

# FX and Rates Weekly Analytics

FX: Positioning, carry and spread, volatility, and SDR

Rates: Relative value and central bank pricing

**Craig Chan – NSL**

+65 6433 6106

[craig.chan@nomura.com](mailto:craig.chan@nomura.com)

**Wee Choon Teo – NSL**

+65 6433 6107

[weechoon.teo@nomura.com](mailto:weechoon.teo@nomura.com)

**Albert Leung – NIHK**

+852 2252 1401

[albert.leung1@nomura.com](mailto:albert.leung1@nomura.com)

**Andrew Ticehurst**

+61 2 8062 8611

[andrew.ticehurst@nomura.com](mailto:andrew.ticehurst@nomura.com)

**Clair Gao – NIHK**

+852 2252 1081

[clair.gao@nomura.com](mailto:clair.gao@nomura.com)

**Nathan Sribalasundaram – NSL**

+65 6433 9707

[nathan.sribalasundaram@nomura.com](mailto:nathan.sribalasundaram@nomura.com)

See Appendix A-1 for analyst certification, important disclosures and the status of non-US analysts.

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Any authors named on this report are research analysts unless otherwise indicated.

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# Key Highlights

## FX Spreads

Selling the spread	Trade	Buying the spread	Trade
Best monthly rolldown	KRW 1X12	Best monthly rolldown	CNY 1X9
Best Ann carry-to-vol (126d)	KRW 1X9	Best Ann carry-to-vol (126d)	CNH 1X2
Spread with Highest Z-Score	IDR 3X12	Spread with Lowest Z-Score	THB 1X9

Note: **Average monthly rolldown** calculated in bp.

**Ann carry to vol** calculated by annualized rolldown divided by annualized volatility (126 session window) of the points corresponding to the tenor of the trade.

**Z-Score** calculated using the past 126 sessions.

We define best trades to be selling (buying) the spread as the trade with highest (lowest) values when selling the spread.

## Rates Carry

Highest carry and roll (Asia only)	Trade	Lowest carry and roll (Asia only)	Trade
Best receive	TWD 10y	Worst receive	AUD 1y
Best flattener	AUD 1s4s	Worst flattener	SGD 5s10s
Best received fly	AUD 1s3s5s	Worst received fly	TWD 1s2s5s

Note: Carry and roll is for 3m (bp running). Flattener and butterflies are DV01-neutral; butterflies are received the belly.

## Amount priced in for the next Nth policy date

Decision	1st	2nd	3rd	4th	5th	6th	Decision	1st	2nd	3rd	4th	5th	6th
USD	-3	-4	-46	-51	-70	-86	TWD	-5	-10	-12	-16	-21	-23
EUR	-19	-48	-63	-79	-85	-91	MYR	-4	-16	-30	-44	-53	-57
GBP	-26	-37	-57	-68	-81	-87	CNY	-20	-28	-36	-43	-59	-45
JPY	0	1	5	9	10	12							
AUD	-31	-55	-84	-100	-114	-117							
NZD	-29	-47	-65	-78	-79	-76							
CHF	-14	-33	-35	-35	-32	-29							
CAD	-16	-28	-39	-48	-51	-53							

## Positioning Summary

NZD is most sold at a Z-Score of -1.91 and positioning of USD-2bn (from USD-2.3bn previous week)  
JPY is most bought at a Z-Score of 3.24 and positioning of USD15.1bn (from USD12.8bn previous week)

### G10 Positioning (Change)

CAD saw the largest increase in Z-Score of 0.64 with positioning of USD-6.1bn (from USD-8.6bn previous week)  
USD saw the largest decrease in Z-Score of -0.33 with positioning of USD-10.1bn (from USD-4bn previous week)

## FX Carry

Best tenor to be short USD/Asia										
CNY	CNH	HKD	INR	KRW	IDR	PHP	THB	TWD	MYR	
1W	12M	12M	1M	12M	1W	12M	1W	12M	1W	

Best tenor to be long USD/Asia										
CNY	CNH	HKD	INR	KRW	IDR	PHP	THB	TWD	MYR	
12M	1W	1W	9M	1W	9M	1W	6M	1W	1M	

Note: We define best tenor to be short USD/Asia as the tenor that provides the highest annualized carry (if positive) or lowest (absolute) negative carry from being short USD/Asia.

We define best tenor to be long USD/Asia as the tenor that provides the highest annualized carry (if positive) or lowest (absolute) negative carry from being long USD/Asia.

## FX Vol

Highest Average Z-Scores in Asia	
Implied Vol Z-Scores	USDIDR
Implied -Realized Vol Z-Scores	USDIDR
25 Delta RR Z-Scores	USDIDR
10 Delta RR Z-Scores	USDIDR

Highest Average Z-Scores in G10	
Implied Vol Z-Scores	EURGBP
Implied -Realized Vol Z-Scores	USDJPY
25 Delta RR Z-Scores	EURUSD
10 Delta RR Z-Scores	EURUSD

Note: Highest Z-Scores calculated by taking a simple average of the Z-Scores across the tenors (1W-1Y). Z-Scores for the individual tenors calculated using a 120 trading day window.

### Asia FX Positioning

USD TWD is most sold at a Z-Score of -1 sd (Previous: -2.1sd)  
USD IDR is most bought at a Z-Score of 0.4 sd (Previous: 1.2sd)

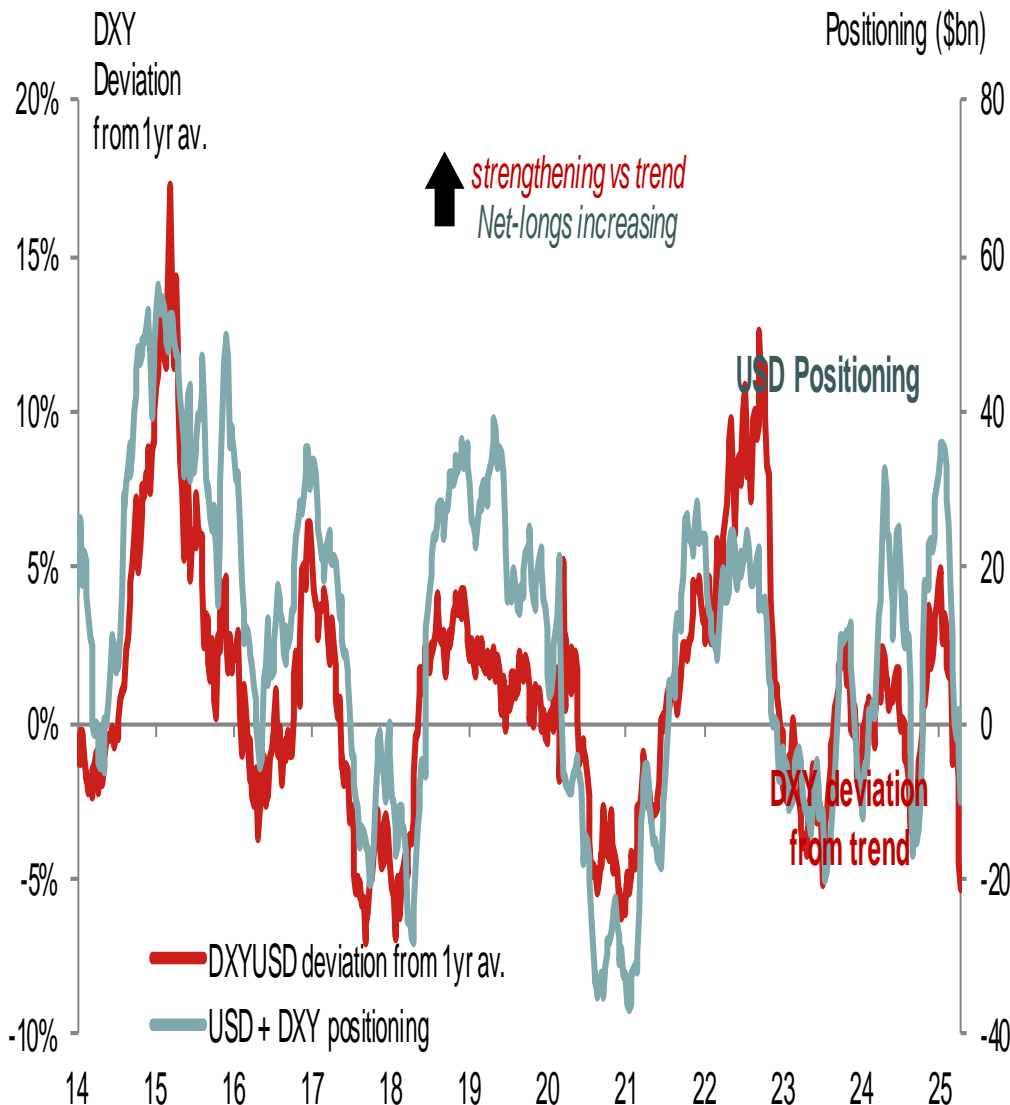
### Asia FX Positioning (Change)

USD TWD saw the largest increase in Z-Score of 1 sd (Current: -1 sd).  
USD MYR saw the smallest increase in Z-Score of -1.5 sd (Current: -0.7 sd).

