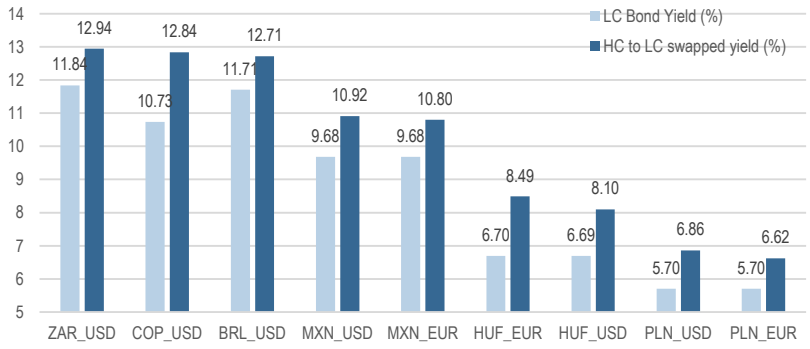
EM Spotlight: Back to Basis

Cross-currency basis swap opportunities to boost carry or trade outright

- In this note, we assess opportunities in EM cross-currency (xccy) basis swap markets, either traded outright, or used as a vehicle to boost carry in short-dated cash instruments or by creating synthetic local currency bond exposure.
- Falling EM local bond yields versus US Treasuries increase the appeal of carry-boosting strategies. We explore carry-enhancing strategies that exploit both situations where EM xccy basis swap spreads are either negative or positive.
- Average EM xccy basis swap spreads are lower since 4Q23, while DM xccy basis swap spreads are higher. Into 2H24, we expect significant country variation in moves, levels, curves and drivers of EM xccy basis. This offers scope for alpha trades largely uncorrelated to the global macro backdrop.
- We see three compelling ways for investors to leverage EM xccy basis:
  - **1) Earn FX-hedged EM yield pickups over domestic debt with negative xccy basis.** The largest pickups of short-end FX-hedged EM debt over 1y US T-bills are in Mexico 1y Cetes (73bp) and ILGOV Apr25s (62bp).
  - **2) Cross-currency asset swap EM hard currency bonds into local currency with positive xccy basis.** 10y Colombia USD-denominated and Hungary EUR-denominated sovereign bonds swapped into local currency give 210bp and 179bp pickups over local bonds, respectively.
  - **3) Directly trade EM xccy basis.** We hold 2y PLN-EUR xccy basis receivers (3m fwd), expecting ongoing normalization with accelerated CHF mortgage unwinds largely over (see here).
- For GBI-EM GD benchmarked investors, replacing local bonds with swapped hard currency bonds in the highest yielding markets, and going UW the lowest yielding local bonds, can boost carry by over 100bp after transaction costs.
- We also provide a refresher on EM xccy basis swap market conventions and mechanics, and detail the implementation of carry-enhancing strategies.

Figure 1: EM xccy basis can enhance yield with swapped hard currency bonds

10y bonds. xxx_yyy: xxx is issuing sovereign, yyy is bond ccy. HC is hard ccy, LC is local ccy



Source: J.P. Morgan, Bloomberg Finance L.P.

Emerging Markets Strategy

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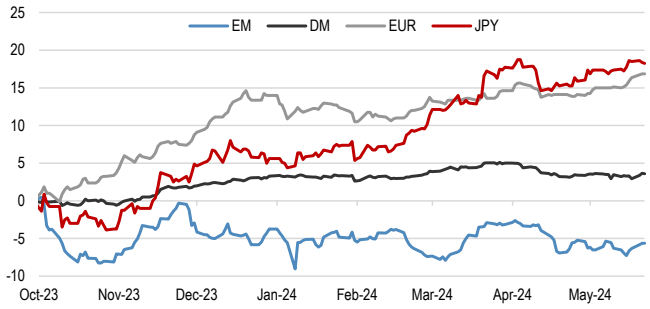
EM xccy basis: More than one way to enhance carry

In this note, an EM xccy basis swap refers to a floating-floating swap which swaps a floating EM rate (3m -IBOR or RFR) for a floating USD (SOFR) or EUR (ESTR/ EURIBOR) rate. A fixed spread is applied to the EM floating leg, which is the EM xccy basis swap spread referred to in this note. See Appendix iv for further details.

Average EM xccy basis swap spreads have fallen since 4Q23, while DM xccy basis has risen, but this masks significant EM variation. Divergent EM and DM xccy basis patterns since October 2023 have been pronounced at the front-end (Figure 2) and long-end (Figure 3). Our colleagues note that the evolution of DM xccy basis has been driven mainly by relative expectations around the timing and pace of policy rate and balance sheet normalisation, though technical factors like cross-border issuance have recently weakened this relationship, while risk aversion and flight-to-quality drivers have taken a backseat relative to recent risk-off periods (see *Cross currency basis 2Q24 Outlook*). In EM, we believe xccy basis has largely been driven by idiosyncratic factors rather than strong top-down drivers, and we expect further significant country-level variation into 2H24. EMEA EM, Latin America and EM Asia xccy basis markets exhibit varied outright levels, curve shapes and idiosyncratic drivers, offering alpha opportunities for trades uncorrelated to the global macro backdrop.

Figure 2: Front-end EM-DM xccy basis has diverged since 4Q23...

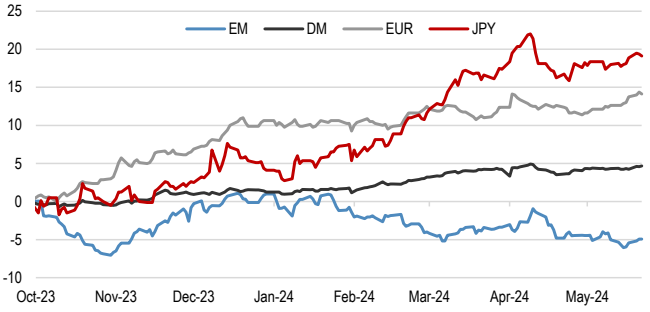
Cuml changes in 2y xccy basis since 29-Sep-23, bp. EM: simple average of ZAR, ILS, HUF-EUR, PLN-EUR, CZK-EUR, RON-EUR, MXN, CLP, COP, KRW, SGD, HKD, MYR, THB; DM: simple average of EUR, JPY, GBP, CAD, NOK, SEK, AUD, NZD



Source: J.P. Morgan, Bloomberg Finance L.P.

Figure 3: ...a trend also seen in long-end EM-DM xccy basis

Cuml changes in 10y xccy basis since 29-Sep-23, bp. EM is simple average of ZAR, ILS, HUF-EUR, PLN-EUR, CZK-EUR, RON-EUR, MXN, CLP, COP, KRW, SGD, HKD, MYR, THB; DM is simple average of EUR, JPY, GBP, CAD, NOK, SEK, AUD, NZD



Source: J.P. Morgan, Bloomberg Finance L.P.

