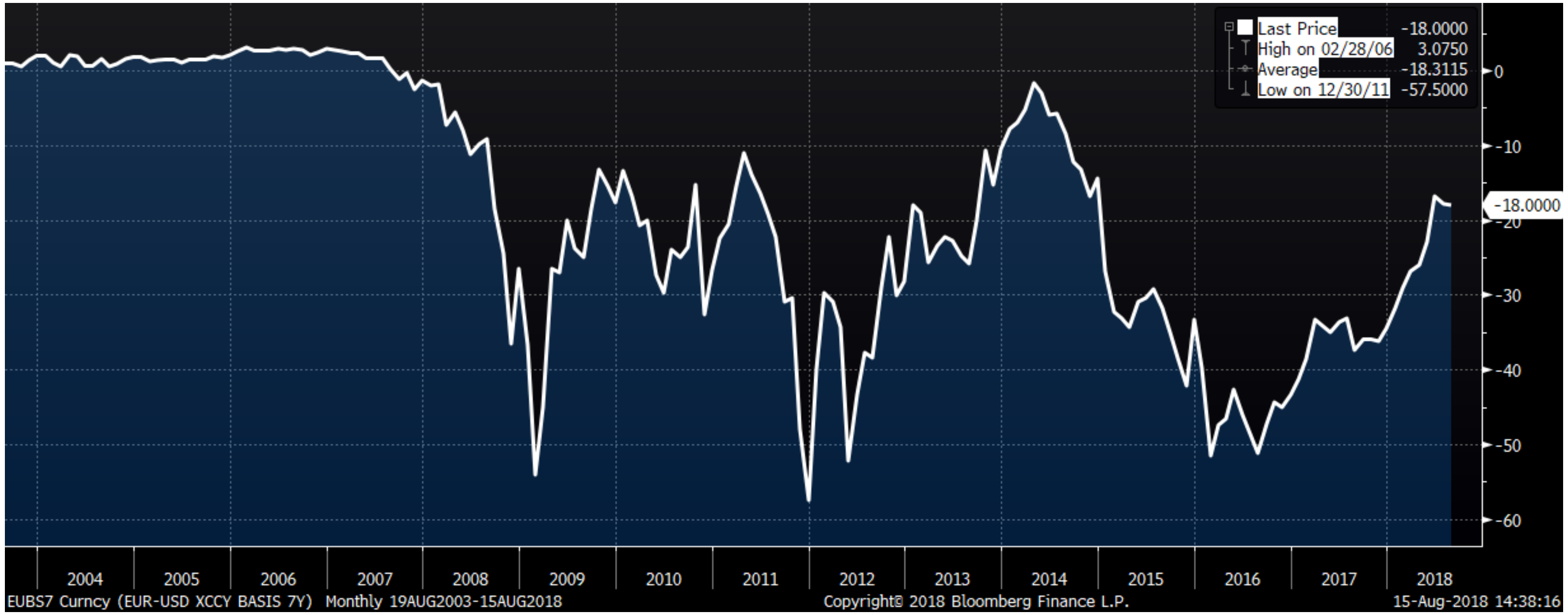
SUPPLY & DEMAND



Currency basis is a measure of the extent to which the theoretical Econ 101 explanation of forward price is wrong – it is the market’s way of pricing/representing the extent to which interest rate parity does not hold and arises due to global cross-border supply/demand imbalances for currency

What moves the “currency-basis” ?

- Supply and demand. Why should currency be any different from any other asset class?



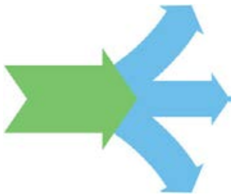
Relative stability – ample liquidity in EUR and USD	Credit crunch – massive demand for USD	Sovereign debt crisis – massive supply of EUR	Normalisation driven by corporate issuance	Ratio of Fed to ECB balance sheet expansion lead to recent widening

Source: Bloomberg, September 2018

How do we price trades?

- The table below provides one example of the typical input to pricing a forward contract – buying GBP and selling EUR 1 year forward with indicative credit charges at 30 basis points per annum.
- In the following slide we touch on the basic inputs which we might see in a bank's credit submissions

Forward pricing	
Spot rate	1.1400
Forward Points	-0.0170
Credit Charges	+0.0034
All-in Client Rate	**1.1264**



What else?