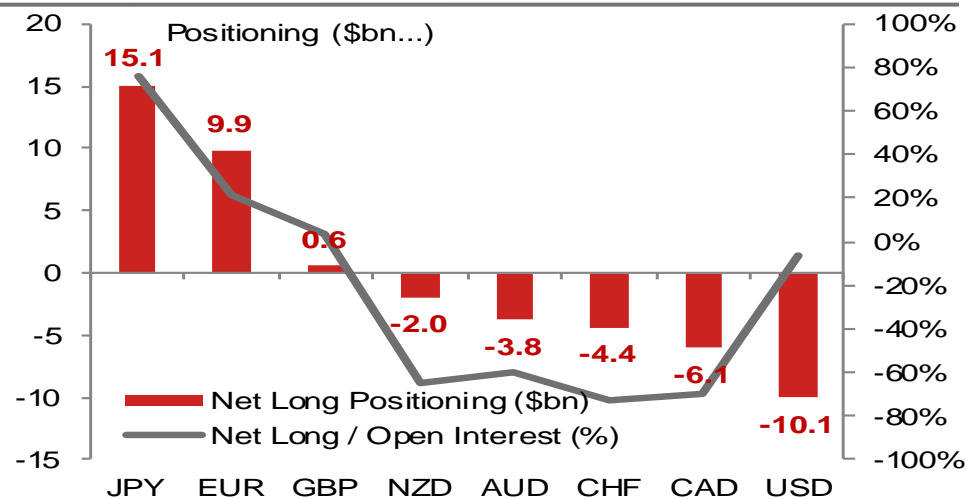
## G10 FX positioning

# G10 FX positioning (1)

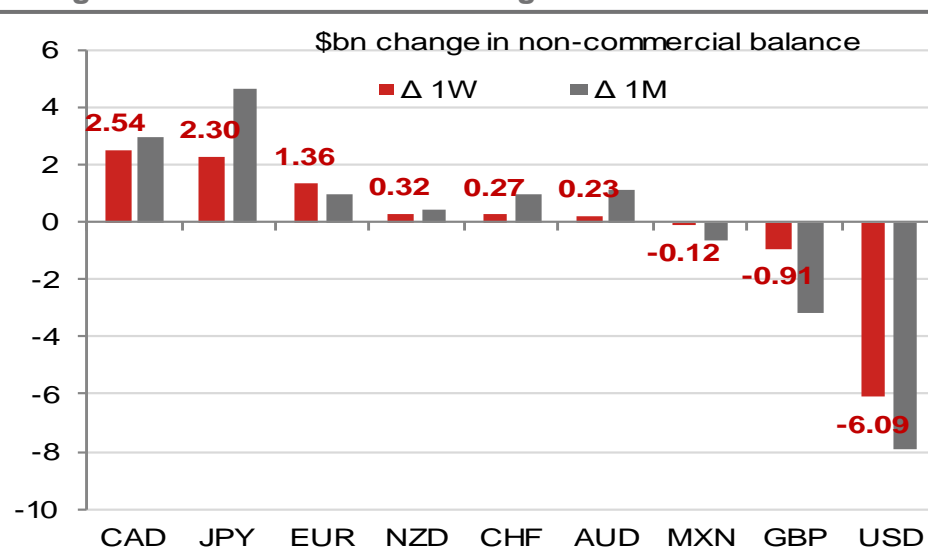
## Non-commercial USD positioning vs DXY