EM xccy basis swaps can be used to enhance carry, in a world of multi-year low GBI-EM carry versus US Treasuries. The carry of EM local bonds (proxied by the yield on the GBI-EM GD index) versus USTs is approaching 20y lows, following large EM central bank easing cycles and a sharp repricing higher of USTs; the 205bp pickup of the GBI-EM GD index over 10y USTs is barely above the lows of 1Q06 and mid-07 (Figure 4). Enhancing carry in an index where it is fast-diminishing is therefore increasingly important. In this note, we explore EM carry-enhancing strategies that leverage negative and positive xccy basis. For example, a negative xccy basis swap spread improves FX-hedged EM yield pickups over USD debt for USD investors. Another strategy is to cross-currency asset swap EM hard currency bonds into local currency using xccy basis swaps, where positive xccy basis increases pickups of swapped hard currency bonds over local currency bonds (Figure 5).

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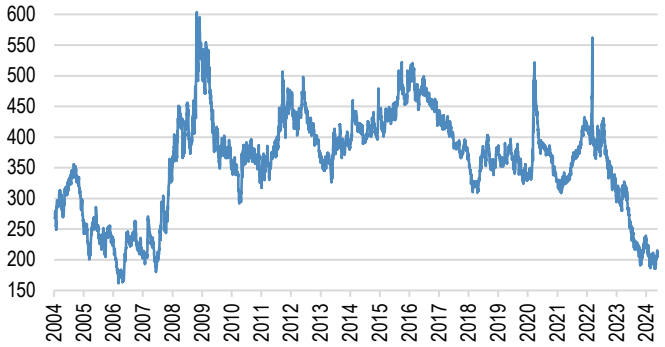
Figure 4: EM local bond carry over USTs has sharply diminished

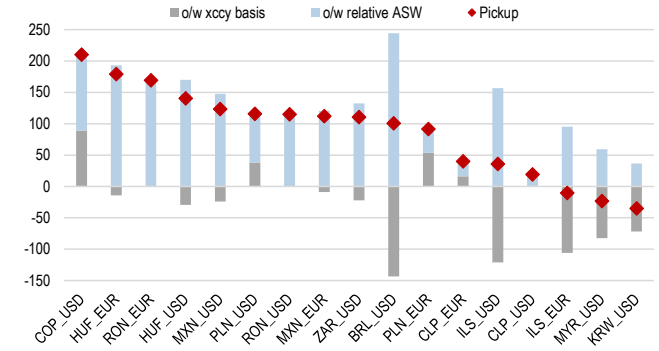
GBI-EM GD yield minus 10y UST yield, bp



Source: J.P. Morgan, Bloomberg Finance L.P.

Figure 5: Pickup of swapping 10y EM hard currency bonds into local currency versus local currency

bp. Bottom axis: xxx_yyy where xxx is issuing sovereign and yyy is bond FX-denomination e.g. ZAR_USD is a USD-denominated SOAF bond.

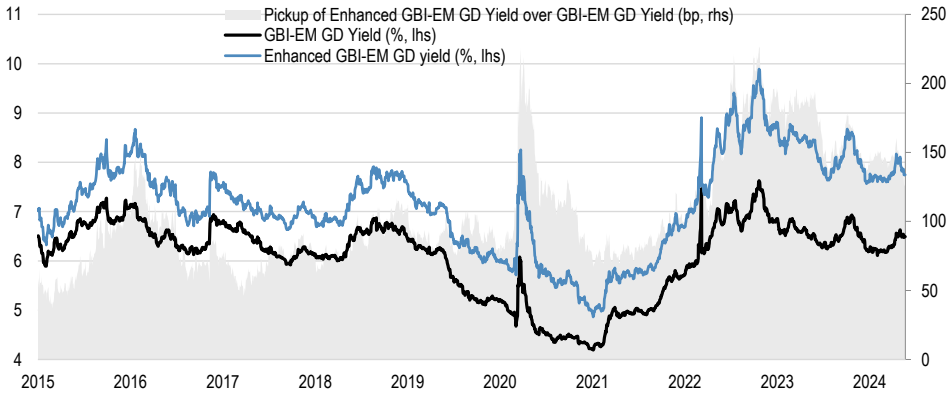


Source: J.P. Morgan, Bloomberg Finance L.P.

We see three compelling ways for investors to leverage EM xccy basis:

1. **Earn FX-hedged EM yield pickups over domestic debt with negative xccy basis.** The largest pickups of short-end FX-hedged EM debt over 1y US T-bills are in Mexico 1y Cetes (73bp) and ILGOV Apr25s (62bp).
2. **Cross-currency asset swap EM hard currency bonds into local currency with positive xccy basis.** 10y Colombia USD-denominated and Hungary EUR-denominated sovereign bonds swapped into local currency give 210bp and 179bp pickups over local bonds, respectively. For long-term GBI-EM investors, allocating a portion of index AUM to the highest yielding and most liquid swapped hard currency bonds can drive 100bp+ pickups after transaction costs (Figure 6).
3. **Directly trade EM xccy basis.** We hold 2y PLN-EUR xccy basis receivers (3m fwd), expecting ongoing widening with faster CHF mortgage unwinds largely over.

Figure 6: GBI-EM investors can enhance yield by replacing LC bonds with swapped HC bonds for the highest yielding components, and shifting weight from lowest yielders to this basket



Source: J.P. Morgan, Bloomberg Finance L.P. "Enhanced GBI-EM GD Yield" replaces LC exposure for swapped 10y HC bonds in ZAR, MXN, COP, HUF and PLN (same GBI-EM weights) and goes max UW CZK and THB, evenly distributing this weight across the basket of swapped 10y HC bonds. Includes illustrative transaction costs of 50bp (100bp costs * ~50% index weight). Approximated index yield calculation (e.g. assumes same Macaulay duration per country as GBI-EM index)

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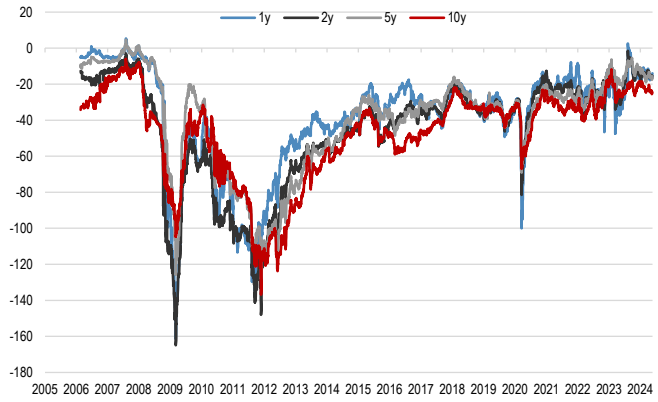
Digging deeper into EM xccy basis trends

Average EM xccy basis has hovered in a modestly negative range since 2021, but this masks large country-level variation. After sharp spikes lower in EM xccy basis in 2008-9 (GFC), 2012 (Euro Area sovereign debt crisis) and 2020 (COVID), average EM xccy basis has traded in relatively stable negative range since 2021 (Figure 7). But this masks significant country-level variation and curve shapes (Figure 8). Xccy basis is highly positive in Colombia and Poland and particularly negative in Israel, Korea and Malaysia; xccy basis curves are upward-sloping in CEE and inverted in EM Asia. Generally, shorter-dated EM xccy basis has seen the largest 1y moves (Figure 9), with large increases in front-end CLP, COP, ILS and KRW xccy basis, while xccy basis has fallen across curves in ZAR, PLN and MXN. The THB xccy basis curve has bear steepened, while CLP, COP and ILS xccy basis curves have bear flattened (Figure 10).

