Market Insights

September 2021

Cross currency basis swaps

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About us

Frontier has been at the forefront of institutional investment advice in Australia for over 25 years and provides advice over more than $490 billion of assets across the superannuation, charity, public sector, insurance and university sectors.

Frontier's purpose is to empower our clients to advance prosperity for their beneficiaries through knowledge sharing, customisation, technology solutions and an alignment and focus unconstrained by product or manager conflict.

James Bulfin
Senior Consultant

James joined Frontier in June 2020 as a Senior Consultant within the Alternatives and Derivatives Research Team. His responsibilities include undertaking investment and manager research of liquid and illiquid alternative strategies as well as derivative strategies, including providing specialist advice for these areas to clients.

He has more than 15 years Investment Banking experience, with a strong background in macro markets and portfolio risk management. Prior to joining Frontier, James worked in Singapore for six years at Barclays Investment Bank trading macro markets focusing on derivative solutions for clients. Prior to that, James worked at Goldman Sachs for nine years across a number of trading and risk management roles, including as a Macro Trader in the Propriety Trading Division and a Portfolio Manager in the Treasury Liquidity Group.

James is currently completing a Masters in Applied Finance with Kaplan. He also holds a Graduate Diploma of Applied Finance and Investment from Finisa, a Bachelor of Business and a Bachelor of Information Systems from Swinburne University of Technology.

INTRODUCTION

Cross currency basis swaps

With Australian investors increasing their ownership of overseas assets, currency risk is an important element of portfolio management. The Frontier currency configuration has included the benefits of cross currency basis and long dated FX swaps as an important tool for investors to consider for liquidity and currency management.

This paper provides a deep dive into cross currency basis swaps. These swaps can be a useful tool for investors seeking to manage currency risk within their portfolio. This paper provides a background into why cross currency basis swaps exist, and how investors can consider using these derivatives within their portfolio risk management toolkit.

We also highlight several trading strategies using cross currency basis swaps that investors could consider for both downside protection and alpha generation.

Background

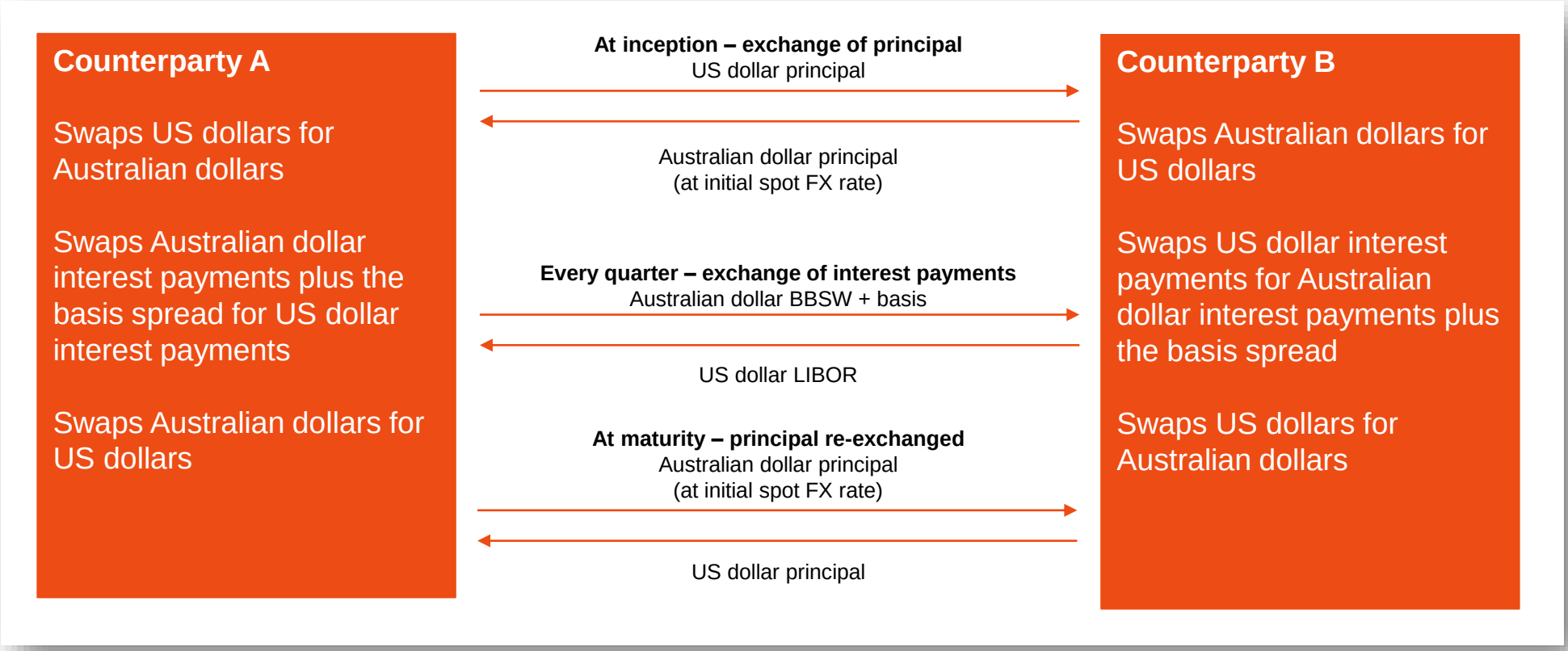
Cross currency basis swaps are an over-the-counter (OTC) derivative that allows counterparties to exchange notional principals in two different currencies, receiving an interest payment in one currency and paying an interest payment in another currency typically at a fixed exchange rate. The “basis” is the spread to the non-U.S. Dollar (USD) rate, which can be either positive or negative depending on the currency pair. The basis spread is derived by the balance between demand and supply for the currency pair and reflects the credit risk associated by the two reference rates. When the basis is positive, such as for the Australian Dollar (AUD), the counterparty borrowing in USD benefits by receiving the positive basis. Conversely, when the basis is negative, such as for the Japanese Yen (JPY), the counterparty borrowing in USD pays the basis spread.