Investec

A brief look at XVA's

Credit Valuation Adjustment or CVA

- CVA represents the expected loss on a trade – it is a reserve we hold against a trade defaulting.
- Modelled on the basis of tracking the EPE path

Funding Valuation Adjustment or FVA

- FVA represents the expected cost of funding the cash flows on the trade
- We take conservative approach of always holding reserve against EPE path even if the expected FVA effect is positive

Capital Valuation Adjustment or KVA

- Estimated capital to be held throughout life of trade - capital held is based on current MtM exposure of trade & PFE add-on.
- Estimate the total amount of capital usage over the life of the trade on the basis of tracking either the EPE or PFE path

Investec Fund Solutions

Historic Rate Rolls

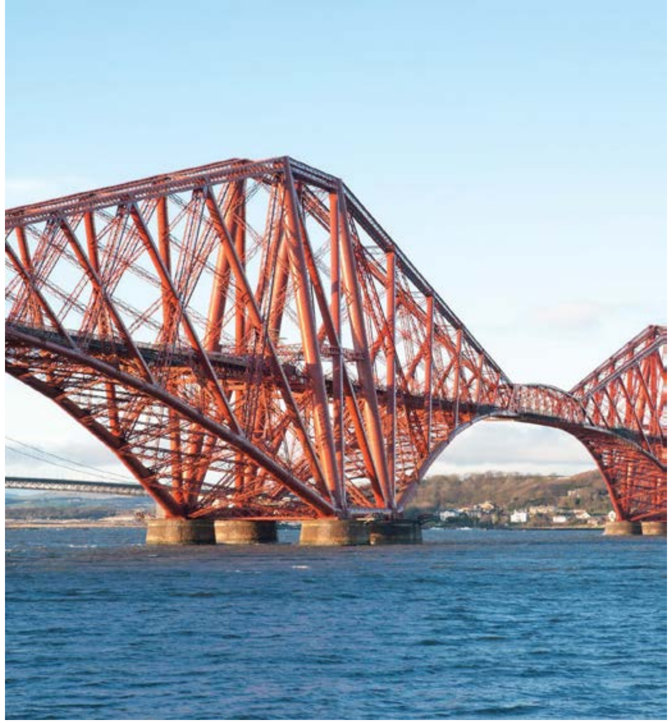
When a maturity date is reached on a hedging contract, if clients wish to delay FX delivery they can roll the position to a new future date, typically using an FX swap (see appendix). The difference between the initial hedge FX rate and the new FX swap rate introduces a cash flow. If a AUD hedge has been put on and the USDAUD FX rate falls, a negative cash flow is realised, but the new hedge is put on at a better rate. To avoid realising a cash flow clients can use an Historic Rate Roll ("HRR").

Duration (months)	0	1-year	2-year	2.5-years
Hedge Rate	1.3200	1.2540	1.1913	1.2509
Client Selling AUD	20,000,000.00	20,000,000.00	20,000,000.00	20,000,000.00
Client Buying USD	15,151,515.15	15,948,963.32	16,788,382.44	15,988,935.66
Cashflow (-ve is client making settlement)		-797,448.17	-839,419.12	799,446.78
Cummulative client cash position (-ve, or +ve)		-797,448.17	-1,636,867.29	-837,420.51

In the example above, the client has rolled a forward contract for 1 year, 1 year again and then 6 months before settling the contract. In year 1 and year 2 there would normally be a negative cash flow without the use of HRRs.

A USD Fund has holds a AUD asset. As the fund is valued in USD this introduces FX risk. To hedge this, the AUD value of the asset is sold using a Forward FX selling AUD vs. USD	Before maturity an FX swap is traded to delay AUD delivery. FX swap: AUD is bought to close out the current hedge and sold forward to put on a new hedge.	The process is continued for as long as the fund holds the AUD asset

A HRR allows hedges to be rolled with zero immediate cash settlement. Clients would typically use this to defer a payment when a hedge has been closed out at a loss. The deferred settlement essentially becomes a loan to the client and therefore incurs a funding charge applied to the new hedge rate.