Figure 7: EM average xccy basis has been stable negative since 2021...

Average EM xccy basis by tenors, bp. EM is simple average of ZAR, ILS, HUF, PLN, CZK, RON, MXN, CLP, COP, KRW, SGD, HKD, MYR, THB



Source: J.P. Morgan, Bloomberg Finance L.P.

Figure 8: ...but this masks large country-level variation

Levels, bp

	1y	2y	5y	10y	2s5s	2s10s	5s10s	1s2s
ZAR	-6	-7	-9	-22	-2	-16	-14	-1
ILS	-83	-94	-116	-121	-22	-27	-5	-11
HUF	-26	-23	-17	-14	6	9	3	3
PLN	29	38	52	54	14	16	2	9
CZK	-28	-35	-40	-28	-5	8	13	-7
RON	5	-1	20	40	21	41	20	-6
MXN	-14	-13	-20	-24	-7	-11	-5	1
CLP	-3	-6	4	1	10	7	-3	-4
COP	84	106	118	89	12	-17	-29	22
KRW	-46	-62	-57	-72	5	-10	-15	-16
SGD	-2	-7	-26	-56	-19	-49	-30	-6
HKD	-33	-39	-46	-61	-7	-22	-15	-6
MYR	-58	-55	-66	-83	-11	-28	-17	3
THB	-16	-18	-28	-46	-10	-28	-19	-2

Source: .P. Morgan, Bloomberg Finance L.P

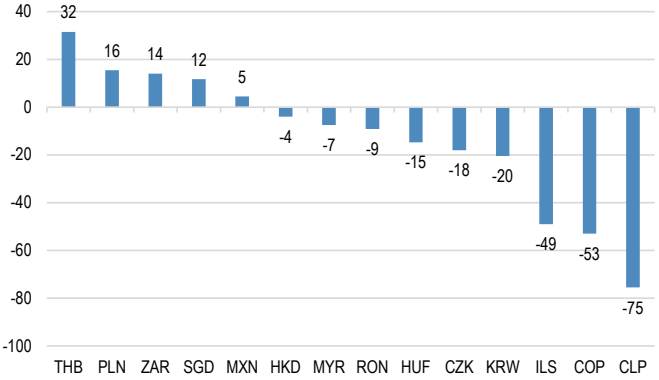
Figure 9: Shorter-dated EM xccy basis tenors are more volatile than longer-term tenors

	2y								
	Current	5y Z-score	Δ1m	Δ3m	Δ6m	Δ1y	5y min	Range	5y max
ZAR	-7	-0.48	-4	-18	-19	-15	-81		83
ILS	-94	-0.01	4	-6	20	51	-175		-47
HUF	-23	-0.25	0	-1	18	22	-61		29
PLN	38	-0.08	-4	-10	-56	-47	-26		235
CZK	-35	0.75	3	3	5	8	-95		-13
RON	-1	-0.96	0	0	1	9	-15		152
MXN	-13	0.04	8	14	-16	-48	-86		55
CLP	-6	1.49	9	-2	26	99	-168		1
COP	106	1.06	-17	12	-76	49	-76		280
KRW	-62	1.55	11	9	16	26	-193		-41
SGD	-7	1.50	1	-1	0	5	-58		-3
HKD	-39	-0.55	0	0	0	-3	-81		-15
MYR	-55	0.76	0	0	0	15	-203		-38
THB	-18	-	1	4	22	19	-90		-13

Source: J.P. Morgan, Bloomberg Finance L.P.

Figure 10: EM xccy basis curves have bull/bear steepened/flattened over the past year

1y changes in 2s10s EM xccy basis, bp



Source: J.P. Morgan, Bloomberg Finance L.P.

Note: we reference EM xccy basis versus USD SOFR, except for CEE (PLN, HUF, CZK, RON) which is against EURIBOR. Levels as of 21-May-24 COB.

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Average EM xccy basis tracks credit risk, with heightened sensitivity amid acute stress; long-term correlations to USD are weaker and varied across EM. Figure 11 shows correlations of 2y EM xccy basis to the USD index, EMBIGD spreads and iTraxx Europe Subordinated Financial Index since mid-2015, to gauge long-run sensitivity to the broad dollar and credit risk. Average correlations are negative, in line with our intuition. A stronger US dollar is typically risk-off for assets like EM and commodities, driving increased premia for USD funding access, while rising relative credit risks of EM banking sectors to the US commands a higher USD premia; both factors push EM xccy basis lower, all else equal. However, correlations to the USD since mid-15 are weaker and varied (flat or positive in some cases). Meanwhile, correlations to credit risk factors are more consistent and accentuated in heightened stress periods (Figure 12).

Figure 11: Larger negative correlations of EM xccy basis to credit risk factors than the USD

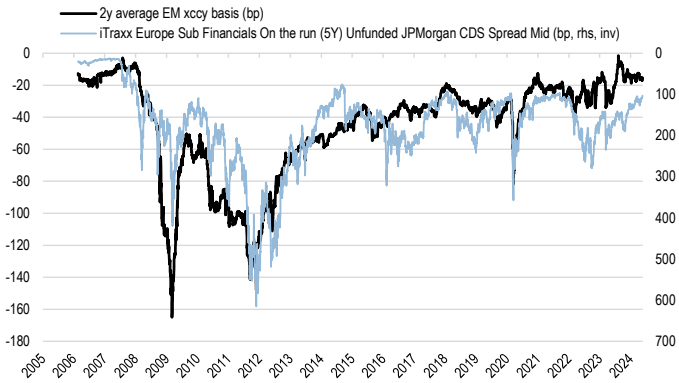
Correlations to 2y EM xccy basis since July 2015, using monthly changes (bp, except for USD index which uses % changes)

	USD index	EMBIGD spreads	iTraxx Europe Subordinated Financial index
ZAR	-0.12	-0.26	-0.16
ILS	-0.15	-0.46	-0.30
HUF	0.11	0.09	0.03
PLN	0.22	-0.05	-0.06
CZK	-0.02	-0.15	-0.20
MXN	-0.11	-0.22	-0.09
CLP	-0.11	-0.36	-0.25
COP	0.02	-0.21	-0.22
KRW	-0.19	-0.45	-0.32
EM average	-0.04	-0.23	-0.18

Source: J.P. Morgan, Bloomberg Finance L.P.

Figure 12: Correlations of EM xccy basis to credit risk factors are accentuated in heightened stress periods

EM is simple average of ZAR, ILS, HUF, PLN, CZK, RON, MXN, CLP, COP, KRW, SGD, HKD, MYR, THB



Source: J.P. Morgan, Bloomberg Finance L.P.