## Net long positioning \$bn and %OI

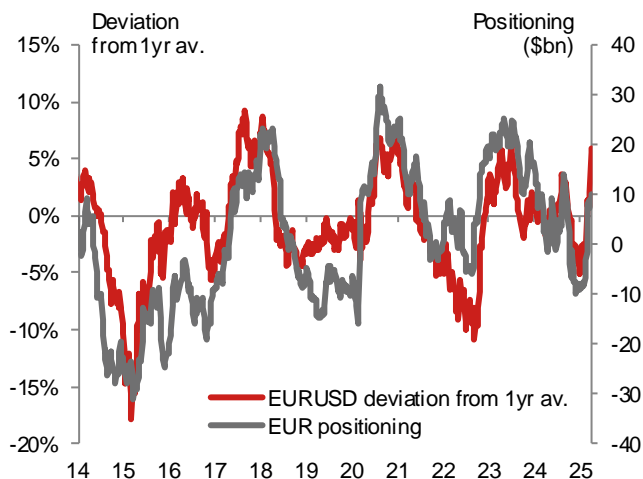


## Change in non-commercial net long balance

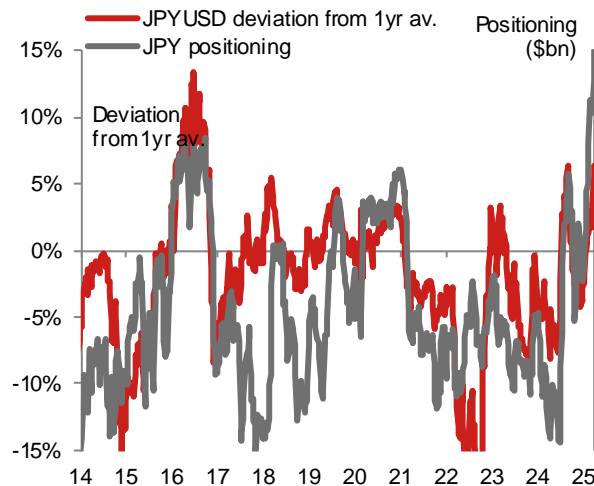


# G10 FX positioning (2)

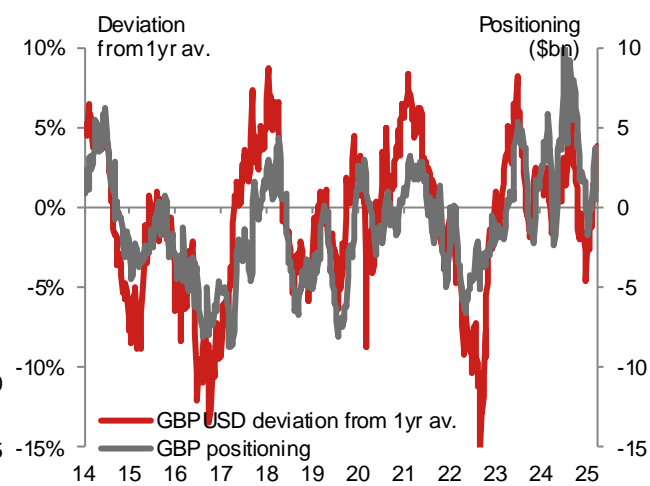
EUR non-commercial positioning



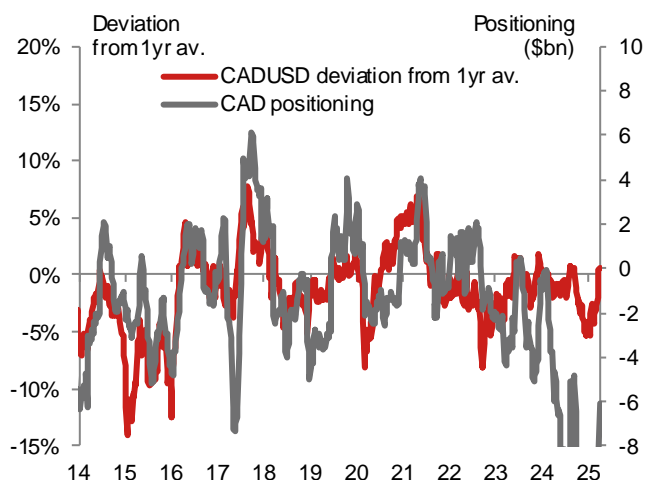
JPY non-commercial positioning



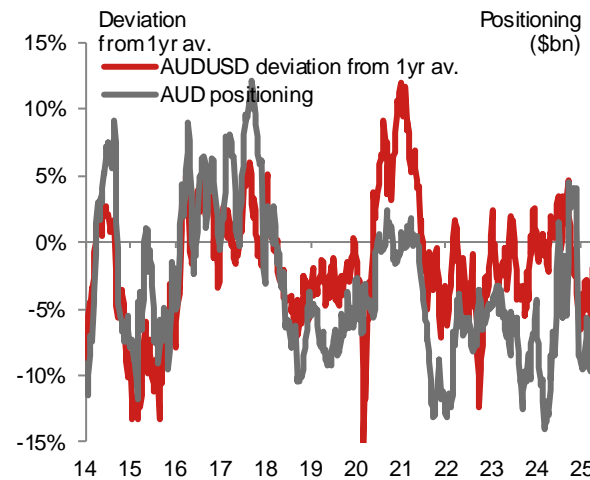
GBP non-commercial positioning



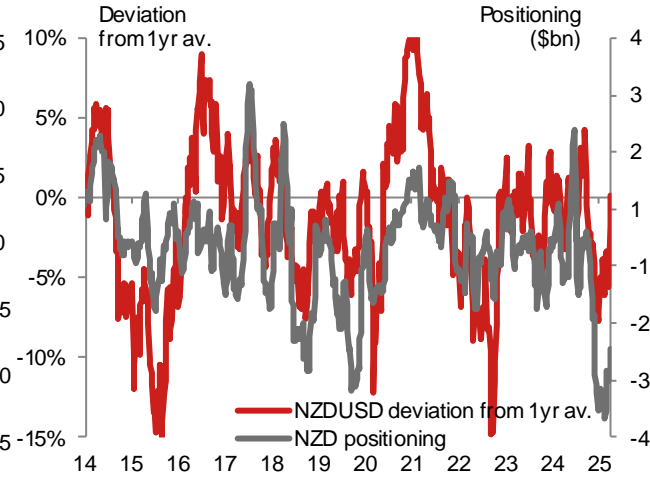
CAD non-commercial positioning



AUD non-commercial positioning

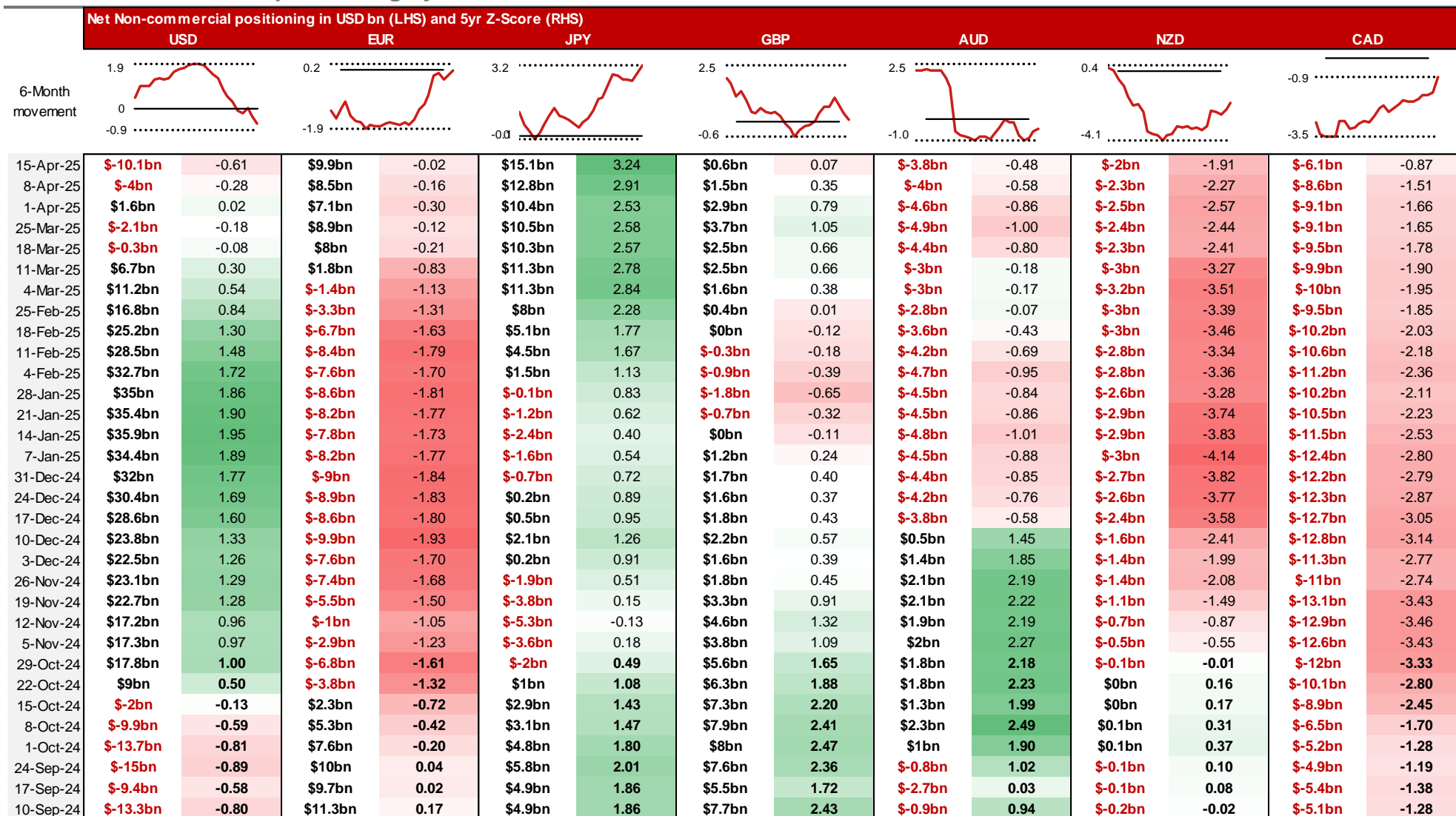


NZD non-commercial positioning



# G10 FX positioning (3)

## Net non-commercial FX positioning 5year Z-scores



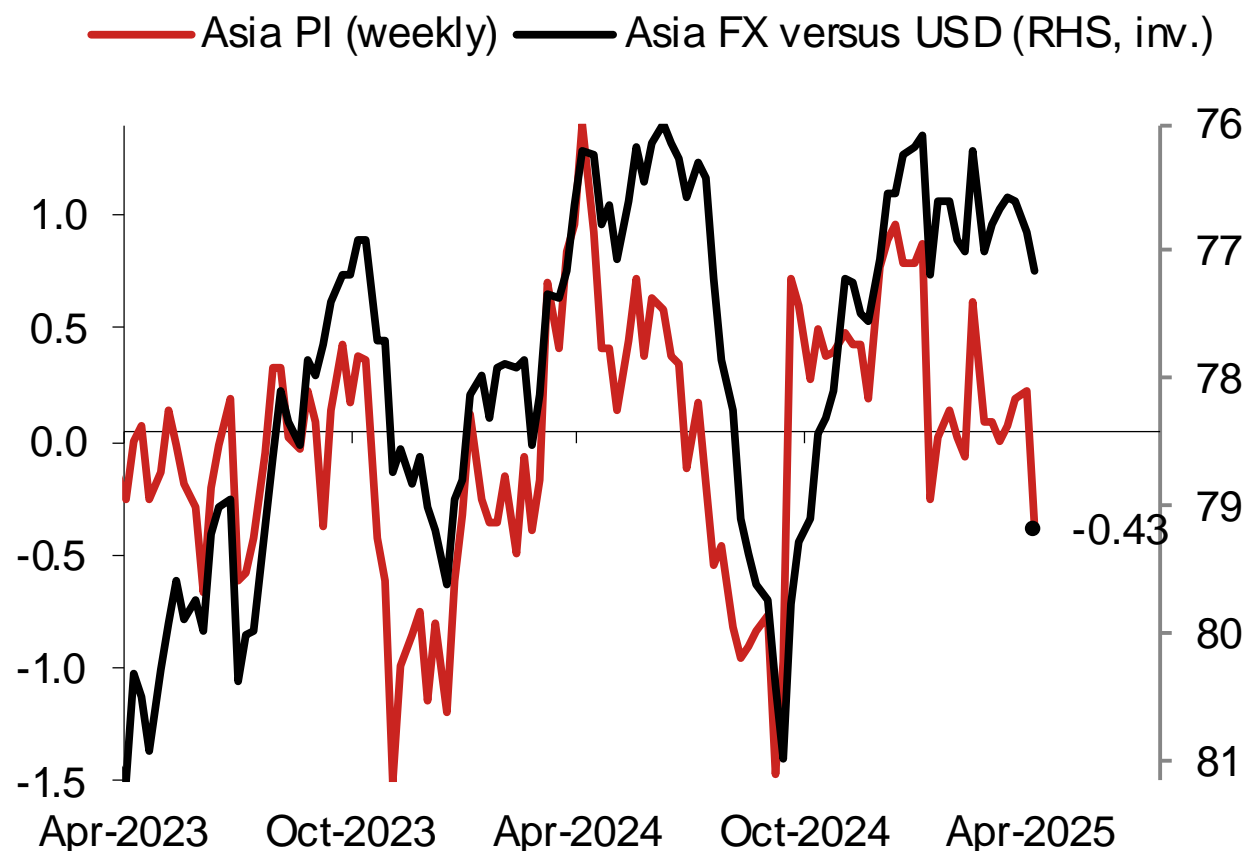
## Asia FX positioning



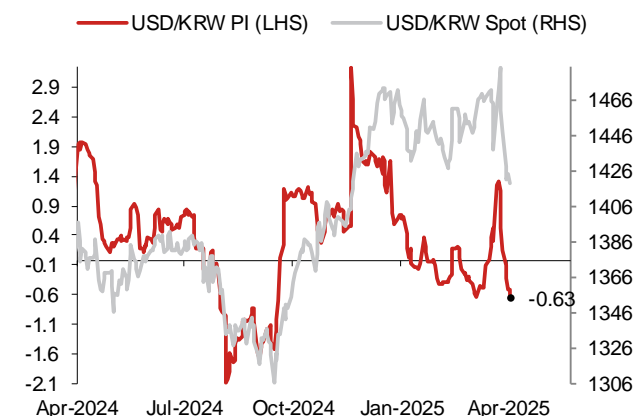
# Asia FX positioning (1)

We have developed a framework to analyse Asia FX positioning using high-frequency, flow-related indicators such as foreign equity and bond data, options risk reversals and offshore/onshore implied yield differentials. Our 9 Asia FX positioning indices (PIs) have a strong statistical relationship with spot, take into account changing market dynamics and avoid the need to discover the specific factors driving FX.