In principle, the basis should be zero if access to funding in the two currencies is equal, unless there is a higher degree of credit risk imbedded in one index relative to another. However, companies do not have the same access to funding markets in multiple currencies. Financial and credit conditions differ across markets. The cross-currency basis spread therefore represents equilibrium in the supply of and demand for funding across different currencies, adjusted for the creditworthiness of the banks that generate the underlying floating index.

Cashflows explained

An Australian investor can swap Australian dollars for US dollars in order to invest in US dollar-denominated assets. By using the swap, the investor can lock in an exchange rate at which the US dollars will be converted back into Australian dollars in the future.

This means the investor is not exposed to the risk that the US dollar will depreciate against the Australian dollar.



Source: RBA

Why does it exist?

Gain access to larger capital markets

Australian domestic capital markets are insufficient to support funding needs of the four major banks.

They must rely on global funding markets to meet issuance requirements.

This has created a structural impact on the AUD cross currency basis market, resulting in a **positive 'basis'**.

Australian banks issue USD, EUR, GBP or JPY debt securities and must pay the AUD cross currency basis to swap proceeds back to AUD.

This issuance impacts the 3- to 10-year part of the curve, generally **driving the 'basis' higher**.

Diversify funding needs

Cross currency basis swaps allow corporations (especially banks) to diversify funding via different currencies

e.g. using the USD capital market to raise their issuance requirements.

The size of USD capital markets **allows issuers to obtain more favourable funding conditions** than in their local markets.

May be cheaper for the borrower to raise USD in foreign capital markets, compared to borrowing AUD in the domestic market (basis dependant).

Reach offshore investors

The other main users are foreign issuers such as supranational names (e.g., KFW, World Bank, IBRD, etc).

Receive the benefit of positive AUD basis when raising AUD funds via Kangaroo bonds and converting the AUD back to the desired currency.

The Kangaroo bond issuance* will impact the 5y-10y part of the curve, generally **driving the 'basis' lower**.

* Kangaroo bond issuance is a foreign bond issued in Australian dollars by non-domestic entities.

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Uses of cross currency swaps

How can investors use cross currency basis

FX risk management

Cross currency basis swaps enable effective FX risk management associated with debt securities issued in foreign currencies and assets such as infrastructure and property bought in overseas markets.

This is particularly important for investors and why it is a key consideration in their FX risk management strategies.

Customise hedging

- Investors can tailor maturities to match asset life cycle, reducing asset/liability currency mis-matches.
- Investors can fix interest rates on the cross currency basis swap to match the interest rate risk of an asset.

Spread duration profile

- Spreading the duration profile of the FX swap maturities can help reduce cashflow impacts from short dated settlement obligations
- By using sufficiently long-term swaps – with initial durations of 2 years or more – investors can minimise any rollover risks

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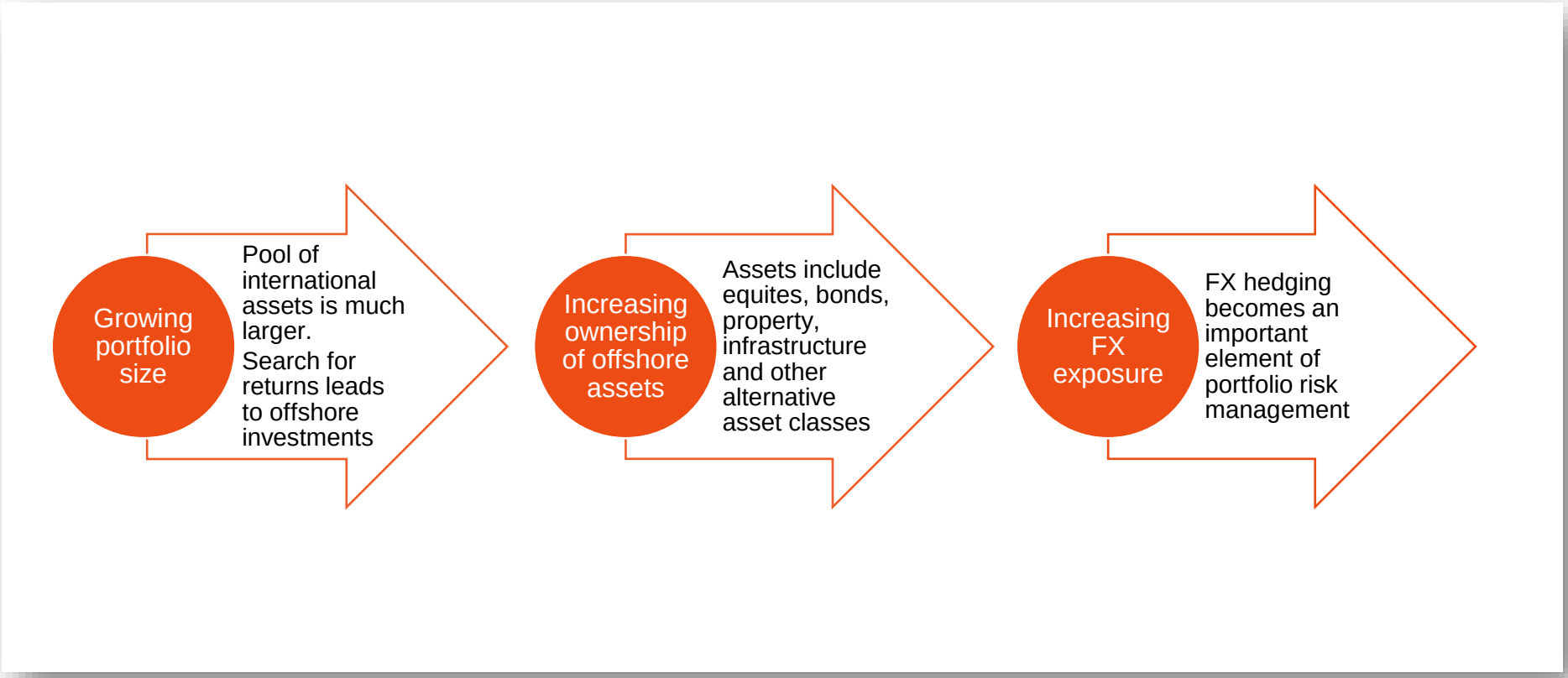
How can investors use cross currency basis