Investec

“As a specialist in our sector, our relationship manager has always understood our business, and its evolving needs – despite the fact that we are a unique business.”

Dolf Kohnhorst, Director

SEQUOIA INVESTMENT MANAGEMENT COMPANY LIMITED

Who we are

Sequoia is a UK-based specialist infrastructure debt management company that lends to infrastructure projects and corporates worldwide.

The challenge

Our proposition has always been fairly unique and we needed a currency partner that would not only understand us and our nuances, but also one that would grow with us. When we launched the IPO of the Sequoia Economic Infrastructure Income Fund (SEQI) in 2015 we were relatively small and our relationship with Investec Treasury started as they were the most responsive to our situation. Unlike other firms, they didn’t turn us away because of our size or because we didn’t have a three-year track record. At this point we only worked with Investec for hedging major currencies – the fund’s shares were denominated in sterling while the assets were often non-sterling. However, we knew our needs would evolve, so we wanted to work with a partner that could keep up.

Investec’s solution

Today, the same fund is now a FTSE 250 constituent. This means that our requirements have grown significantly and are now much more complex. Fortunately, Investec has always been extremely good at understanding our business: our relationship manager sits on a specialist funds team for example, and as such is very plugged in to what is going on. Naturally, we were very pleased when they made their balance sheet available to us for the revolving credit facility –this means that the fund can operate in credit, which enables us to keep it fully invested while continuing to lend to other infrastructure opportunities before raising more capital. This is crucial in managing our clients’ money in the most efficient and effective way.

Outcome

The Investec Treasury team, which continues to support us with our currency needs, has proven to be technically capable, as well as extremely flexible and accommodating in meeting Sequoia’s evolving requirements.

When asked what really sticks in my mind? I would say it is their ability to really understand our business from the outset – and to have the foresight to support young businesses when they most need it.

“Investec have always been **extremely proactive** in helping us find **working solutions** to manage our currency risks”

Peter Groundwater, Finance Director

Cain International

Who we are

Cain International is a real-estate development company with residential and commercial projects in the UK, Europe and the US.

The challenge

Historically, a significant source of Cain International's capital has been US based shareholders and partners. With large development projects outside of the US, this has resulted in material currency mis-matches between the group's capital and its underlying currency exposure. Coupled with ongoing cash needs throughout the course of a development project, exchange rate fluctuations pose a continuous risk that the group actively seeks to manage.

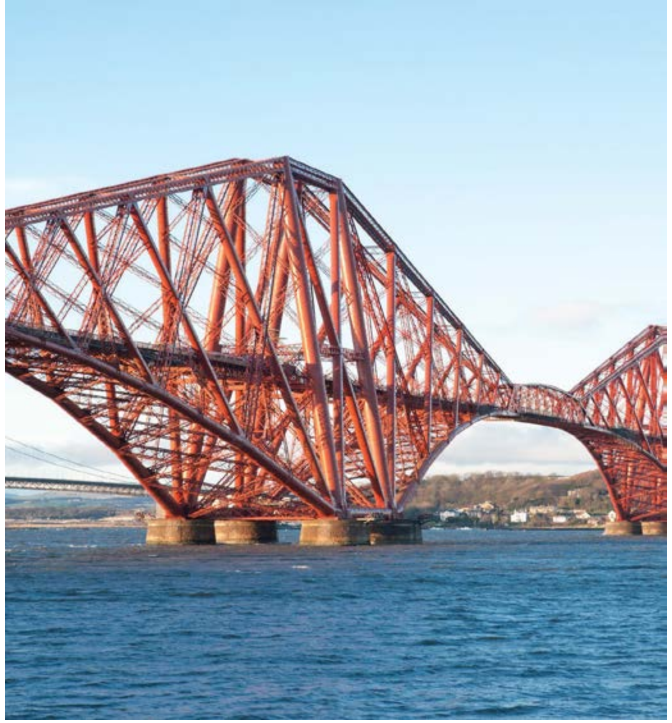
Investec's solution

As with any large complex project, challenges arise. In the case of the group's large mixed-use development in the City of London and Shoreditch known as the Stage, the archeological excavation of a Shakespearean theatre took longer and revealed a larger theatre than expected. As a result, directly and indirectly due to revisions required to the approved planning permissions, the scheme's timeline was elongated. In such circumstances, Investec was a valuable partner to Cain International, presenting a range of solutions and approaches to restructure the currency hedges to account for the modified timelines. Investec were proactive and guided Cain International through market volatility that could have adversely impacted the project without proper management.