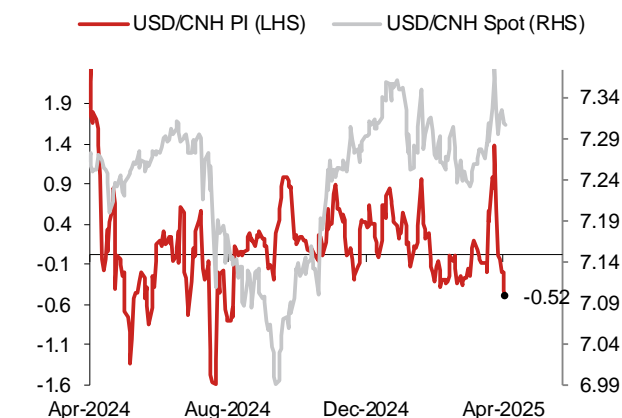
USD/Asia Positioning Index vs. ADXY Index



USD/KRW Positioning Index vs. FX Spot

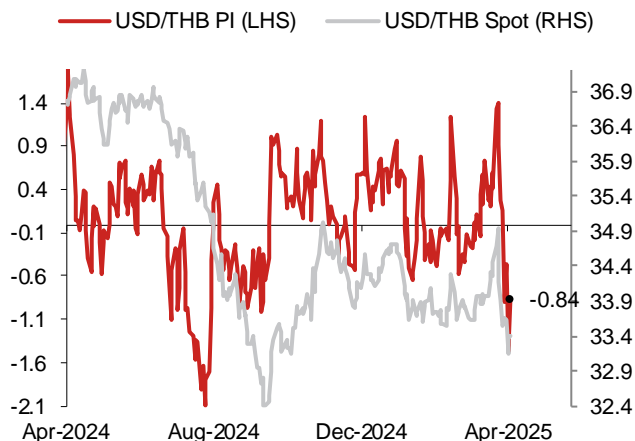


USD/CNH Positioning Index vs. FX Spot

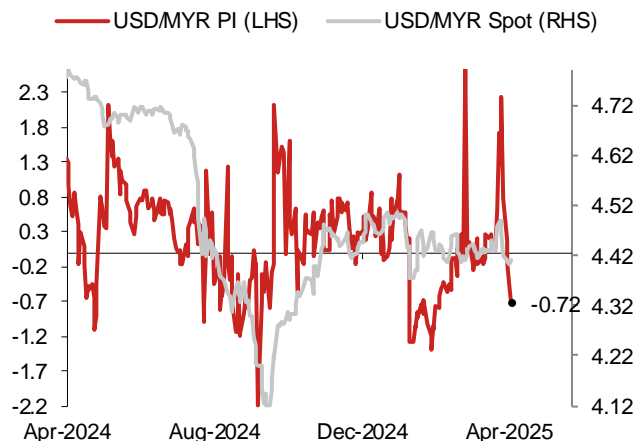


# Asia FX positioning (2)

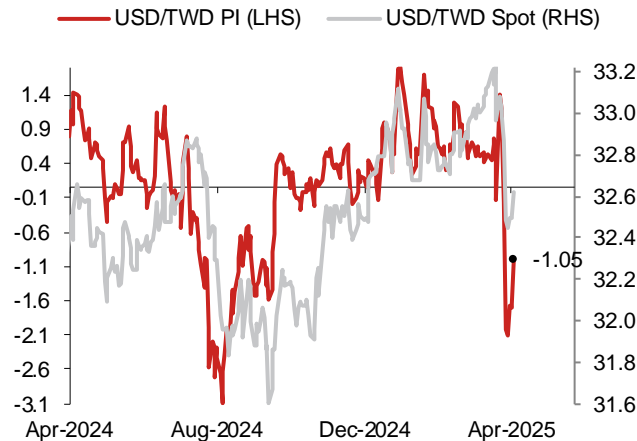
USD/THB Positioning Index vs. FX Spot



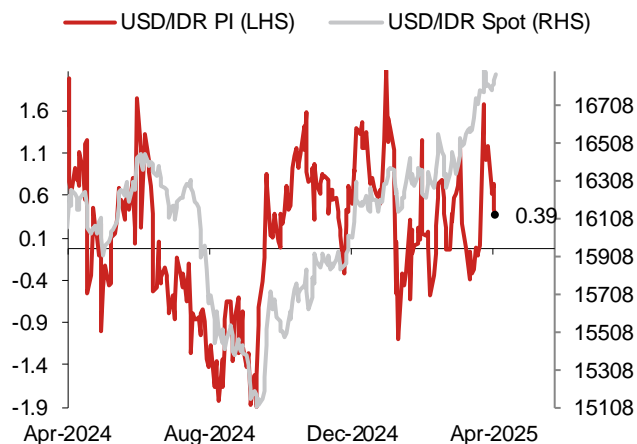
USD/MYR Positioning Index vs. FX Spot



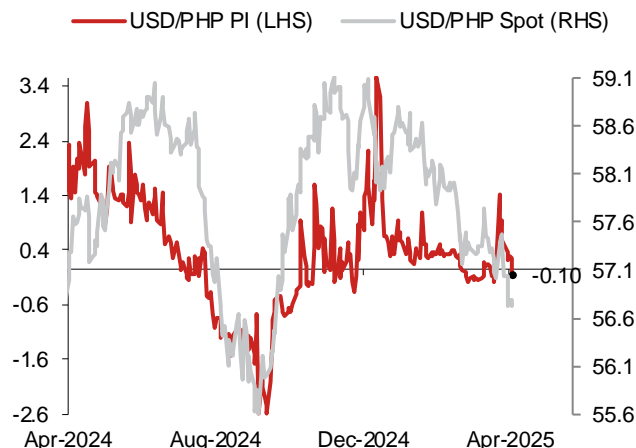
USD/TWD Positioning Index vs. FX Spot



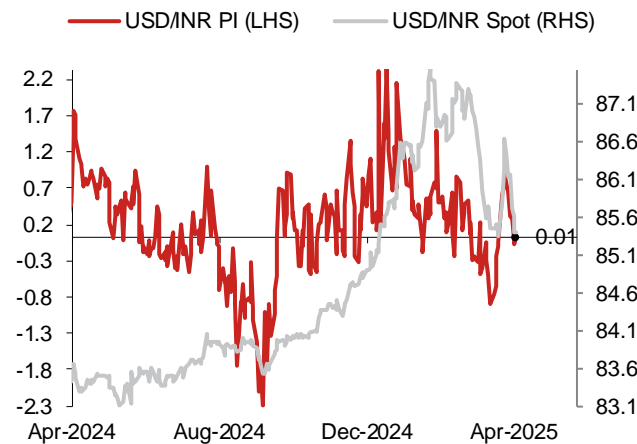
USD/IDR Positioning Index vs. FX Spot



USD/PHP Positioning Index vs. FX Spot






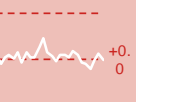


USD/INR Positioning Index vs. FX Spot



# Asia FX positioning (3)

## Z-score of USD/Asia positioning index

	Asia	KRW	CNH	THB	MYR	TWD	IDR	PHP	INR
<b>6-Month Movement</b>									
18-Apr-25	-0.4	-0.6	-0.5	-0.8	-0.7	-1.0	+0.4	-0.1	+0.0
11-Apr-25	+0.2	+0.2	-0.0	+0.2	+0.8	-2.1	+1.2	+0.5	+0.6
4-Apr-25	+0.1	+0.3	+0.4	+0.4	+0.1	-0.2	+0.0	+0.0	-0.1
28-Mar-25	+0.0	-0.1	-0.1	+0.7	+0.3	+0.5	-0.3	+0.1	-0.9
21-Mar-25	-0.0	-0.5	+0.2	+0.1	-0.2	+0.5	+0.1	-0.2	-0.4
14-Mar-25	+0.0	-0.3	-0.3	-0.2	+0.1	+0.7	+0.7	-0.2	-0.2
7-Mar-25	+0.0	-0.2	-0.4	-0.5	+0.3	+0.8	-0.0	-0.0	+0.4
28-Feb-25	+0.6	+0.2	-0.0	+1.3	-0.1	+1.2	+0.8	+0.3	+0.8
21-Feb-25	-0.1	-0.4	-0.3	-0.1	-0.4	+0.2	-0.5	+0.3	+0.2
14-Feb-25	-0.0	-0.3	-0.3	-0.4	-0.8	+0.6	+0.2	+0.3	+0.5
7-Feb-25	+0.1	-0.0	+0.2	-0.4	-1.0	+1.2	+0.0	+0.2	+0.6
31-Jan-25	-0.0	-0.0	+0.4	+0.1	-0.9	+0.6	-0.3	+0.2	-0.2
24-Jan-25	-0.3	-0.1	-0.2	-0.5	-1.3	+0.2	-1.1	+0.2	+0.3
17-Jan-25	+0.8	+0.8	+0.5	+0.6	+0.6	+1.4	+1.4	+0.5	+0.7
10-Jan-25	+0.7	+0.6	+0.4	+0.6	+0.6	+0.6	+0.8	+0.3	+2.1
3-Jan-25	+0.7	+1.2	+0.7	+0.6	-0.1	+0.9	+0.7	+0.6	+1.2
27-Dec-24	+0.9	+1.7	-0.0	+0.4	+0.3	-0.2	+1.4	+3.5	+0.2
20-Dec-24	+0.8	+1.8	+0.4	+0.6	+0.3	+0.3	+1.4	+1.5	+0.2
13-Dec-24	+0.7	+1.7	+0.4	+0.6	+0.3	+0.2	+0.8	+1.0	+0.8
6-Dec-24	+0.1	+2.3	-0.3	-0.5	+0.1	-0.3	+0.2	-0.2	-0.2
29-Nov-24	+0.4	+0.5	-0.0	-0.1	+0.7	+0.5	+0.6	-0.0	+0.8
22-Nov-24	+0.4	+1.0	+0.6	+0.1	+0.3	+0.4	+0.9	-0.2	+0.1
15-Nov-24	+0.4	+0.7	+0.4	+0.5	+0.0	+0.5	+0.8	+0.1	+0.4
8-Nov-24	+0.3	+0.3	-0.0	+0.6	+0.5	+0.0	+0.8	+0.4	+0.2
1-Nov-24	+0.3	+1.0	-0.0	+0.6	+0.3	+0.1	+1.1	-0.2	-0.3
25-Oct-24	+0.4	+1.0	+0.1	+0.3	+0.0	-0.1	+1.0	+0.9	+0.4
18-Oct-24	+0.2	+1.2	+0.2	+0.3	+0.3	-0.1	+0.4	-0.7	+0.1
11-Oct-24	+0.6	+1.1	+0.9	+0.6	+1.4	+0.2	+0.2	-0.9	+0.9
4-Oct-24	+0.7	+0.0	+1.0	+0.9	+2.1	+0.3	+0.8	-0.6	+0.7