Increased ownership of offshore assets

As the size of Australia's institutional investor community continues to grow, investors have been increasing their ownership of offshore assets including equities, bonds, property, infrastructure and other alternative asset classes. Currency risk management is an integral part of portfolio management for Australian based investors and is increasing in importance.



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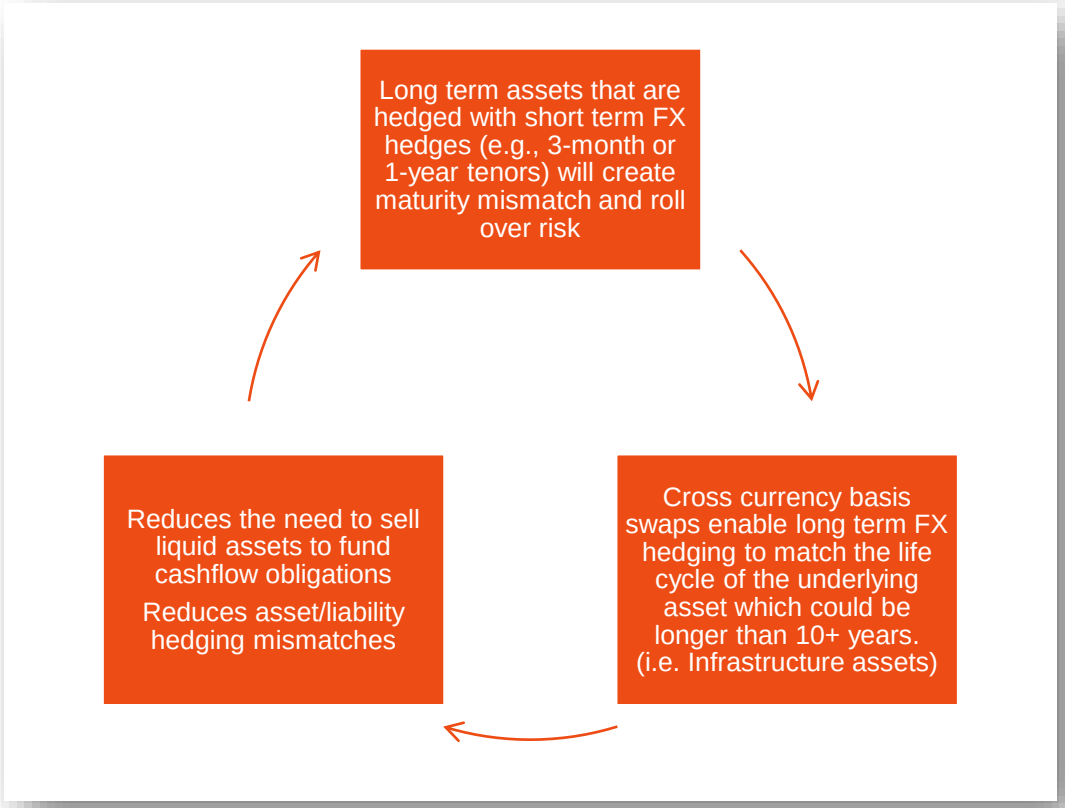
How can investors use cross currency basis swaps

Hedging illiquid and long dated assets

Infrastructure assets are illiquid and typically long dated, therefore currency risk management is an important consideration for all investors.

Long term assets that are hedged with short term FX hedges (e.g., 3-month or 1-year tenors) create a maturity mismatch and roll risk. This can be minimised by using cross currency swaps which enables long term FX hedging to match the life cycle of the underlying asset.



Market dynamics compared to FX swaps

Using short dated FX swaps for tenors such as one or three months is quite common for currency management. As discussed throughout this paper, cross currency basis swaps enables currency management to be managed over longer tenors effectively. The table below highlights the market dynamics of both hedging methods.