We expect idiosyncratic factors to keep driving large ongoing divergence within EM xccy basis markets in 2H24. For instance, idiosyncratic stories have driven large front-end xccy basis moves and divergences in Colombia, South Africa and Poland. We see scope for some of these drivers to persist/new drivers to emerge:

- **Colombia:** New banking regulation amid tight monetary policy last year led to a severe squeeze in local funding and a spike higher in xccy basis, particularly in the front-end. BanRep adopted liquidity measures and ramped up TES purchases, which coupled with increased government spending towards the end of the year, helped normalize the basis (see note). We think last year's abnormal spike in the basis has already corrected, so basis should remain around current levels.
- **South Africa:** The shift from an interbank liquidity deficit to surplus in June 2022 has driven front-end ZAR xccy basis structurally lower since mid-2022 (Figure 7) - see here, here and here. Use of GFECRA funds is set to increase the liquidity surplus of banks (see here), which should put further downward pressure on front-end basis.
- **Poland:** The spike higher in front-end PLN-EUR xccy basis over May 2022 - Sep 2023 was driven by an accelerated unwind of CHF mortgages and corresponding FX funding/hedges (see here, Figure 15). The pace of CHF mortgage unwinds has since slowed (the stock of CHF mortgages is now just CHF 4.1bn) and structural zloty strength has reduced the need for tighter offshore liquidity. We are received 2y PLN-EUR xccy basis (3m fwd) on the view that normalization can persist (see here).

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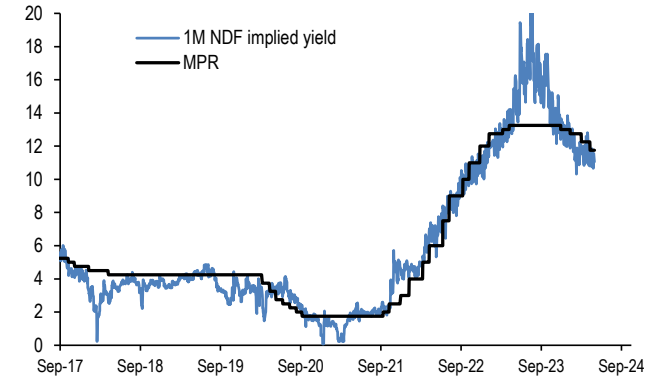
Figure 13: Last year's abnormal spike in COP xccy basis has already corrected

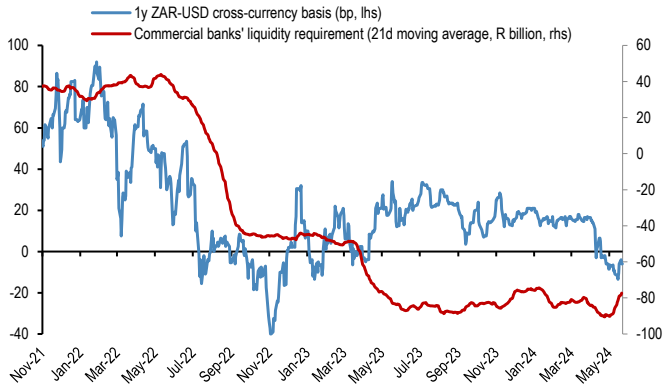
COP FX implied yield and monetary policy rate, %



Source: J.P. Morgan, Bloomberg Finance, L.P.

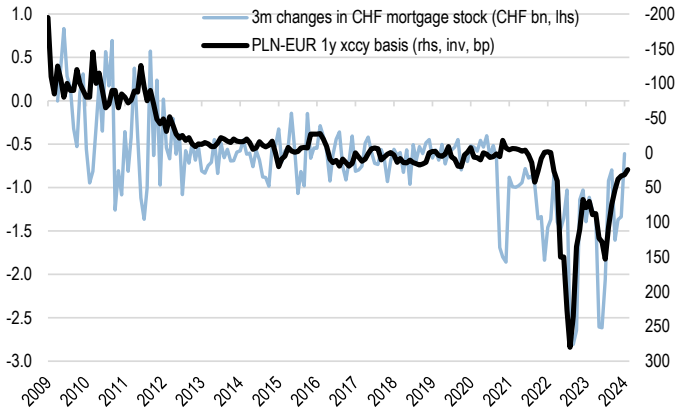
Figure 14: Shift from interbank liquidity deficit to surplus in South Africa has driven front-end ZAR xccy basis low

Negative liquidity requirement corresponds to an interbank liquidity surplus



Source: J.P. Morgan, Haver Analytics

Figure 15: Unwinds of the CHF mortgage stock in Poland have driven front-end PLN xccy basis lower



Source: J.P. Morgan, Haver Analytics

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Carry-enhancing strategy I: FX-hedging EM local debt with xccy basis

Buying EM local debt and FX-hedging by paying EM xccy basis can generate significant FX-hedged pickups over domestic debt. When buying foreign debt, domestic investors have three main options: 1) hold the foreign debt FX-unhedged and be exposed to currency moves; 2) FX-hedge the foreign debt with rolling FX forwards; 3) FX-hedge the foreign debt with a maturity-matched xccy basis swap. For shorter-dated debt, option 2 is often used. For longer-dated debt, FX forwards are less liquid, so xccy basis swaps are used. Using xccy basis swaps to FX-hedge involves paying EM xccy basis (see *Appendix i* for full details), therefore negative xccy basis is attractive when FX-hedging debt. The pickup of FX-hedged EM debt to domestic debt is the difference between the relative local debt ASW spreads (i.e. the EM local bond ASW spread minus the domestic local bond ASW spread) minus the EM xccy basis.

The largest FX-hedged EM local debt pickups over 1y US T-bills are in Mexico (1y Cetes) and Israel (ILGOV Apr25s), at 73bp and 62bp, respectively. Figure 16 shows the pickup of buying EM debt FX-hedged with xccy basis over US debt for a USD investor. For example, buying a 5y POLGB and FX-hedging with 5y PLN-USD xccy basis gives an all-in yield of 4.21%, 25bp less than a 5y UST yield of 4.46%. While one can buy longer-dated EM bonds FX-hedged, shorter-dated debt is generally preferable for carry without taking on duration risk. In Figure 17, we therefore focus on the FX-hedged pickups of 1y EM paper (T-bills/short-dated bonds) over 1y US T-bills, and decompose the pickups by relative local ASW spreads and EM xccy basis. In all markets except Poland, negative EM xccy basis improves the pickup, while the relative ASW spread component is varied. Mexico has the appealing combination of positive relative ASW spreads and negative xccy basis, while in Israel, the large pickup is driven by negative xccy basis (the relative ASW spread is negative).

Figure 16: Pickup of buying EM local debt FX-hedged with maturity-matched xccy basis to a US T-bill/UST for a USD investor

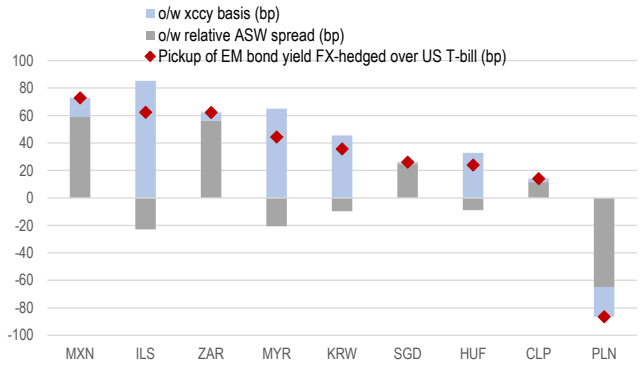
bp. Rows are countries, columns are tenor. '-' where data unavailable

