Exit hedging: NAV-based FX hedging

Value proposition | Help stabilize your projected NAV (net asset value) or cost, mitigate the impact of currency fluctuations, while earning additional FX carry trade returns.

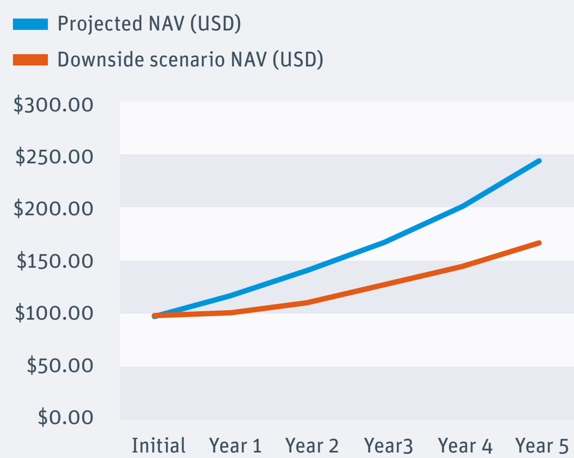
Situation

US-based private-equity fund holds euro-denominated assets with an anticipated holding period of 5 years. The projected internal rate of return (IRR) for the project, measured in US dollars (USD), is 20 percent per annum. No cash flows are anticipated prior to exit.

Equity capital (USD)	$100.00
Projected IRR	20%
EURUSD spot	1.20

	Projected NAV (EUR)	Projected NAV (USD)	Downside Projected NAV* (USD)
Initial	(€83.33)	($100.00)	($100.00)
Year 1	€100.00	$120.00	$103.08
Year 2	€120.00	$144.00	$115.29
Year 3	€144.00	$172.80	$130.61
Year 4	€172.80	$207.36	$148.90
Year 5	€207.36	$248.83	$170.40
IRR	20%	20%	11%

* There is a 10 percent probability the euro can depreciate by this amount over a 5-year period according to FX option markets.



Source: SVB FX Risk Advisory

Risk quantification

A depreciation in the euro will adversely impact realized IRR. For instance, we can assign a 1 in 10 chance that the euro may depreciate over the 5-year investment period such that IRR will deteriorate from the projected 20 percent to 11 percent when the final cash flow is repatriated back to USD[2].

Solution

An FX forward is a contractual obligation to exchange one currency for another at a pre-determined fixed rate and a specific date in the future. When used in risk management situations, FX forwards offer downside protection, IRR certainty, and in certain situations, favorable pricing over prevailing spot rates.

Trade details

EUR/USD spot reference: 1.2000
Direction: Sell EUR / Buy USD
Notional: €207.36 mio
Contract rate: 1.3800
Tenor: 5-year

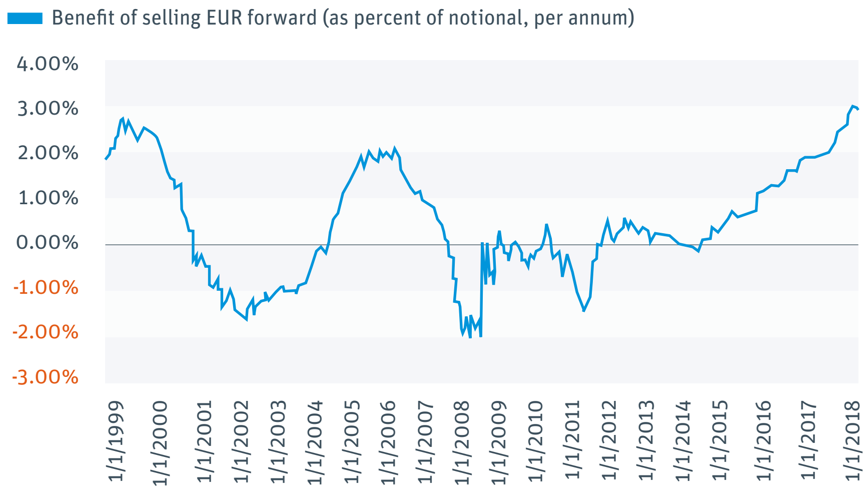
Notes: Contract rate for selling EUR is more favorable than the prevailing spot rate. Notional is generally set at the initial equity injection amount, or at some percentage of the projected NAV at expiry.