- colour means positioning is more short USD/EM

- colour means positioning is more long USD/EM

- colour means positioning is neutral USD/EM

# Asia FX positioning (4)

## Nomura's survey on clients' USD/Asia positioning

	USD/CNH	USD/KRW	USD/TWD	USD/INR	USD/SGD	USD/IDR	USD/PHP	USD/THB
6-Month Movement								
16-Apr-25	+1.5	+1.0	-0.5	+1.5	+0.5	+1.0	0.0	+0.5
10-Apr-25	+1.0	0.0	0.0	+1.0	+1.0	+1.5	+1.0	+1.5
3-Apr-25	+1.0	0.0	0.0	+1.0	+1.0	+1.5	+1.0	+1.5
27-Mar-25	+0.5	-0.5	0.0	+1.0	+0.5	+1.5	+1.0	+1.0
20-Mar-25	+0.5	-1.0	0.0	+0.5	+0.5	+1.0	+0.5	+0.5
13-Mar-25	+0.5	-1.0	0.0	+0.5	+0.5	+0.5	+0.5	+0.5
6-Mar-25	+0.5	-0.5	0.0	+0.5	+1.0	+0.5	+1.0	+1.0
27-Feb-25	+0.5	-0.5	+0.5	+0.5	+1.5	+1.0	+2.0	+2.0
20-Feb-25	+0.5	-0.5	+0.5	+0.5	+1.5	+1.0	+2.0	+2.0
13-Feb-25	+1.0	-0.5	+0.5	+1.0	+1.0	+1.0	+1.5	+2.5
6-Feb-25	+1.0	-0.5	+0.5	+2.5	+1.0	+1.0	+1.5	+2.0
30-Jan-25	+1.5	-0.5	+1.0	+1.5	+1.0	+1.0	+1.0	+1.5
23-Jan-25	+1.5	-0.5	+1.0	+1.5	+1.0	+1.0	+1.0	+1.5
16-Jan-25	+2.0	+0.5	+2.0	+1.5	+2.0	+1.5	+1.5	+2.5
9-Jan-25	+2.5	+1.5	+2.5	+3.0	+2.5	+1.5	+2.0	+2.0
2-Jan-25	+3.0	+2.0	+2.0	+2.5	+2.0	+1.5	+2.0	+2.0
26-Dec-24	+2.0	+1.5	+1.5	+2.0	+1.5	+1.0	+2.0	+2.0
19-Dec-24	+2.0	+1.5	+1.5	+2.0	+1.5	+1.0	+2.0	+2.0
12-Dec-24	+2.0	+1.5	+1.5	+2.0	+1.5	+1.0	+2.0	+2.0
5-Dec-24	+2.0	+1.0	+1.0	+2.5	+1.0	+1.0	+1.5	+1.0
28-Nov-24	+2.0	+1.5	+1.0	+2.0	+1.0	+1.0	+1.5	+1.0
21-Nov-24	+2.0	+1.0	+1.0	+2.0	+1.0	+1.0	+1.5	+1.0
14-Nov-24	+2.5	+1.0	+1.0	+1.5	+1.5	+1.0	+1.0	+1.0
7-Nov-24	+3.0	+0.5	+0.5	+1.0	+2.0	0.0	0.0	0.0
31-Oct-24	+2.5	-1.0	+0.5	-0.5	-1.0	-0.5	-1.0	+0.5
24-Oct-24	+3.0	-0.5	+1.0	-0.5	-1.0	-0.5	-0.5	+1.0
17-Oct-24	+2.5	+0.5	+1.0	-0.5	-1.0	-0.5	-0.5	+1.0
10-Oct-24	+1.0	-0.5	-0.5	-0.5	-1.0	-0.5	0.0	+1.0
3-Oct-24	0.0	-0.5	-0.5	-0.5	-1.0	-1.5	-1.5	+0.5

We survey our sales on how our clients are positioned in the Asia FX markets on a scale of -5 to +5. -5 represents max short USD/Asia and +5 represents max long USD/Asia

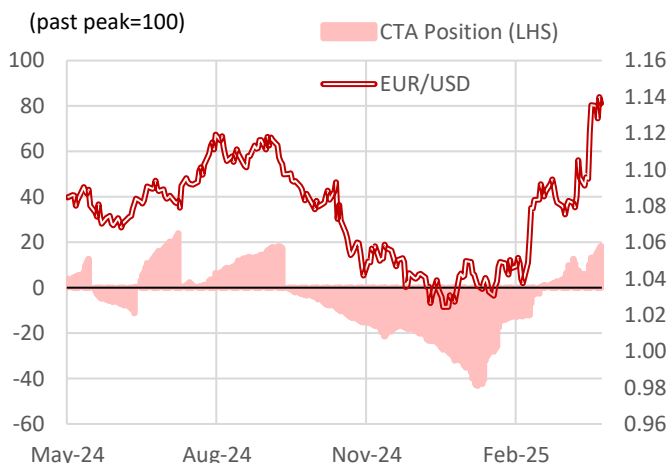
Source: Bloomberg, Nomura.

## CTA - FX positioning

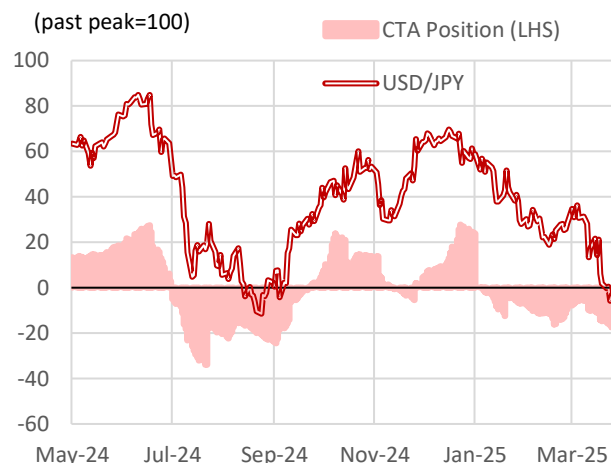
# CTAs' FX positioning (1)

Our Japan quantitative strategy team has developed a model to analyze commodity trading advisors' (CTAs) FX positioning. Our basic underlying assumption about the investment strategies employed by CTAs is that they build up long or short positions in various assets depending on whether prices for those assets are rising or falling. We compare the estimates output by our model with the actual performance record for CTAs for the sake of confirming reproducibility. The estimates of CTA positions output by our model rest entirely on publicly available information.