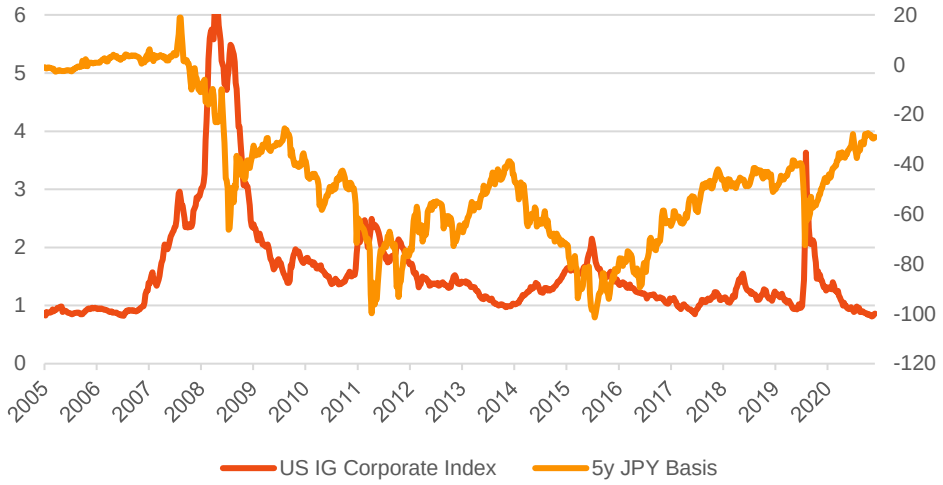
Characteristics	Cross currency basis swaps	FX forwards
Collateral*	Collaterised	Collaterised beyond 1 year maturities
Liquid tenors	Liquid across most tenors out to 10 years, beyond 10+ years liquidity can be impacted for AUD basis	Liquid across tenors from overnight to one year, beyond 1 year liquidity can be impacted
Interest rate customisation	float/float, fixed/fixed or float/fixed	n/a
Customisation	Forward or spot starting dates. Forward starting swaps avoid the upfront exchange of large notionals	Forward or spot starting dates.
Cashflow exchanges	Regular cashflow exchanges to match coupon/income receipts	n/a
Interest payments over the life of the swap	Yes. The interest exchanges during the life of the swap can be MTM (mark to market) or non-MTM. MTM is when the interest payment exchanges are at the current spot rate and non-MTM is when the interest payment exchanges are at the FX spot rate when the trade was originated which can create additional FX exposure to manage.	No. Initial and final exchange of notional amounts only.
Implementation	Currency managers or direct implementation will require ongoing internal risk management	Currency managers or direct implementation will require ongoing internal risk management
Centrally cleared	No, counterparty risk needs to be considered	No, counterparty risk needs to be considered

*The terms under which collateral is exchanged are defined in the credit support annexes subject to the International Swaps and Derivatives Association (ISDA) Master Agreements that the Bank has executed with each of its counterparties

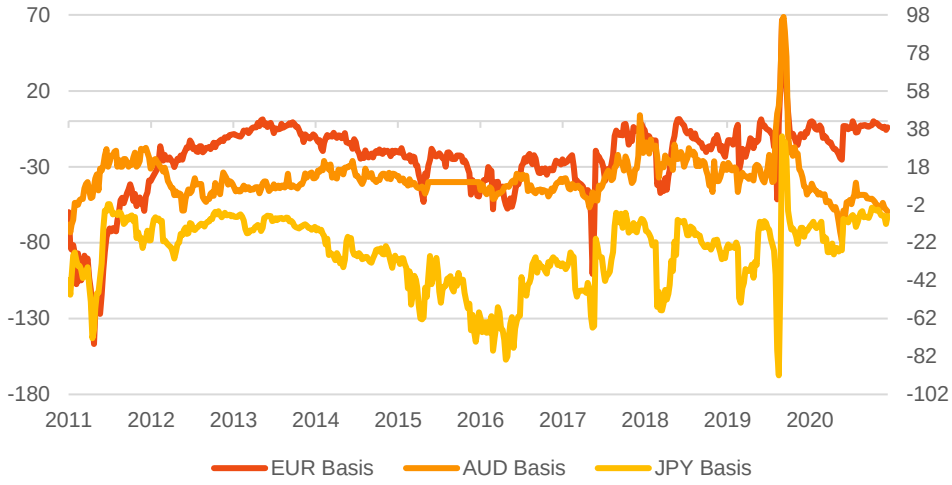
Funding pressure

When the credit market tightens, demand for USD increases

JPY basis and US corporate credit spreads



USD funding pressure across major currency pairs



Source: Bloomberg, Frontier

When there is stress in global credit markets and funding pressures arise, the demand for USD increases. This directly impacts the cross currency basis spreads as the basis to 3-month Libor moves lower (more negative in most cases). This is because counterparties are willing to accept lower interest payments in return for USD, as this represents the premium the counterparty must pay over the interest rate differential. There is a strong correlation between US corporate credit spreads and USD JPY basis, evident in previous funding stress during 2008 and 2011.

During these periods, funding stress drove US corporate credit spreads wider and JPY cross currency basis spreads lower. The impact of USD funding pressure across the major pairs in cross currency basis products, in particular the short end with 3m JPY basis showing the sharp moves more negative (stronger demand for USD) in the last three major funding crisis 2008, 2011 and more recently in 2020.