Carry trade boost

The pricing of FX forward contracts is derived from three market factors: 1) spot exchange rates, 2) interbank interest rate differentials, and 3) cross-currency basis swap rates[3]. For EUR/USD forwards, because US interest rates are higher than EU interest rates (net of cross-currency basis), the hedger receives a better rate for selling euro in the forward market as opposed to the spot market.

This carry trade boost for euro sellers improves with the trade tenor and, at over 3 percent per annum in early 2018, is at its highest point since the euro was launched in 1999.

This phenomenon is primarily the result of divergent monetary policies between the Federal Reserve and the European Central Bank.



Source: Data - Bloomberg

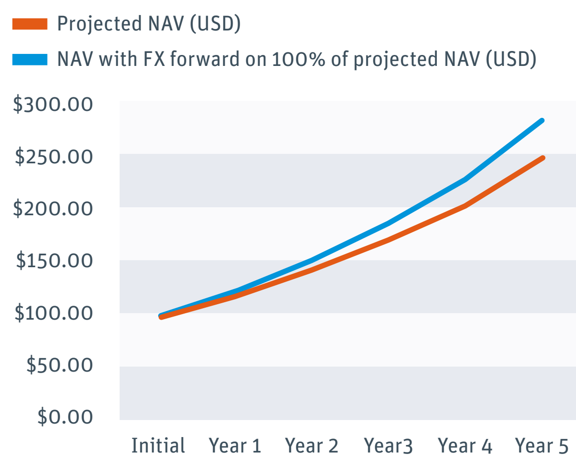
Hedged outcomes

Fund hedges 100 percent of projected NAV with an FX forward and locks in 23 percent IRR (assuming no date or notional mismatches between exposure cash flows and hedge).

Equity capital (USD)	$100.00
Projected IRR	20%
EURUSD spot	1.20
FX forward hedge	$100.00

	Projected NAV (EUR)	Projected NAV (USD)	FX forward curve	NAV with FX forward on 100% of projected NAV (USD)
Initial	(€83.33)	($100.00)	1.2000	($100.00)
Year 1	€100.00	$120.00	1.2360	$123.60
Year 2	€120.00	$144.00	1.2720	$152.64
Year 3	€144.00	$172.80	1.3080	$188.35
Year 4	€172.80	$207.36	1.3440	$232.24
Year 5	€207.36	$248.83	1.3800	$286.16
IRR	20%	20%		23%

* There is a 10% probability euro can depreciate by this amount over a 5-year period according to FX option markets.



Source: SVB FX Risk Advisory

Additional considerations

- Realized NAV may differ from initial projected NAV, potentially resulting in mismatches between exposure and hedge amounts. This may be addressed by keeping hedge ratios under 100%.
- A window may be incorporated into the forward to accommodate expiry date flexibility, helping avoid a cash event on the deal back-end. A cash event describes a situation where there is a mismatch between the expiry of the derivative and the timing of the underlying cash flow. This is undesirable, as it may result in a cash outlay needed to settle the forward which is not offset by the cash inflow from the real business venture.
- For unanticipated early exits, forwards may be unwound early. The investor would be exposed to movements in forward curves (i.e., from forward point claw-back).
- Forward hedges do not offer upside participation from euro strength. Deferred premium put options or put option spreads may be used if asymmetry is desired.
- FX credit lines are required to execute long dated forwards.

If you'd like to discuss your specific risk profile, contact Bobby Donnelly at bdonnelly@svb.com, West Coast/Central, or Ben Johnston at bjohnston@svb.com for East Coast. You can also contact the author, Ivan Oscar Asensio, SVB FX Risk Advisory at iasensio@svb.com.

[1] Net asset value.
[2] Projected loss determined by IVT x SQRT(T) x Z(.90), where Implied Volatility assumption for EUR/USD exchange rate is 11%, T is years, and Z is from standard normal such that P(Z<z).
[3] Forward rate = Spot rate x [(1+rUSD x (d/360))/(1+(rEUR +b) x (d/360))] where r represent the interbank interest rates, b is the basis between USD and EUR, and d is day count.