

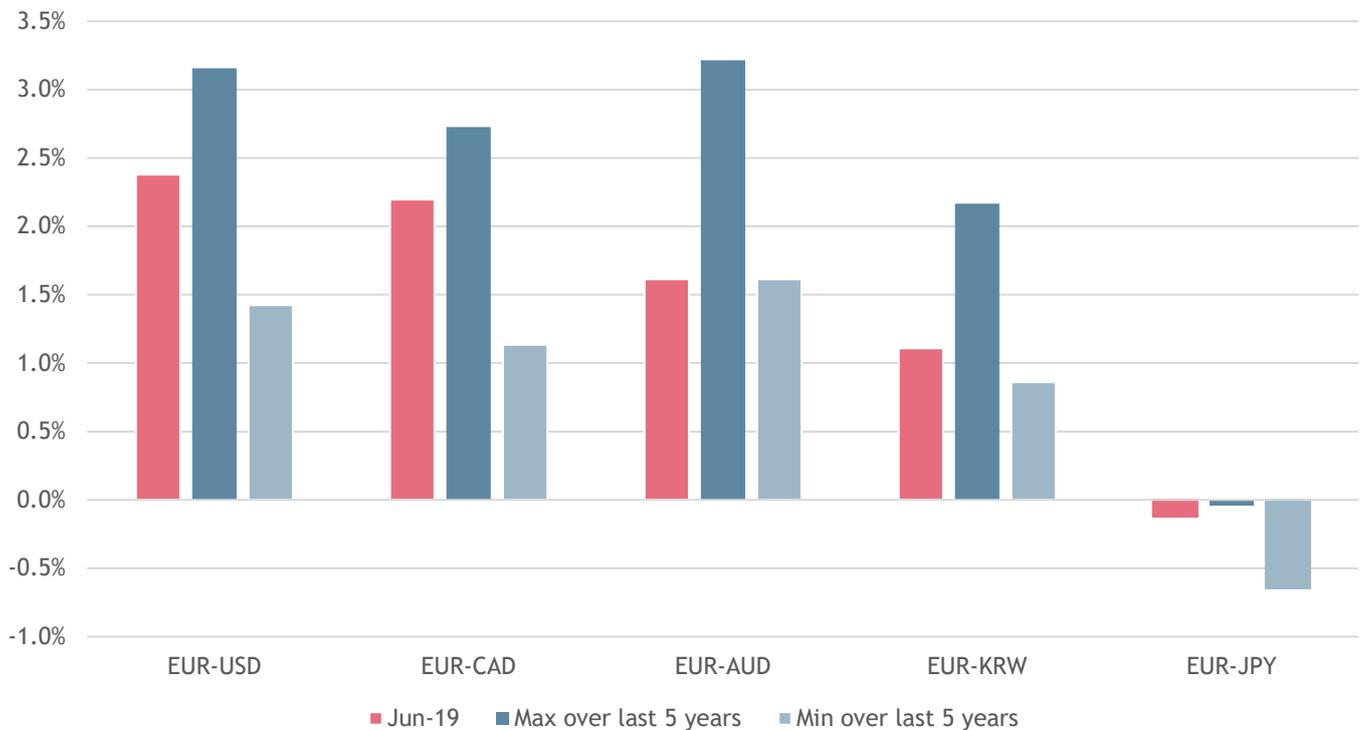
EUROPEAN RESEARCH MONTHLY UPDATE

JULY 2019

POSITIVE CARRY FOR US-CAN-AU DOLLAR-BASED INVESTORS INTO EURO PROPERTY

- With non-Euro based investors making up the majority of investment transactions in the Eurozone investment market, the need for currency hedging has increased. Traditionally seen as drag on returns, our analysis shows the opposite.
- Although most cross-border investors are required to hedge their currency risk when investing in EUR-denominated funds, USD, CAD and AUD-based can avoid costs related to this. In fact, they can lock into positive carry spreads of between 160 and 240bp pa on current pricing of five-year EUR forward contracts.
- Korean Won based investors are also able to achieve a positive spread of just over 100bp pa, but Japanese Yen based investors on the other hand are seeing some, but mostly negligible, hedging costs. This is due to negative interest rates in Japan, which are very similar to those in the Eurozone. Based on interest rate parity this triggers less favorable forward currency pricing for them.
- As cross-border investment into the Eurozone real estate markets continues to increase, this positive carry should allow many non-EUR based investors to book better local currency returns on EUR-based funds targeting investments in the region.