	1y	2y	5y	10y
ZAR	62	84	160	208
ILS	62	81	102	108
HUF	24	49	40	8
PLN	-86	-52	-25	-28
CZK	-	11	35	21
MXN	73	47	46	34
CLP	-	35	41	47
COP	-	-63	55	136
KRW	36	48	39	44
SGD	26	17	19	38
MYR				27
THB	-	8	0	1

Source: J.P. Morgan, Bloomberg Finance L.P. For Israel 1y, we show Apr25 ILGOVs rather than Makams, as tax on Makams significantly reduces realised pickup

Figure 17: Pickup of buying 1y EM local debt FX-hedged with 1y xccy basis to a 1y US T-bill for a USD investor

bp



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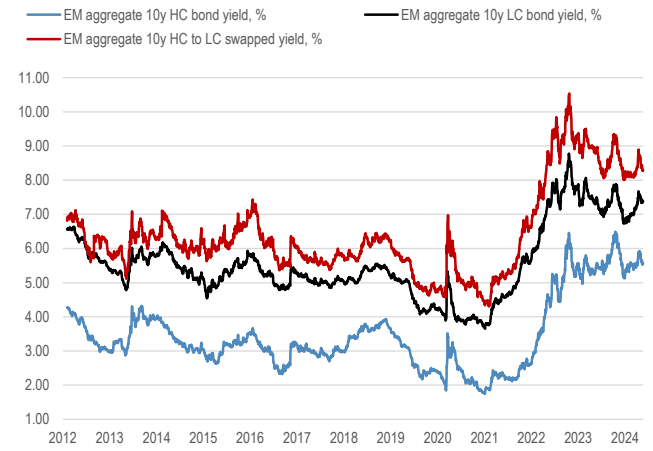
Carry-enhancing strategy II: Cross-currency asset swapping EM hard currency debt into local currency with xccy basis

Comparing EM hard and local currency bonds on simple outright yields is misleading, given different credit, duration and FX characteristics. Hard currency (HC) bonds typically have higher default risk and are primarily exposed to credit spreads and UST yields; local currency (LC) bonds have FX risks and are primarily exposed to local interest rates (default risks are typically lower, but non-zero as seen in recent examples like Ghana 2022). We therefore require a framework to consistently compare hard and local currency bonds that goes beyond yield comparison.

To consistently compare EM hard and local currency bonds, we refer to our previous framework of cross-currency asset swapping EM HC bonds into LC, which involves receiving EM xccy basis (see here). This approach swaps both bonds into the same currency and equalizes duration risk, isolating the relative credit risk. For a detailed description of the methodology, see *Appendix ii* and the grey box *here*. The pickup of a HC bond swapped into LC over the LC bond consists of the relative ASW spread of the bonds in local terms (HC bond ASW spreads in local terms are typically higher than LC bond ASW spreads given higher default risks) and the xccy basis spread (xccy basis swaps are used to swap HC cashflows into LC, and have credit risk as a HC principal is repaid at maturity). This pickup is typically positive i.e. HC bond yields swapped into LC are higher than LC bond yields (Figure 18 and Figure 19).

Figure 18: Average 10y EM bond yields: hard, local, hard swapped into local

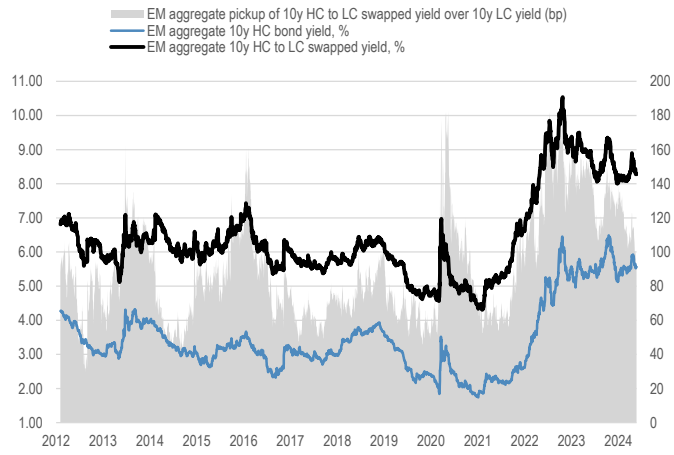
Yield, %. EM aggregate is simple average of South Africa, Israel, Poland, Hungary, Romania, Mexico, Brazil, Colombia, Chile, Korea and Malaysia. For hard currency bond aggregate, USD-denominated bonds are used except in CEE (Poland, Hungary, Romania) where EUR-denominated bonds are used



Source: J.P. Morgan, Bloomberg Finance L.P.

Figure 19: Swapping EM hard currency bonds into local currency typically makes a higher yield than the equivalent local currency bond

Left axis: Yield, %. Right axis, pickup of 10y EM hard currency bond yields swapped into local currency over 10y EM local currency bonds, bp



Source: J.P. Morgan, Bloomberg Finance L.P.

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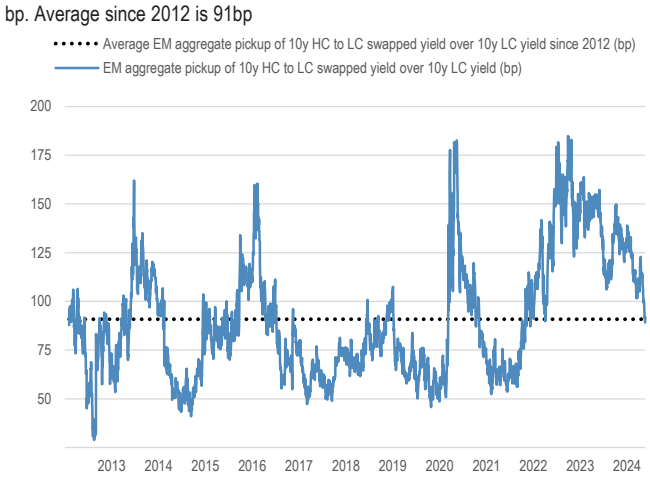
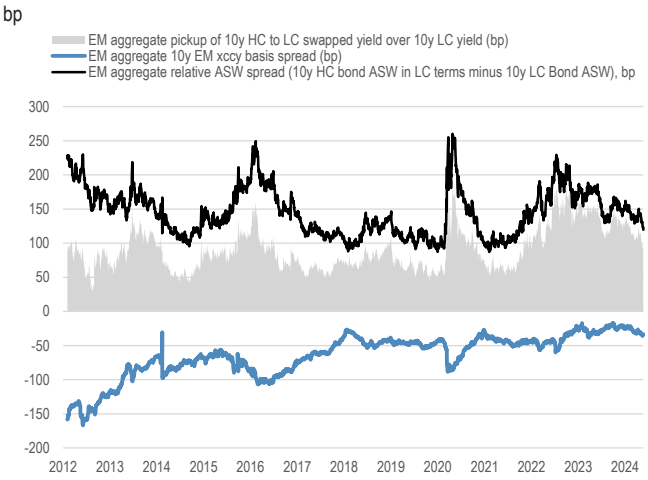
The average pickup of EM HC bonds swapped into LC over EM LC bonds has fallen to long-term averages; the compression has been driven by lower relative ASW spreads rather than lower EM xccy basis. The current pickup is 89bp, in line with the long-term average of 91bp since 2012 and comfortably off the 185bp high in September 2022 (Figure 20). The decline in the pickup since the peak (-96bp) has been entirely driven by the relative ASW spread component (-96bp), with EM xccy basis unchanged over the period (Figure 21). With EM xccy basis markets in 'normal' times largely driven by flows (sovereign and corporate hedging of FX issuance, bank hedging/ funding of FX loan books etc.) rather than changing perceptions of sovereign credit risk, there is often persistent over-compensation for swapping HC bonds into LC (i.e. EM xccy basis is often too high).