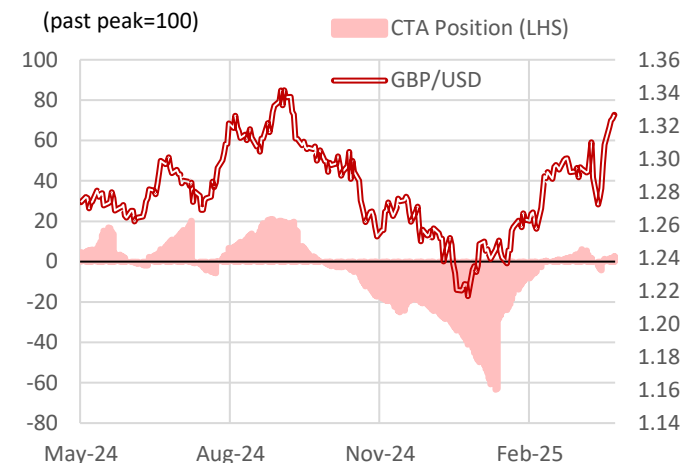
## Speculative positioning in EUR/USD



## Speculative positioning in USD/JPY

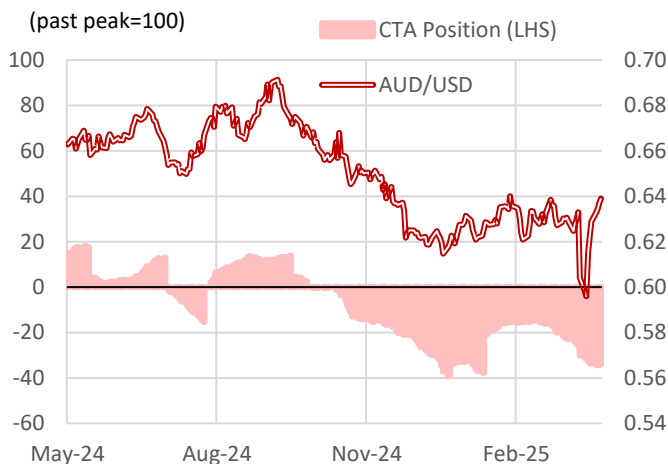


## Speculative positioning in GBP/USD

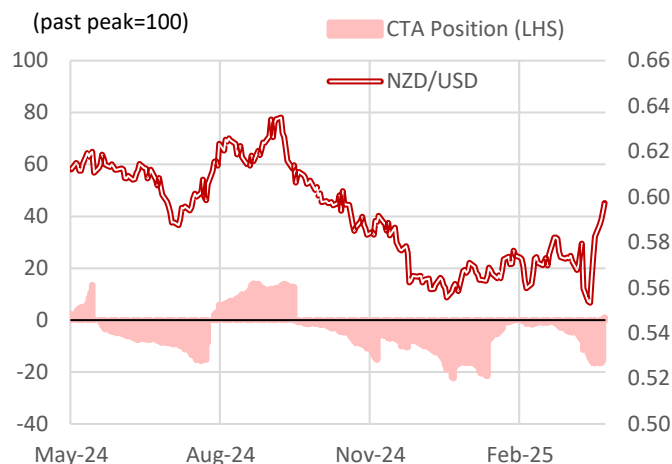


# CTAs' FX positioning (2)

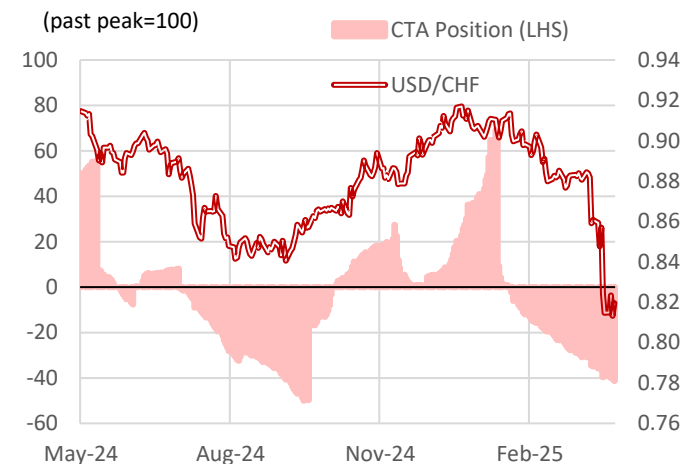
## Speculative positioning in AUD/USD



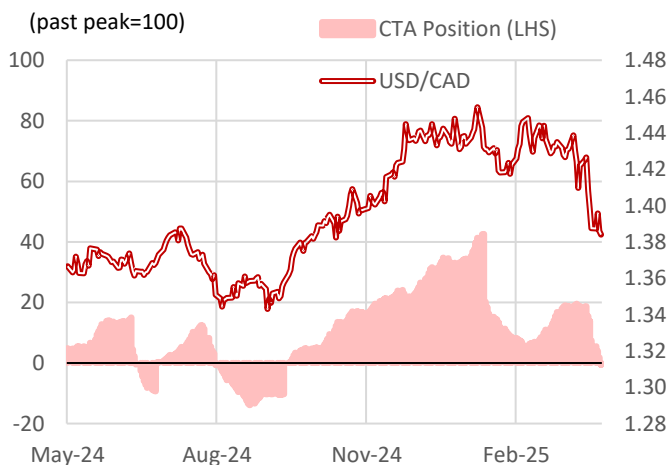
## Speculative positioning in NZD/USD



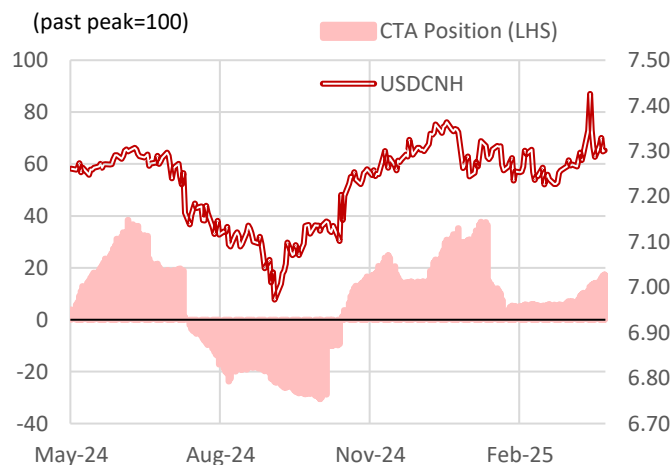
## Speculative positioning in USD/CHF



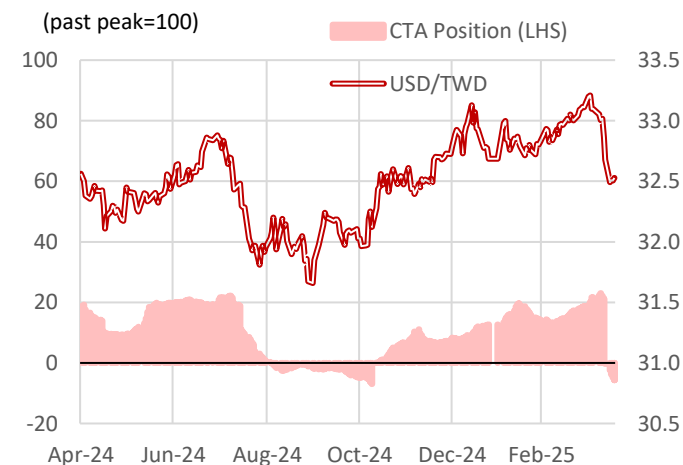
## Speculative positioning in USD/CAD



## Speculative positioning in USD/CNH






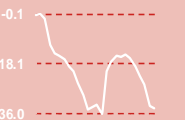

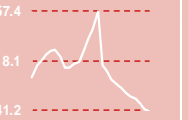

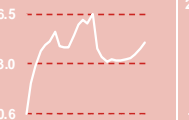

## Speculative positioning in USD/TWD



Note: Speculative position of CTAs here is a relative value, where the peak long position and peak short position since Jan 2015 are each set to 100.  
Source: Bloomberg, Nomura.

# CTAs' FX positioning (3)

Nomura's estimate of CTA positioning for key FX pairs

	EUR/USD	USD/JPY	GBP/USD	AUD/USD	NZD/USD	USD/CHF	USD/CAD	USD/CNH	USD/TWD
6-Month Movement									
17-Apr-25	+18.2	-17.4	+2.7	-34.0	+1.0	-41.2	-0.6	+17.5	-5.7
10-Apr-25	+10.2	-14.3	+0.0	-33.4	-16.5	-39.6	+13.9	+13.9	+21.2
3-Apr-25	+7.5	-9.8	+1.7	-25.6	-7.5	-34.4	+19.0	+9.7	+21.7
27-Mar-25	+6.4	-5.9	+4.6	-22.6	-4.6	-29.7	+18.9	+6.9	+18.5
20-Mar-25	+2.2	-11.2	+1.7	-19.0	-2.3	-27.0	+15.5	+5.8	+16.9
13-Mar-25	+1.1	-16.2	+0.8	-15.9	-0.8	-23.3	+9.9	+5.7	+14.5
6-Mar-25	-3.2	-11.3	+0.5	-14.8	-1.1	-19.2	+6.5	+5.6	+13.2
27-Feb-25	-12.5	-9.2	-5.8	-15.3	-0.8	-15.3	+7.1	+5.8	+14.2
20-Feb-25	-12.6	-6.8	-9.8	-15.1	+0.1	-11.0	+8.9	+4.3	+16.6
13-Feb-25	-17.5	-3.6	-18.7	-17.4	-3.3	-2.2	+13.4	+7.6	+19.6
6-Feb-25	-30.1	-8.2	-26.8	-20.6	-7.0	+4.1	+18.6	+13.6	+15.8
30-Jan-25	-42.7	-1.9	-57.8	-36.0	-19.5	+57.4	+39.8	+36.5	+12.7
23-Jan-25	-34.3	+24.3	-48.7	-32.8	-16.4	+39.7	+34.3	+30.6	+12.6
16-Jan-25	-30.3	+26.7	-39.1	-33.6	-17.0	+30.0	+32.3	+32.9	+11.5
9-Jan-25	-26.4	+15.4	-32.8	-34.4	-17.1	+17.4	+33.5	+29.6	+8.7
2-Jan-25	-23.1	+9.0	-27.7	-29.5	-11.9	+7.5	+31.0	+22.0	+8.1
26-Dec-24	-19.9	+7.2	-23.7	-25.0	-9.5	+5.3	+25.1	+14.7	+7.1
19-Dec-24	-18.1	+2.0	-20.2	-20.5	-7.9	+0.9	+21.4	+14.6	+6.9
12-Dec-24	-17.3	-2.9	-19.4	-18.8	-8.4	+1.7	+22.8	+15.1	+8.1
5-Dec-24	-21.3	-0.2	-24.5	-16.3	-6.9	+11.9	+21.3	+24.9	+8.7
28-Nov-24	-16.4	+4.5	-19.4	-15.2	-15.2	+19.7	+18.8	+18.3	+6.6
21-Nov-24	-15.1	+13.6	-16.7	-14.1	-10.1	+17.8	+16.8	+15.6	+4.4
14-Nov-24	-12.9	+14.6	-10.9	-11.2	-8.0	+14.4	+16.2	+12.1	+0.9
7-Nov-24	-9.7	+11.4	-4.1	-1.6	-4.1	+9.0	+13.3	+1.4	-6.2
31-Oct-24	-7.6	+23.9	-2.7	-0.1	-3.0	+3.4	+8.0	-10.1	-4.8
24-Oct-24	-4.3	+7.6	-1.8	-0.3	-1.6	-7.9	+5.1	-30.6	-3.7

Note: Speculative position of CTAs here is a relative value, where the peak long position and peak short position since Jan 2015 are each set to 100.

Source: Bloomberg, Nomura.