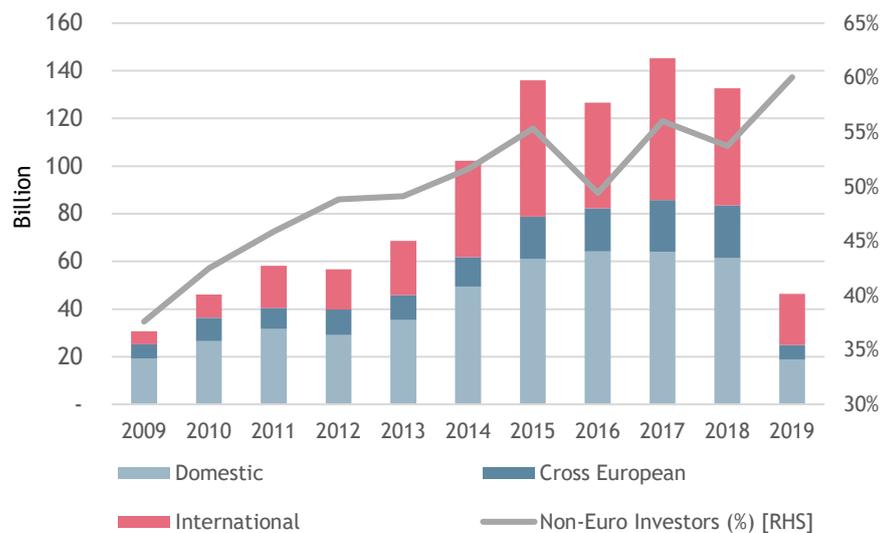
GAIN (% PA) ON 5-YEAR EUR-LOCAL CURRENCY FORWARD CONTRACT (CURRENT & HIST. PRICING)



Sources: Chatham Financial & AEW

NEED TO HEDGE CURRENCY RISK INCREASED AS CROSS-BORDER INVESTORS MORE ACTIVE IN EUROPE

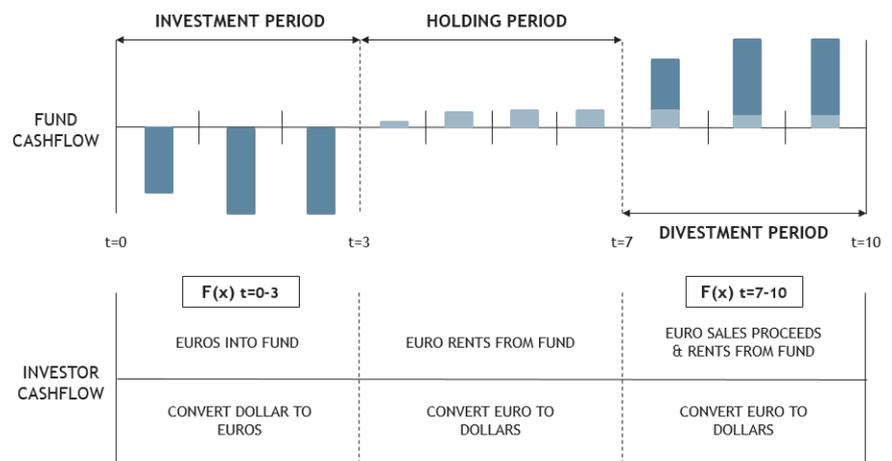
- Eurozone transaction volumes have increased by an average of 18% pa from 2009 to full year 2018.
- The proportion of non-Euro based investors has increased from 38% in 2009 to 60% as of mid-year 2019.
- This increase has triggered an increased need to hedge currency risk.
- The largest institutional investors might use cross-asset currency overlay trades.
- But, other investors might lack a central treasury function to efficiently deal with currency risk in that manner.
- To help them, we quantify the cost or benefit of hedging for non-Euro based investors when investing in Euro-denominated funds or properties.