Figure 20: Pickup of swapping EM hard currency bonds into local currency now in line with long-term average



Source: J.P. Morgan, Bloomberg Finance L.P.

Figure 21: Lower relative ASW spreads, rather than lower EM xccy basis, have taken the pickup lower



Source: J.P. Morgan, Bloomberg Finance L.P.

Elevated EM xccy basis improves valuations of swapping HC bonds into LC in Colombia and Poland, while the highest relative ASW spreads are in Brazil, Hungary and Romania. Figure 22 shows the pickups of swapping HC bonds into LC over LC (column C), pickup attributions in columns D-E (and Figure 6) and the 10y Z-score of the pickups in column F. These figures exclude transaction costs, but we think it is reasonable to reduce pickups by ~15-50bp depending on specific market liquidity. Colombia HC bonds swapped into LC give the highest pickup to LC in our EM sample at 210bp, with 89bp coming from the xccy basis component, though the Z-score of 0.09 shows that swapping Colombia HC debt has historically yielded a high pickup. Pickups are also high in bp terms in Hungary EUR-denominated bonds (179bp, 1.02 Z-score) and Romania EUR-denominated bonds (169bp, -0.42 Z-score). Swapped all-in yields are above 8% in South Africa, Latin America (Colombia, Brazil, Mexico) and CEE (Hungary, Romania).

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Figure 22: Decomposition of EM HC bond swapped into LC versus LC bond

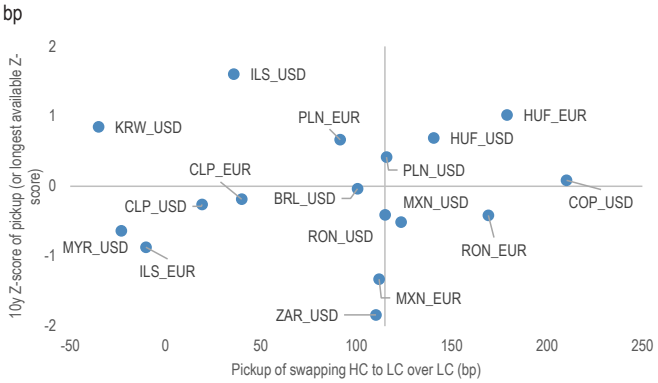
10y bonds. xxx_yyy in left column where xxx is issuing sovereign and yyy is bond FX-denomination e.g. ZAR_USD is a USD-denominated SOAF bond. HC is hard currency, LC is local currency. Assumes no transaction costs

	A	B	C	C-B = D+E	D = Di - Dii	Di	Dii	E	F
	HC Bond Yield (%)	LC Bond Yield (%)	HC to LC swapped yield (%)	Pickup of swapping HC to LC over LC (bp)	Relative ASW (HC bond ASW in LC minus LC Bond ASW in LC), bp	HC Bond ASW in LC terms (bp)	LC Bond ASW in LC (bp)	10y EM xccy basis (bp)	10y Z-score of pickup (or longest available Z-score)
ZAR_USD	7.19	11.84	12.94	110	132	358	226	-22	-1.84
COP_USD	7.39	10.73	12.84	210	121	386	265	89	0.09
BRL_USD*	6.43	11.71	12.71	101	244	241	-3	-144	-0.04
MXN_USD	5.89	9.68	10.92	124	148	198	50	-24	-0.51
MXN_EUR	4.33	9.68	10.80	112	121	171	50	-9	-1.33
HUF_EUR	4.53	6.70	8.49	179	193	211	18	-14	1.02
RON_EUR^	5.51	6.76	8.45	169	169	275	106	-	-0.42
HUF_USD	5.77	6.69	8.10	141	170	187	17	-29	0.69
RON_USD^	6.17	6.75	7.91	115	115	221	105	-	-0.41
PLN_USD	5.33	5.70	6.86	116	78	130	53	38	0.42
PLN_EUR	3.61	5.70	6.62	92	38	91	53	54	0.66
CLP_EUR	3.82	6.00	6.40	40	24	111	88	16	-0.19
CLP_USD	5.19	6.00	6.19	19	18	106	88	1	-0.26
ILS_USD	5.96	4.81	5.17	36	157	185	28	-121	1.60
ILS_EUR	4.15	4.81	4.71	-10	95	123	28	-106	-0.87
MYR_USD	4.76	3.88	3.64	-23	59	56	-4	-83	-0.64
KRW_USD	4.67	3.48	3.13	-35	37	49	12	-72	0.85

Source: J.P. Morgan. ^xccy swaps versus EUR are used to calculate HC to LC swapped yield, so xccy basis does not explicitly enter the decomposition. *xccy basis is inferred from 10y NDF minus 10y DI, rather than explicitly traded

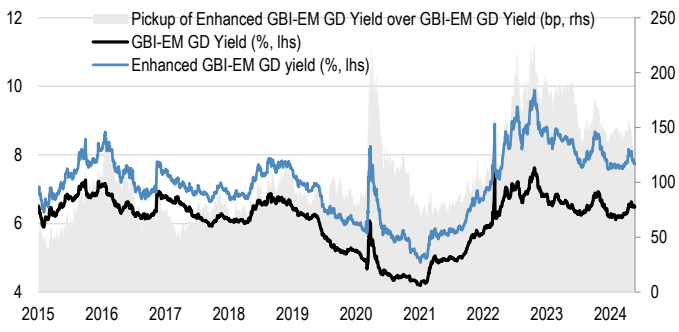
Swapping EM HC bonds into LC can be attractive for GBI-EM GD benchmarked investors to enhance index yield. Interesting markets to consider swapping HC bonds into LC are where pickups are high in bp and Z-score terms (the top right quadrant of Figure 23). Here, swapping EUR-denominated Hungary sovereign bonds into LC stands out. Given the persistent nature of pickups, we mainly care about absolute bp pickups to maximise carry. To illustrate the potential for yield pickup, we compare the GBI-EM yield to an "enhanced GBI-EM yield" in Figure 24. Here, we: 1) replace LC exposure for swapped 10y HC bonds in ZAR, MXN, COP, HUF and PLN (keeping GBI-EM weights); 2) go max UW CZK and THB and evenly distribute this weight across the basket of swapped 10y HC bonds. We include illustrative transaction costs of 50bp (100bp costs * ~50% index weight). This enhanced GBI-EM yield is effectively long carry and has an average pickup of 107bp to GBI-EM yields since 2015 (currently 126bp), which for long-term investors is an attractive yield enhancement.

Figure 23: Pickups: Z-score and absolute bp



Source: J.P. Morgan, Bloomberg Finance L.P.