## FX Themes

# FX Themes – Historical ST signals over the past month

## Short Term Signal (3d, 5d, 7d)

Date	FX theme	Commodities	Oil	Carry	Equity	Dollar
3/5/2025	Oil	-	Probable (1)	-	-	Probable (2)
3/6/2025	Dollar	-	-	-	-	Probable (1)
3/7/2025	Dollar	-	-	-	-	Probable (1)
3/10/2025	Dollar	-	-	-	-	Probable (1)
3/11/2025	Dollar	-	-	-	-	Probable (1)
3/12/2025	Dollar	-	-	-	-	Probable (1)
3/13/2025	Dollar	-	-	-	-	Probable (1)
3/14/2025	Equity	-	-	-	Probable (1)	Probable (2)
3/17/2025	Carry	-	-	Probable (1)	-	-
3/18/2025	Carry	-	-	Probable (1)	-	-
3/19/2025	Equity	-	-	-	Probable (1)	Probable (2)
3/20/2025	Dollar	-	-	-	-	Probable (1)
3/21/2025	Commodities	Probable (1)	-	Probable (2)	-	Probable (3)
3/24/2025	Dollar	-	-	-	-	Probable (1)
3/25/2025	Dollar	-	Probable (2)	-	-	Probable (1)
3/26/2025	Dollar	-	Probable (3)	Probable (2)	-	Probable (1)
3/27/2025	Dollar	-	-	-	-	Probable (1)
3/28/2025	Dollar	-	-	-	-	Probable (1)
3/31/2025	Carry	-	-	Probable (1)	-	-
4/1/2025	Equity	-	-	-	Probable (1)	-
4/2/2025	Commodities	Probable (1)	Probable (2)	-	-	-
4/4/2025	Dollar	-	-	-	-	Probable (1)
4/7/2025	Commodities	Probable (1)	-	-	Probable (2)	-
4/8/2025	Commodities	Probable (1)	-	Probable (2)	-	-
4/9/2025	Carry	-	-	Probable (1)	-	-
4/10/2025	Carry	Probable (2)	-	Probable (1)	Probable (3)	-
4/11/2025	Carry	-	Probable (3)	Probable (1)	-	Probable (2)
4/14/2025	Dollar	-	-	-	Probable (2)	Probable (1)
4/15/2025	Equity	-	-	-	Probable (1)	Probable (2)
4/16/2025	Equity	-	-	-	Probable (1)	Probable (2)
4/17/2025	Dollar	-	-	-	Probable (2)	Probable (1)
4/18/2025	Equity	-	-	-	Probable (1)	Probable (2)

# FX Themes – Historical LT signals over the past month

## Longer Term Signal (5d, 10d, 22d)

Date	FX theme	Commodities	Oil	Carry	Equity	Dollar
3/5/2025	Dollar	-	-	-	-	Probable (1)
3/6/2025	Dollar	-	-	-	-	Probable (1)
3/7/2025	Dollar	-	-	-	-	Probable (1)
3/10/2025	Dollar	-	-	-	-	Probable (1)
3/11/2025	Dollar	-	-	-	-	Probable (1)
3/12/2025	Dollar	-	-	-	-	Probable (1)
3/13/2025	Dollar	-	-	-	-	Probable (1)
3/14/2025	Dollar	-	-	-	-	Probable (1)
3/17/2025	Dollar	-	-	-	-	Probable (1)
3/18/2025	Dollar	-	-	-	-	Probable (1)
3/19/2025	Dollar	-	-	-	-	Probable (1)
3/20/2025	Dollar	-	-	-	-	Probable (1)
3/21/2025	Oil	Probable (3)	Probable (1)	Probable (2)	-	Probable (4)
3/24/2025	Dollar	-	-	-	-	Probable (1)
3/25/2025	Dollar	Probable (2)	-	-	-	Probable (1)
3/26/2025	Carry	-	-	Probable (1)	-	Probable (2)
3/27/2025	Dollar	-	-	-	-	Probable (1)
3/28/2025	Carry	-	Probable (2)	Probable (1)	-	Probable (3)
3/31/2025	Dollar	-	-	-	-	Probable (1)
4/1/2025	Equity	-	-	-	Probable (1)	Probable (2)
4/2/2025	Dollar	-	-	-	-	Probable (1)
4/4/2025	Dollar	-	-	-	-	Probable (1)
4/7/2025	Equity	-	-	-	Probable (1)	-
4/8/2025	Carry	-	-	Probable (1)	-	-
4/9/2025	Commodities	Probable (1)	-	Probable (2)	-	-
4/10/2025	Carry	-	-	Probable (1)	-	-
4/11/2025	Carry	Probable (2)	Probable (4)	Probable (1)	-	Probable (3)
4/14/2025	Carry	-	-	Probable (1)	-	Probable (2)
4/15/2025	Dollar	-	-	Probable (2)	-	Probable (1)
4/16/2025	Dollar	Probable (3)	Probable (4)	Probable (2)	-	Probable (1)
4/17/2025	Dollar	Probable (3)	-	Probable (2)	-	Probable (1)
4/18/2025	Dollar	-	-	-	-	Probable (1)

# **Global FX vol analytics & option strike distribution**

# FX Vol Summary

## Implied Vol Z-Scores

	1W	1M	2M	3M	6M	9M	1Y
USDKRW	0.27	0.63	0.58	0.74	0.77	0.52	0.36
USDCNH	0.04	0.26	0.36	0.41	0.59	0.82	0.93
USDCNY	0.04	0.23	0.26	0.26	0.36	0.58	0.71
USDHKD	-0.66	-0.21	-0.24	0.42	1.53	2.45	2.26
USDIDR	0.75	1.67	2.25	2.45	2.64	2.62	2.59
USDINR	1.58	1.69	1.68	1.65	1.55	1.35	1.26
USDPHP	-0.44	-0.34	-0.27	-0.24	-0.48	-0.75	-0.96
USDSGD	-0.35	0.09	0.56	0.77	0.79	0.54	0.46
USDTHW	0.90	0.98	0.97	1.19	1.28	1.24	1.11
EURUSD	1.57	2.17	2.49	2.52	2.32	1.98	1.65
EURGBP	2.56	3.04	3.24	3.34	3.28	3.21	2.98
EURJPY	0.41	0.87	1.43	1.33	1.47	1.50	1.37
USDJPY	1.57	2.27	2.11	2.45	2.38	1.97	1.28
AUDJPY	1.42	2.01	2.41	2.46	2.47	2.42	2.29
GBPJPY	0.83	1.62	2.26	2.19	2.00	1.77	1.32
GBPUSD	0.75	1.33	1.42	1.46	1.23	1.10	0.90
AUDUSD	0.86	1.58	1.91	2.08	2.06	1.98	1.88
USDCAD	0.11	0.57	0.49	0.66	0.59	0.44	0.29

## 25 Delta RR Z-Scores

	1W	1M	2M	3M	6M	9M	1Y
USDKRW	-0.96	-0.94	-0.81	-0.71	-0.48	-0.41	-0.37
USDCNH	0.85	0.85	0.92	0.97	1.40	1.72	1.92
USDCNY	0.85	0.84	0.92	0.97	1.39	1.71	1.91
USDHKD	-1.71	-2.21	-1.92	-1.24	-2.75	-2.44	-2.51
USDIDR	0.36	0.90	1.32	1.53	1.98	2.17	2.27
USDINR	-1.65	-1.18	-1.15	-1.04	-0.38	0.09	0.40
USDPHP	-3.05	-3.12	-3.00	-3.03	-2.20	-1.64	-1.41
USDSGD	-1.74	-2.19	-2.18	-2.52	-3.16	-3.41	-3.39
USDTHW	-1.86	-1.49	-1.28	-1.22	-0.96	-0.69	-0.34
EURUSD	2.83	3.09	3.09	3.11	3.15	3.18	3.18
EURGBP	1.90	2.06	2.23	2.38	2.73	2.98	3.09
EURJPY	-0.30	-0.65	-0.72	-0.55	-0.35	-0.14	0.09
USDJPY	-1.31	-2.34	-2.63	-2.76	-2.93	-3.03	-3.11
AUDJPY	-0.91	-1.36	-2.17	-2.39	-3.09	-3.57	-3.82
GBPJPY	-1.33	-1.56	-1.92	-1.96	-2.14	-2.19	-1.98
GBPUSD	2.05	2.24	2.34	2.36	2.48	2.64	2.75
AUDUSD	-0.59	-1.12	-1.13	-1.12	-1.12	-1.10	-1.08
USDCAD	-0.99	-1.37	-1.58	-1.72	-2.00	-2.18	-2.31

## Implied-Realized Vol Z-Scores

	1W	1M	2M	3M	6M	9M	1Y
USDKRW	-1.37	-3.25	-3.14	-2.75	-2.05	-1.39	-0.94
USDCNH	-0.19	-1.05	-0.28	-0.53	-0.02	0.15	-0.07
USDCNY	-0.17	0.27	0.74	0.41	0.61	-0.28	0.25
USDHKD	-0.26	-0.66	-0.35	0.43	1.92	4.04	2.13
USDIDR	-0.52	1.26	2.01	1.80	2.41	2.27	1.87
USDINR	0.06	-2.35	-1.47	-1.81	-1.76	-1.66	-1.28
USDPHP	-0.43	-0.70	1.58	1.42	0.55	-0.87	-0.64
USDSGD	-1.07	-1.73	-1.33	-2.23	-1.43	-1.35	-1.09
USDTHW	-0.75	-0.62	0.65	0.84	1.24	0.93	1.47
EURUSD	-0.05	-1.30	-1.46	-1.29	-1.52	-1.28	-1.21
EURGBP	-1.03	-0.54	0.37	1.43	1.63	0.90	0.28
EURJPY	-0.21	-0.01	-0.56	-0.81	0.78	0.90	-0.56
USDJPY	1.99	-0.82	0.14	1.19	1.67	2.54	-0.18
AUDJPY	-1.70	-3.70	-4.04	-3.48	-0.22	0.61	-2.05
GBPJPY	0.36	-1.23	0.14	0.67	1.55	1.91	-0.06
GBPUSD	0.22	-2.80	-1.51	-0.79	-1.31	-1.07	-0.76
AUDUSD	-1.82	-3.88	-4.04	-4.18	-3.49	-3.24	-2.68
USDCAD	-1.30	-2.38	-2.47	-2.59	-2.53	-2.25	-1.86