Sources: AEW & RCA

CURRENCY FORWARD CONTRACT CAN MATCH FUND CASH FLOWS

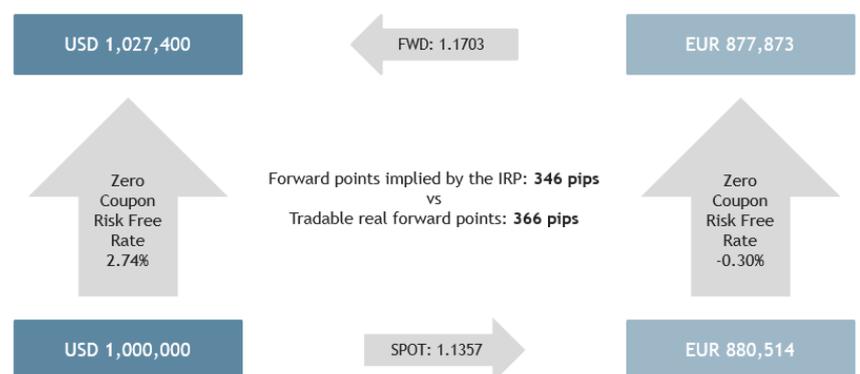
- This diagram illustrates how a USD-based investor might need to structure a currency hedge to match a fund's cash flows.
- Typical real estate (fund) investments will have an initial capital commitment, rental cash flows and final sales proceeds.
- Given the difficulty in predicting exactly the size and timing of the rents and sales proceeds, most investors will only hedge the amount of their original equity commitment.
- Investors would want to minimize maturity mismatches between the fund and forward contract, which means that a 5-8 year forward will best match the fund commitments.



Source: AEW

INTEREST RATE PARITY IS BASIS FOR FORWARD EXCHANGE RATE PRICING

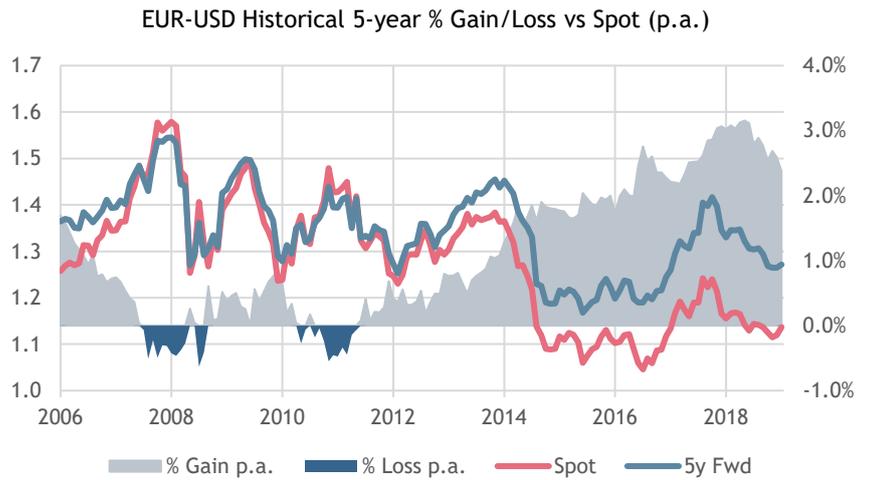
- Investors need to price a forward contract in the market. This pricing is driven by interest rate parity.
- This is the theory that says that the difference between the spot exchange rate and the forward exchange rate is equal to the interest rate differential for the same maturity.
- It assumes that investors should be indifferent to borrowing or lending money at the risk-free rate in either currency.
- In daily trading of forward contracts there is a difference between actual pricing and the theoretical pricing based on the interest rate differential.