Figure 24: GBI-EM yields can be enhanced with swapped HC bonds



Source: J.P. Morgan, Bloomberg Finance L.P. See Figure 5 for methodology notes

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Appendix

i) Calculating the pickup of EM local bonds FX-hedged with xccy basis to domestic bonds for US investors

First, we calculate the EM local bond yield FX-hedged with xccy basis:

1. Buy a fixed-rate EM local currency bond
2. Asset swap the bond by paying the fixed coupon and receiving a floating rate plus a fixed ASW spread
3. Enter an EM-USD xccy basis swap paying EM floating rate + xccy basis and receiving USD floating rate
4. Enter a fixed-floating US swap paying US floating rate and receiving US fixed rate

The cashflows in steps 1-4 are as follows (where + means a flow to the investor, and - means a flow away from the investor).

Table 1: Buying an EM bond FX-hedged with xccy basis, cashflows

Step	EM FX currency flow	USD flow
1	+ $\text{Fixed\_Coupon}_{\text{EMccy}}$	
2	- $\text{Fixed\_Coupon}_{\text{EMccy}}$ + $\text{Floating\_Rate}_{\text{EMccy}}$ +$\text{ASW\_Spread}_{\text{EMccy}}$	
3	- $\text{Floating\_Rate}_{\text{EMccy}}$ - $\text{Xccy\_Basis}_{\text{EMccy}}$	+ $\text{Floating\_Rate}_{\text{USD}}$
4		- $\text{Floating\_Rate}_{\text{USD}}$ + $\text{Fixed\_Rate}_{\text{USD}}$
Net	+$\text{ASW\_Spread}_{\text{EMccy}}$ - $\text{Xccy\_Basis}_{\text{EMccy}}$	+ $\text{Fixed\_Rate}_{\text{USD}}$

Source: J.P. Morgan

Comparing this FX-hedged EM local bond yield to a domestic USD yield:

$$\text{ASW\_Spread}_{\text{EMccy}} - \text{Xccy\_basis}_{\text{EMccy}} + \text{Fixed\_Rate}_{\text{USD}} - \text{Bond\_Yield}_{\text{USD}}$$

This can be re-arranged to:

$$\text{ASW\_Spread}_{\text{EMccy}} - \text{Xccy\_basis}_{\text{EMccy}} - (\text{Bond\_Yield}_{\text{USD}} - \text{Fixed\_Rate}_{\text{USD}})$$

The term in brackets is the ASW spread of the domestic USD bond. Rearranging:

$$(\text{ASW\_Spread}_{\text{EMccy}} - \text{ASW\_Spread}_{\text{USD}}) - \text{Xccy\_basis}_{\text{EMccy}}$$

i.e. the pickup of buying an EM local bond FX-hedged with xccy basis compared to a domestic USD bond for a US investor is the difference between the relative ASW spreads of the local bonds and the EM xccy basis spread.

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- A more negative EM xccy basis spread gives a higher pickup of the EM local bond FX-hedged yield compared to the domestic USD bond yield
- A higher local ASW spread for the EM local bond compared to the domestic USD bond also gives a higher pickup

For practical purposes, the above can also be expressed as:

$(\text{Bond\_Yield}_{\text{EMccy}} - \text{Fixed\_SwapRate}_{\text{EMccy}}) - (\text{Bond\_Yield}_{\text{USD}} - \text{Fixed\_SwapRate}_{\text{USD}}) - \text{Xccy\_basis}_{\text{EMccy}}$

ii) Calculating the yield of a hard currency bond swapped into local currency to a local currency bond

First, we calculate the yield of a hard currency bond swapped into local currency:

1. Buy a fixed-rate USD-denominated EM sovereign bond
2. Asset swap the bond by paying the fixed coupon and receiving a floating rate plus a fixed ASW spread
3. Enter an EM-USD xccy basis swap paying USD floating rate and receiving EM floating rate + EM xccy basis
4. Enter a fixed-floating EM currency swap paying EM floating rate and receiving EM fixed rate

The cashflows in steps 1-4 are as follows (where + means a flow to the investor, and - means a flow away from the investor).

Table 2: Swapping a hard currency bond into local currency, cashflows

Step	EM FX currency flow	USD flow
1		+ $\text{Fixed\_Coupon}_{\text{USD}}$
2		- $\text{Fixed\_Coupon}_{\text{USD}}$ + $\text{Floating\_Rate}_{\text{USD}}$ +$\text{ASW\_Spread}_{\text{USD}}$
3	+ $\text{Floating\_Rate}_{\text{EMccy}}$ + $\text{Xccy\_Basis}_{\text{EMccy}}$	- $\text{Floating\_Rate}_{\text{USD}}$
4	- $\text{Floating\_Rate}_{\text{EMccy}}$ + $\text{Fixed\_Rate}_{\text{EMccy}}$	
Net	+ $\text{Fixed\_Rate}_{\text{EMccy}}$ + $\text{Xccy\_Basis}_{\text{EMccy}}$	+$\text{ASW\_Spread}_{\text{USD}}$

Source: J.P. Morgan

Comparing this swapped EM hard currency bond yield to an EM local currency bond yield:

$ASW\_Spread_{USD} + Xccy\_basis_{EMccy} + Fixed\_Rate_{EMccy} - Bond\_Yield_{EMccy}$

Expressing $Bond\_Yield_{EMccy}$ **as its fixed ASW spread and a fixed swap rate:**

$ASW\_Spread_{USD} + Xccy\_basis_{EMccy} + Fixed\_Rate_{EMccy} - (Fixed\_Rate_{EMccy} + ASW\_Spread_{EMccy})$

$= (ASW\_Spread_{USD} - ASW\_Spread_{EMccy}) + Xccy\_basis_{EMccy}$

Here we have the difference in the ASW spreads of the hard currency bond and the local currency bond, and the EM xccy basis. To make an apples-to-apples comparison though, we require all cashflows to be in the EM local currency. To express the EM hard currency bond ASW spread in local terms, we need to apply a conversion factor which equates the present values of identical future cashflows in different currencies i.e. $ASW\_Spread_{USD} * PV01_{USD} = ASW\_Spread_{EMccy} * PV01_{EMccy.}$ Solving for ASW_Spread_{EMccy} leaves:

$(ASW\_Spread_{USD} * PV01_{USD}/PV01_{EMccy} - ASW\_Spread_{EMccy}) + Xccy\_basis_{EMccy}$

i.e. the pickup of buying a hard currency bond swapped into local currency compared to local currency bond is the difference between the relative ASW spreads of the hard currency bond and the local currency bond and the EM xccy basis spread.

- A more positive EM xccy basis spread gives a higher pickup of the hard currency bond swapped into local currency compared to the local currency bond
- A higher relative ASW spread of the hard currency bond compared to the local currency also gives a higher pickup

For a more detailed description of the methodology, see *EM hard currency bond valuations still attractive vs local*.

iii) EM xccy basis swap conventions

In recent years, EM xccy basis swap conventions have changed:

- EM-USD xccy basis swaps now trade with USD SOFR floating legs, following the cessation of USD LIBOR;
- EM xccy basis swap spreads are now consistently applied to the EM floating leg; previously, the spread was applied to either the EM or US floating leg, depending on the specific country convention;
- In CEE, xccy basis swaps predominately trade with EUR floating legs, which is typically EURIBOR rather than ESTR;
- EM floating legs in xccy basis swaps are a mix of -IBOR rates (CEE, ILS, ZAR, HKD, MYR, MXN) and RFRs (TRY, SGD, THB, CLP, COP). We expect further transitions to EM RFR floating legs in the coming years (e.g. MXN to transition by end-24, ILS to transition by mid-25 etc.).