Outcome

The above is just one example. Investec have been committed to finding working solutions to a number of challenges Cain International has faced, and have helped manage the currency risks inherent in their projects. In short, they are a greatly valued partner to Cain International.

While it would be all too easy to overlook the ongoing currency risks, the regular and frequent dialogue with the team at Investec helps to continually evaluate and manages these risks. And Investec's Treasury team have not only helped the group as a hedging platform, but they have more widely been a great strategic partner – helping finance a number of acquisitions themselves.



> **The Investec Fund Solutions team has taken**
> **a genuine interest**
> **in the growth of our relatively small business.**

Alan Chu, Finance and Operations Director

BEECHBROOKcapital

Who we are

Beechbrook Capital is a specialist fund manager providing debt, or debt and equity, capital to small and medium-sized businesses in northern Europe.

The challenge

Foreign currency can have a material impact on the success of our business. Primarily, exchange rate movements can affect our core managing business as our revenues are predominantly denominated in euros while our costs are sterling-based. As such, we wanted a partner that could help us mitigate the risks of potential adverse rate movements. This is when we made contact with Investec Fund Solutions.

Investec's solution

Our Investec Fund Solutions relationship manager has got to know our business very quickly. Not only has having this close relationship helped us put the right type of protection in place, but the whole team has been extremely responsive to our needs.
When we needed to increase the duration of our forwards from 12 months to 24 months for example, it was done promptly and efficiently. Not having to wait around meant that we didn't risk losing out during volatile market conditions.

Outcome

Investec Fund Solutions' proactivity and speed has been impressive without being overbearing. And on top of this, the team has taken a very genuine interest in the growth of our relatively small business. We know that we have found a strong partner. As a result, we're now exploring how we can do more with them as we put a strategy in place to mitigate the impact exchange rates have on the funds we manage.

Disclaimer

This document is issued in the UK by Investec Bank plc (“Investec”), which is authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority. Whilst all reasonable care has been taken to ensure that the information stated herein is accurate and opinions fair and reasonable, neither Investec nor any of its directors, officers or employees shall be held responsible in any way for the contents of this document. This document is produced solely for your information and may not be copied, reproduced, further distributed to any other person or published in whole or in part for any purpose without the prior written permission of Investec.

While the information in this document has been prepared in good faith, no representation or warranty, express or implied, is or will be made and no responsibility or liability is or will be accepted by Investec or any of its subsidiaries or affiliates or by any of their respective officers, employees or agents in relation to the accuracy, suitability or completeness of this document and any such liability is expressly disclaimed. Investec gives no undertaking to provide the recipient with access to any additional information or to update this document or any additional information, or to correct any inaccuracies in it which may become apparent.

This document does not take into account the specific investment objectives, financial circumstances or particular needs of any recipient and it should not be regarded as a substitute for the exercise of the recipient’s own judgment. Investec does not offer investment advice or make any investment recommendations. Recipients of this document should seek independent financial advice regarding the appropriateness or otherwise of investing in any investment strategies discussed or recommended in this document and should understand that past performance is not a guide to future performance and the value of any investments may fall as well as rise.

Investec Corporate & Institutional Treasury is part of Investec Bank plc, of 30 Gresham Street, London, EC2V 7QP. Registered and incorporated in England No. 00489604. Investec Bank plc is authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority and is a member of the London Stock Exchange. Telephone calls may be monitored or recorded.

Meet the Fund Solutions team

Joe McKenna
+44 207 597 4645
joseph.mckenna@investec.co.uk

Michael Slane
+44 207 597 3684
michael.slane@Investec.co.uk

Devonshi Mody
+44 207 597 5341
devonshi.mody@investec.co.uk

Seb Wright
+44 207 597 5543
seb.wright@investec.co.uk

Fund Solutions

Specialist currency and market risk management

Work with a team of fund specialists who understand your sector and can tailor a solution to help your funds flourish.

investec.com/fundsolutions

Investec

Closing & questions

06 November 2018