Sources: Chatham Financial & AEW

USD-BASED INVESTORS CAN LOCK IN NEAR 250BP POSITIVE SPREAD ON 5-YEAR FORWARD

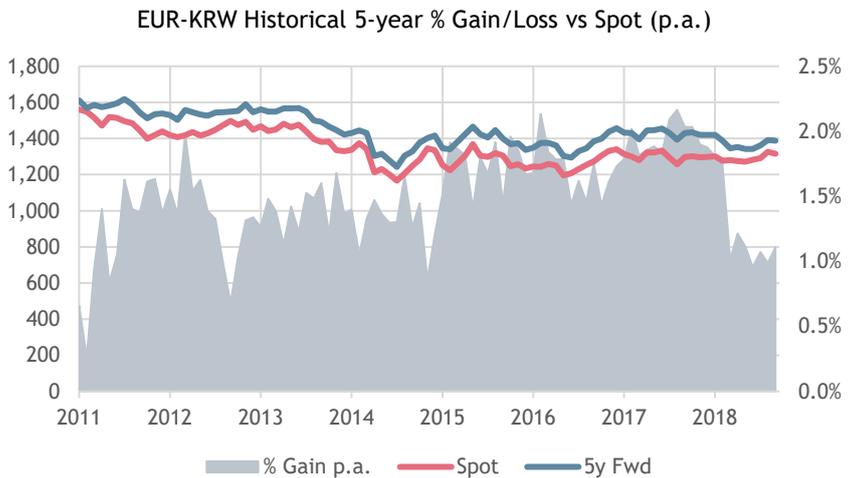
- For ease of comparison, we assume a 5-year forward contract will meet investors' needs.
- Based on current pricing, USD-dollar based investors that want to hedge through a EUR-USD forward contract will be able to lock into a 238bp annual gain.
- This is mostly based on the fact that current interest rates are higher in the US compared to the Eurozone.
- As the chart shows, this pricing has not been consistent over the long term. The 2007-12 period showed a more neutral pricing, without a consistent positive spread.
- However, over the last five years the spread has been positive between 140 and 316bp pa.



Sources: Chatham Financial & AEW

KOREAN INVESTORS HAVE 100BP POSITIVE SPREAD IN CURRENT MARKET

- KRW-dollar based investors will be able to lock into a more modest 111bp annual gain on a current 5-year forward contract.
- This is mostly based on the fact that current interest rates are higher in the South Korea compared to the Eurozone.
- As the chart shows, this pricing has not been consistent over the long term. The 2015-18 period showed a more consistent positive spread between 150-200bp pa.
- However, over the last six months the spread has been lower at around 100bp pa.



Sources: Chatham Financial & AEW

MOST DOLLAR-BASED INVESTORS REALIZE POSITIVE SPREADS ON FORWARD CONTRACTS

- Most leading non-Euro based investors have been able to achieve positive margins spreads. Our table shows additional data for CAD, AUD and JPY.
- This means that they can realize a better local-currency return than EUR-based investors, even if they are invested in the same EUR-based fund.
- This also means that target returns for EUR-denominated funds can be enhanced for USD, CAD, AUD and KRW-based investors with a locked-in and contracted positive spread on their currency forward contracts, which are required anyway to hedge against currency fluctuations.

pa Margin on 5-year Forward	EUR-USD	EUR-CAD	EUR-AUD	EUR-KRW	EUR-JPY
Jun-19	2.38%	2.20%	1.61%	1.11%	-0.12%
Max over last 5 Years	3.16%	2.73%	3.21%	2.16%	-0.04%
Min over last 5 Years	1.42%	1.13%	1.61%	0.86%	-0.65%

Sources: Chatham Financial & AEW

ABOUT AEW

AEW is one of the world's largest real estate asset managers, with €67.6bn of assets under management as at 31 March 2019. AEW has over 700 employees, with its main offices located in Boston, London, Paris and Hong Kong and offers a wide range of real estate investment products including comingled funds, separate accounts and securities mandates across the full spectrum of investment strategies. AEW represents the real estate asset management platform of Natixis Investment Managers, one of the largest asset managers in the world.

As at 31 March 2019, AEW managed €31.8bn of real estate assets in Europe on behalf of a number of funds and separate accounts. AEW has over 400 employees based in 9 offices across Europe and has a long track record of successfully implementing core, value-add and opportunistic investment strategies on behalf of its clients. In the last five years, AEW has invested and divested a total volume of over €20bn of real estate across European markets.

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