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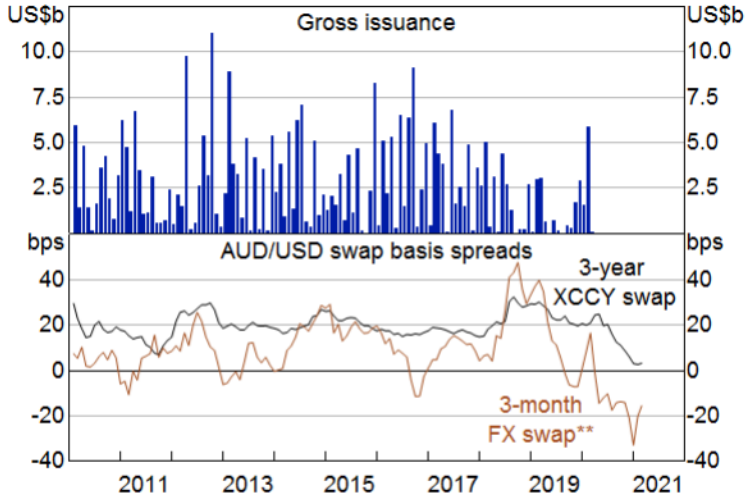
Performance during COVID-19

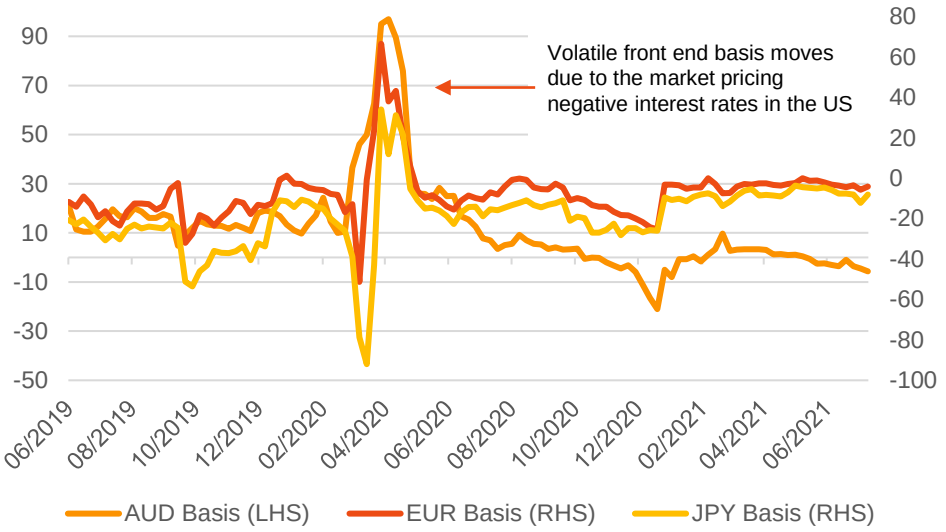
AUD basis compressed with global demand for USD

Offshore issuance has reduced due to COVID-19 policy responses
Australian banks' USD bond issuance*



Sources: Bloomberg, RBA
* Major banks. Excludes Tier 2 bonds
** Spreads to Australian dollar OIS, assuming funding cost of 3-month US dollar OIS

Global basis spreads reacting to volatility during 2020



Sources: Bloomberg, Frontier

During March and April 2020, at the height of market volatility, the demand for USD surged before governments and central banks introduced both fiscal and monetary responses to COVID-19. The cost of borrowing USD in the swap market increased dramatically before reverting to more normal levels in the second half of 2020. In response to the RBA's Term Funding Facility, which provided Australian banks with approximately $86 billion of low-cost funding for three years, offshore USD issuance has declined as the domestic banks are well funded.

At the same time, domestic bank asset growth has also slowed which has seen the demand to borrow AUD in the swap market reduce. The combination of slow asset growth and the well funded positions of domestic banks has seen the AUD basis on both short-term and long-term swaps fall to decade lows.