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Figure 25 shows conventions for EM xccy basis swaps. Settlement is T+2 for all of the below xccy basis swaps.

Figure 25: EM xccy basis swap conventions

Country	Bloomberg Ticker	EM floating leg frequency	EM floating leg reference index	EM floating leg DCC	DM floating leg frequency	DM floating leg reference index	DM floating leg DCC
Czech Republic*	- Against ESTR: CKPEQQx Curncy - Against EURIBOR: CKEUBSx Curncy	3m	3m PRIBOR	ACT/360	3m	- Against ESTR: O/N ESTR - Against EURIBOR: 3m EURIBOR	ACT/360
Hungary*	- Against ESTR: HFBEQQx Curncy - Against EURIBOR: HFEBSx Curncy	3m	3m BUBOR	ACT/360	3m	- Against ESTR: O/N ESTR - Against EURIBOR: 3m EURIBOR	ACT/360
Poland*	- Against ESTR: PZWEQQx Curncy - Against EURIBOR: PZBSECx Curncy	3m	3m WIBOR	- Against ESTR: ACT/365 - Against EURIBOR: ACT/365F	3m	- Against ESTR: O/N ESTR - Against EURIBOR: 3m EURIBOR	ACT/360
Israel	ISTSQQx Curncy	3m	3m TELBOR	ACT/365F	3m	O/N SOFR	ACT/360
South Africa	SAJSQQx Curncy	3m	3m JIBAR	ACT/365F	3m	O/N SOFR	ACT/360
Turkiye	TYXOQQx Curncy	3m	O/N TLREF	ACT/365F	3m	O/N SOFR	ACT/360
Hong Kong	HISOQx Curncy	3m	3m HIBOR	ACT/365F	3m	O/N SOFR	ACT/360
Korea	KRWSSQx Curncy	3m	3m KRW Certificate of Deposit	ACT/365F	3m	O/N SOFR	ACT/360
Malaysia	USDMRBx Curncy	3m	3m KLIBOR	ACT/365F	3m	O/N SOFR	ACT/360
Singapore	SDSF6xx Curncy	6m	O/N SORA	ACT/365F	6m	O/N SOFR	ACT/360
Thailand	TBXOQQx Curncy	3m	O/N THOR	ACT/365F	3m	O/N SOFR	ACT/360
Chile	CPXOSSxx Curncy	6m	O/N CAMARA	ACT/360	6m	O/N SOFR	ACT/360
Colombia	CLXOQQxx Curncy	3m	O/N IBR	ACT/360	3m	O/N SOFR	ACT/360
Mexico	MPBSMxxx Curncy	28d	28d TIIE	ACT/360	28d	O/N SOFR	ACT/360

Source: J.P. Morgan.

In this note, we calculate SOFR-equivalent EM-USD xccy basis historically to enable consistent comparisons. We take realised EM-USD xccy basis priced against USD LIBOR and subtract historical US SOFR versus USD LIBOR basis for the relevant tenor; where historical US SOFR versus USD LIBOR basis is not available, we subtract the long-run average realised US SOFR versus USD LIBOR.

iv) EM xccy basis swap mechanics

In a cross-currency basis swap, an investor exchanges a stream of cashflows in one currency for a stream of cashflow in another currency (principals and floating interest rate payments). For short-dated FX exchanges, FX forwards/swaps can be used. But given FX forwards typically have limited liquidity beyond 1y, xccy basis swaps are used for longer-dated exchanges. Consider an investor that wants USD today in exchange for ZAR, and in 2 years' time will pay back USD and receive ZAR. Here, a xccy basis swap would typically be used. The steps are as follows (with USD/ZAR spot of 18.17 at inception):

1. At inception, the investor pays a ZAR 1817 principal to the dealer and receives a USD 100 principal
2. Over the life of the xccy basis swap, the investor pays USD floating interest rates (O/N SOFR) and receives ZAR floating interest rates (3m JIBAR) *plus* a fixed annuity on top of the ZAR floating leg, known as the ZAR-USD xccy basis spread. Floating rates are paid quarterly, and aside from the first payment, are unknown ex-ante (projections of these floating rates are used to price the swap)
3. At maturity, the investor receives a ZAR 1817 principal and pays a USD 100 principal to the dealer

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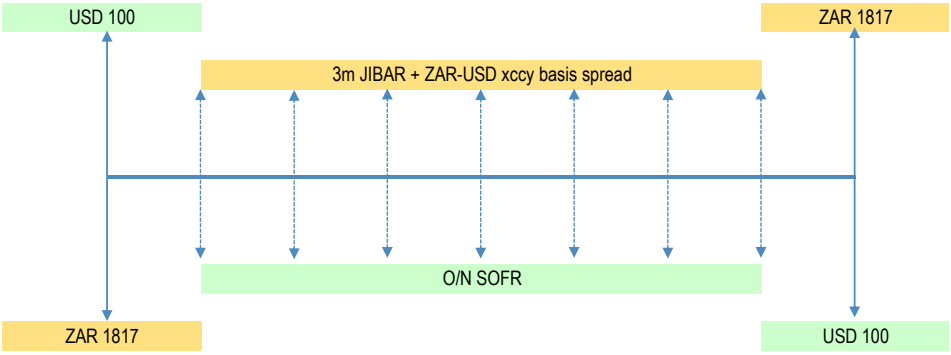
Figure 26: Example of a ZAR-USD xccy basis swap, where the investor is receiving 2y ZAR xccy basis



Source: J.P. Morgan

Why do cross-currency basis spreads occur? In a world of perfect covered interest rate parity, cross-currency basis spreads are zero. However, we do not live in a world of perfect covered interest rate parity. In practice, EM xccy basis spreads are typically negative, and reflect several factors such as (but not limited to):

1. **Relative credit risk of parties in the transaction.** In a xccy basis swap, principals have to be repaid at maturity. Risks that a party will not repay the principal are reflected in the xccy basis spread; a negative spread means that the riskier party receives a lower interest rate payment than they otherwise would have. In 'normal' times, xccy basis swaps are under-responsive to changing relative credit risks.
2. **Supply/demand mismatches for currencies driving flows.** USD demand is significant for this dynamic; in times of stress, accessing USD funding commands a premia, and parties are willing to accept lower interest rate payments via a negative xccy basis spread in exchange for USD. Other supply/demand currency mismatches can occur from sovereign and corporate issuers FX-hedging FX bond issuance with xccy basis swaps, or raising foreign funding with xccy basis swaps.
3. **Reduced ability to arbitrage away opportunities.** In the post-GFC world, XVA costs of arbitraging away xccy basis have become more costly and balance-sheet heavy, leading to more persistent xccy basis spreads.

For further reading, see *Covered interest parity lost: understanding the cross-currency basis*.

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Completed 23 May 2024 02:22 PM BST
Disseminated 23 May 2024 02:30 PM BST