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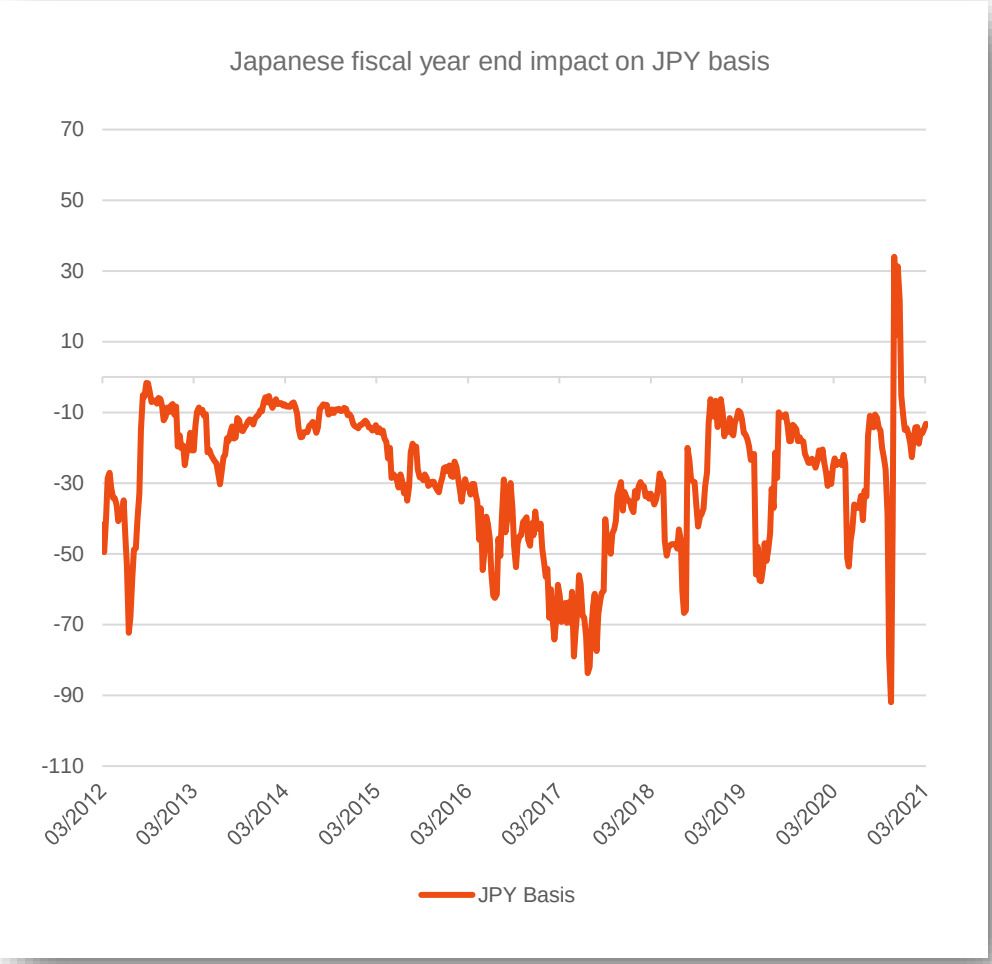
Regulatory requirements for USD demand

Quarterly and year end financing demand

Quarterly funding requirements for offshore borrowers can also have a material impact on cross currency basis, especially when there is increased demand over quarter ends and financial year ends. Due to regulatory requirements, large international banks look to reduce year end balance sheets charges such as leverage ratios which results in a reduced supply of US dollars. This impact generally sees an increase in funding pressure for USD, especially in the AUD, JPY and EUR moving the basis more negative.

The Japanese fiscal year, which ends in March, is a major driver of JPY basis over that period with Japanese investors wanting to 'lock' in USD funding through to the new financial year. Investors should be aware of seasonal impacts on the funding markets, such as year end regulatory impacts, which can present opportunities for position entry and exit timing.



Sources: Bloomberg, Frontier

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Implementation considerations

Documentation

- To enter into a cross currency basis swap, counterparties need to have an executed ISDA* and a CSA** agreement.
- This specifies the collateral and margining requirements for the life of the swaps.

Counterparty risk

- Like all OTC derivative transactions, counter party risk is a key consideration that needs to be managed.

Margining and collateral management

- Collateral management is an important mechanism of trading cross currency basis swaps.
- The cheapest to deliver collateral (CTD) in terms of cash or securities such as government bonds needs to be determined.
- If collateral is actively managed, this can enhance the total return of the cross currency basis investment.

* ISDA – International Swap and Derivatives Association
** CSA – Credit Support Annex

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Trading strategies

Trading strategies

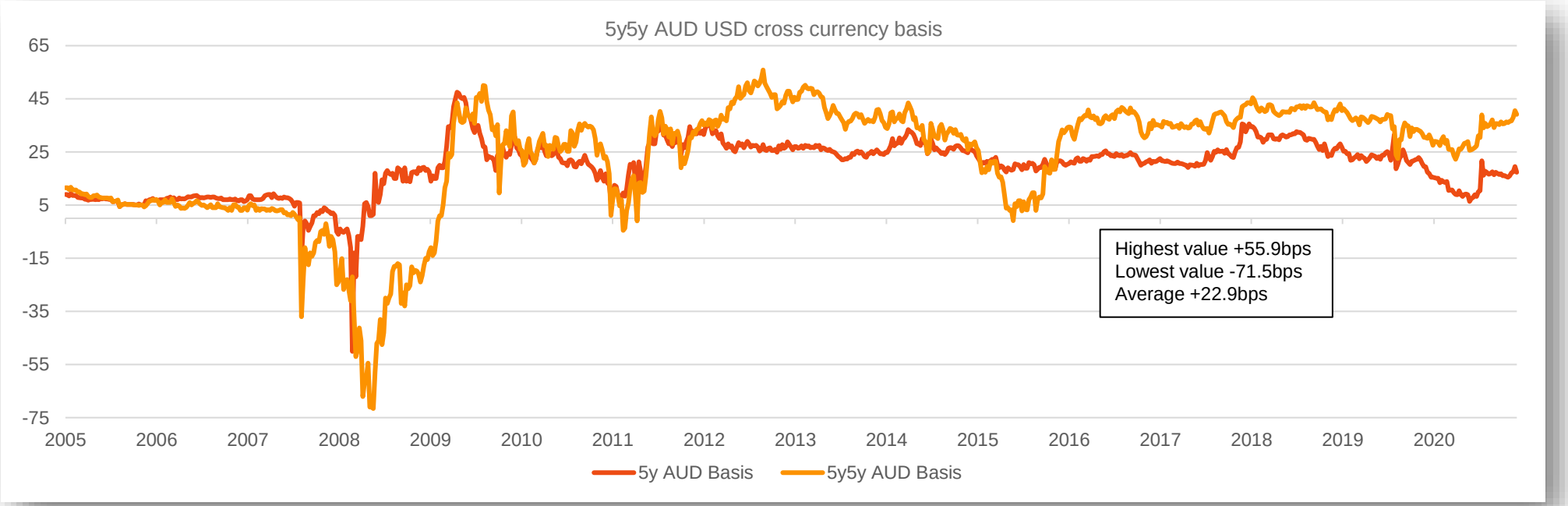
Various strategies investors can consider

This section highlights several trading strategies using cross currency (XCCY) basis swaps that investors can consider as a source of additional returns. We discuss three different trading strategies investors could consider below.

Strategy	Rationale	Benefits	Considerations	Trade Example
Carry Trade	Earn additional carry alpha in the portfolio	Receiving AUD USD cross currency basis can be seen a 'carry' trade with the positive nature of the basis curve (due to the offshore issuance of the domestic banks).	MTM movements over the life of the trade. Collateral and margining obligations	Receive 5y5y AUD USD XCCY basis
Downside protection	Provide downside protection against equity market drawdowns related to funding issues	AUD USD basis premium will typically compress during risk off periods as the premium to have USD increases. This would act as a portfolio hedge against equity market risk.	Basis risk. The XCCY basis spread might not fall by the same magnitude as the underlying equity market.	Receive 5y5y or 10y AUD USD XCCY basis
Enhanced yield	Investors could use the advantage of cross currency basis markets to enhance yield earned on low yielding assets.	The basis in JPY is negative, while the basis in AUD is positive. This provides an opportunity to create a synthetic return by paying JPY basis and receiving AUD basis.	MTM movements over the life of the trade. Collateral and margining obligations	Receive 10yr AUD JPY basis

Earning ‘carry’ from interest rate differentials

Receiving 5y5y cross currency basis



Source: Bloomberg, Frontier

Receiving AUD USD cross currency basis can be seen a ‘carry’ trade due to the upward slope of the basis curve (mainly due to the offshore issuance by the domestic banks). For example, the 5y5y AUD USD cross currency basis is currently +39bps over 3mth BBSW compared to the spot start 5yr basis at +17.4bps implying +4.4bps per year of rolldown in the forward curve. Hedge funds are quite active in the cross currency market, especially with forward starting swaps where they can avoid the large notional exchange that is required at the start of a spot cross currency basis swap.

Receiving AUD USD basis has the added benefit of being long USD if there is a market funding crisis, which generally leads to a demand for USD. This can be seen when AUD USD 5y5y basis dropped to negative levels in 2008, 2011 and 2016 during funding market crisis’. Investors could invest in the cross currency basis market in a similar nature using the forward starting swaps to add additional returns to their portfolio.

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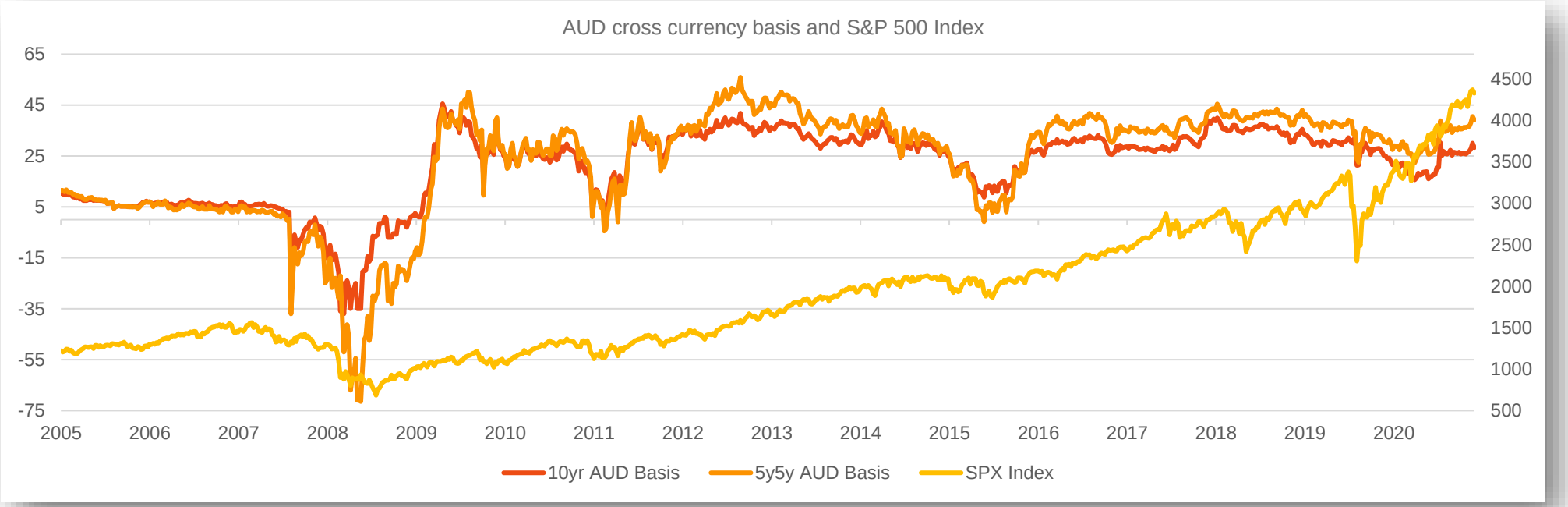
Downside protection strategy

Demand for USD increases, when equity volatility increases



Source: Bloomberg, Frontier

Receiving AUD USD cross currency basis can act as a portfolio hedge where a significant market event that causes global equity markets to suffer losses can translate into funding stresses and greater demand for USD. The greater demand for USD will compress the AUD USD basis premium which would act as a portfolio hedge to equity market weakness caused by a funding crisis. This can be seen when AUD USD 5y5y basis dropped to negative levels in 2008, 2011 and 2016 during funding market crises.

AUD USD cross currency basis has a negative correlation with global equities which can help provide downside protection, when global equities had large drawdowns in 2008, 2016 and more recently in 2020.

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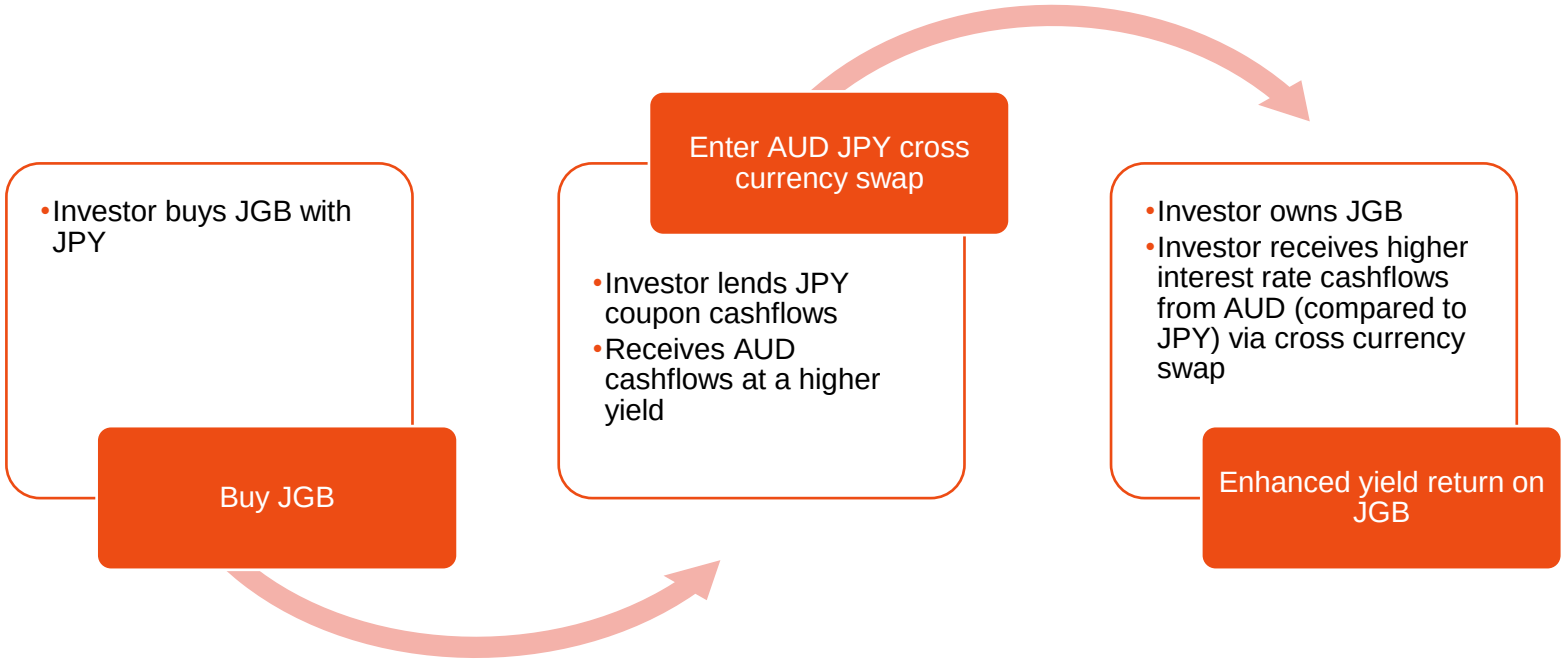
Switching a low yielding asset into a higher yield

Enhanced yield strategies

Investors could use the advantage of cross currency basis markets to enhance yield earned on low yielding assets. For example, Japanese Government Bonds (JGB) and AUD JPY cross currency basis. The basis in JPY is negative, compared to the basis in AUD therefore there is an opportunity to create a synthetic return by paying JPY basis and receiving AUD basis.

For example, an investor buys a JGB that generates a set of JPY cash flows every six months from the coupon of the bond. This can then be hedged using a cross currency basis swap to swap the yen coupons into AUD. The combination of the JGB and cross currency swap results in a higher yielding asset as the investor receives an additional spread due to the difference between the AUD basis and JPY basis. The underlying credit risk remains the JGB asset, as well as the credit risk of the counterparty from the cross currency basis swap.



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Conclusion

With Australian investors increasing their ownership of overseas assets, currency risk management is an important element of managing the total portfolio exposure.

Cross currency basis swaps can be an extremely useful tool for investors to manage the currency risk within their portfolio derived by various underlying assets and liabilities.

They can also be used to enhance yield or as a return source.

If you or your fund are interested in cross currency basis swaps, particularly to manage risk, Frontier can assist.

Want to learn more?

Please reach out to a consultant, a member of the Alternatives and Derivatives Team or visit frontieradvisors.com.au for more information

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