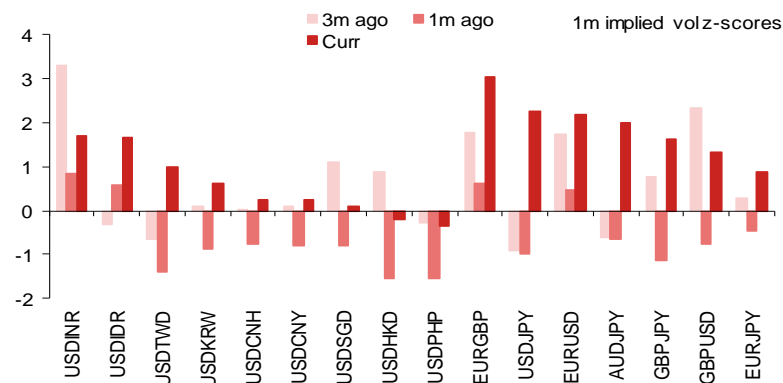
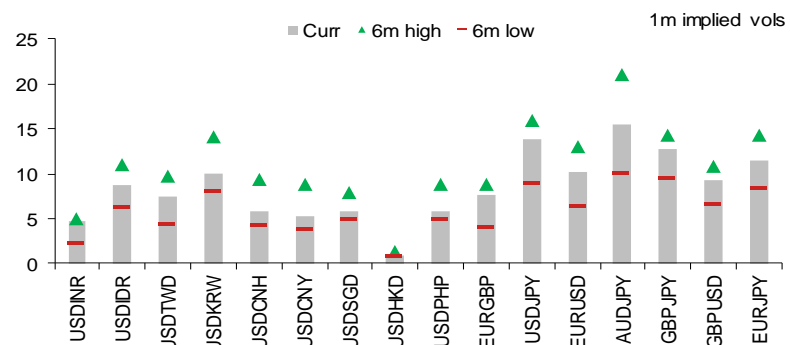
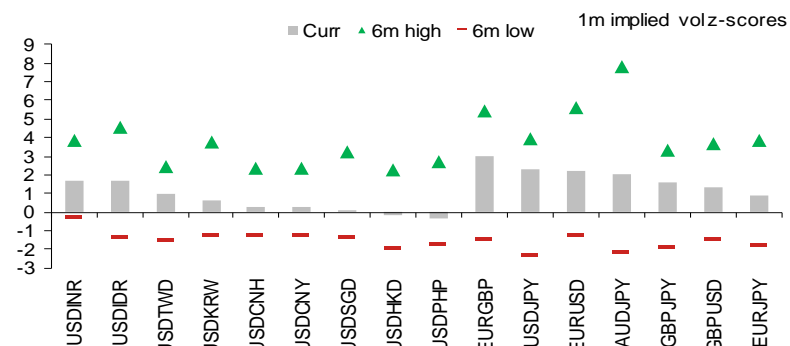
## 10 Delta RR Z-Scores

	1W	1M	2M	3M	6M	9M	1Y
USDKRW	-0.96	-0.94	-0.82	-0.72	-0.50	-0.43	-0.40
USDCNH	0.90	0.83	0.97	1.07	1.62	1.93	2.04
USDCNY	0.90	0.82	0.96	1.06	1.61	1.92	2.04
USDHKD	-1.90	-2.46	-2.20	-1.59	-3.52	-3.29	-3.68
USDIDR	0.35	0.88	1.30	1.52	1.96	2.15	2.25
USDINR	-1.64	-1.17	-1.14	-1.03	-0.36	0.06	0.37
USDPHP	-3.05	-3.11	-3.00	-3.05	-2.27	-1.70	-1.46
USDSGD	-1.75	-2.21	-2.21	-2.55	-3.20	-3.47	-3.45
USDTHW	-1.86	-1.50	-1.29	-1.24	-0.98	-0.71	-0.38
EURUSD	2.78	3.02	3.07	3.07	3.10	3.13	3.15
EURGBP	1.90	2.06	2.22	2.37	2.73	2.97	3.08
EURJPY	-0.30	-0.66	-0.73	-0.56	-0.37	-0.17	0.06
USDJPY	-1.31	-2.35	-2.61	-2.78	-2.97	-3.09	-3.17
AUDJPY	-0.92	-1.38	-2.19	-2.40	-3.09	-3.56	-3.81
GBPJPY	-1.33	-1.57	-1.93	-1.97	-2.17	-2.22	-2.01
GBPUSD	2.05	2.24	2.34	2.36	2.48	2.64	2.75
AUDUSD	-0.59	-1.12	-1.13	-1.09	-1.05	-1.01	-1.04
USDCAD	-1.00	-1.38	-1.60	-1.75	-2.03	-2.22	-2.30

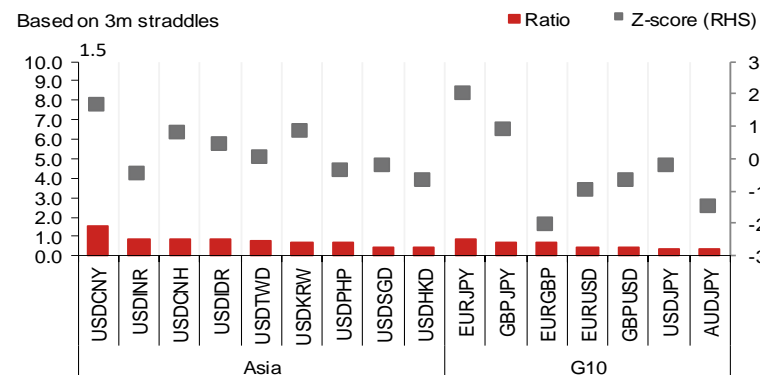
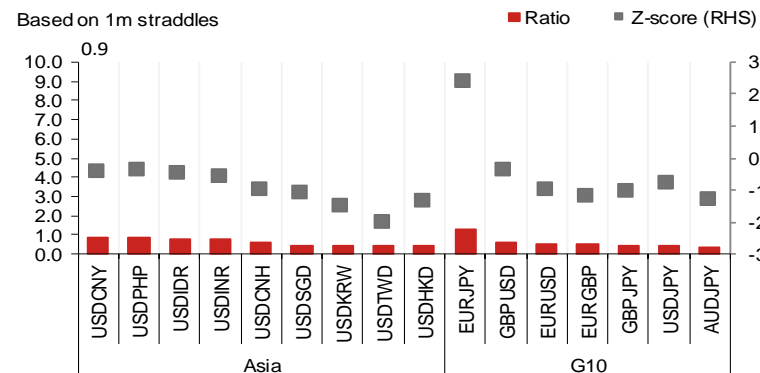
Note: Z-Scores calculated using a 120 trading day window. Conditional Formatting applied across columns, with larger values in the row being in green while lower values are in red.

# Global overview

## Implied vol trends<sup>1</sup>



## Delta-neutral straddle analysis: Cost of ATM straddle vs. % spot range for 1m or 3m



# Call/put spread leverage and z-scores

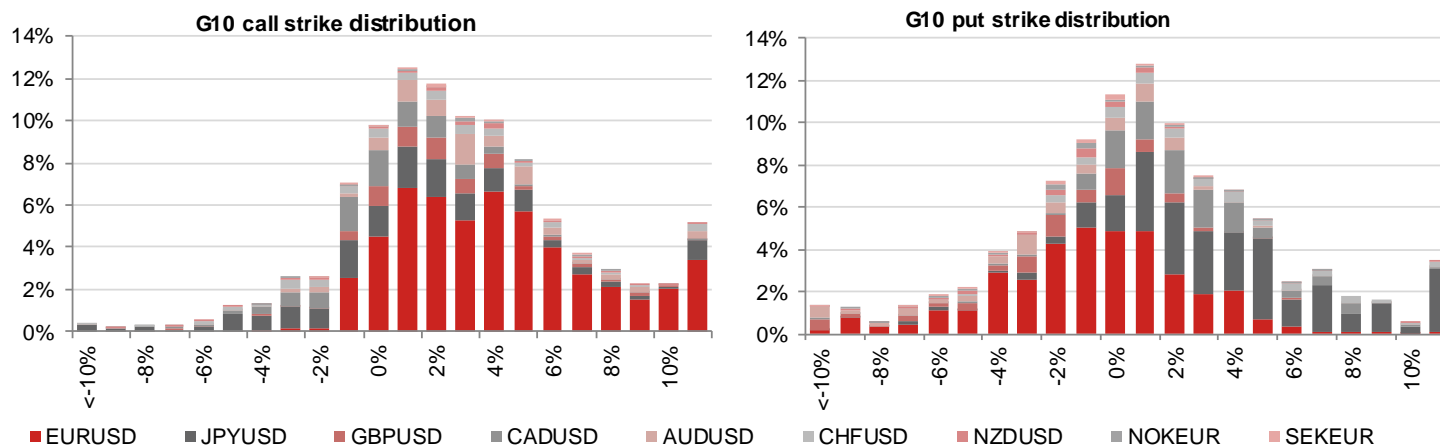
Leverage and z-scores for ATM vs. 10D and 25D call and put spreads<sup>1</sup>

		1 month spreads								3 month spreads							
		Leverage (1M tenor)				Z-scores (1M tenor)				Leverage (3M tenor)				Z-scores (3M tenor)			
		25D	10D	25D	10D	25D	10D	25D	10D	25D	10D	25D	10D	25D	10D	25D	10D
		call	call	put	put	call	call	put	put	call	call	put	put	call	call	put	put
Asia	USDKRW	3.07	4.43	3.41	4.32	-0.52	-0.43	1.57	1.61	3.35	5.01	3.82	4.54	-0.29	-0.20	1.31	1.32
	USDCNH	3.32	5.09	4.85	5.83	1.45	1.76	0.66	0.74	3.71	5.86	6.12	6.41	1.50	1.83	1.16	1.35
	USDCNY	2.72	4.03	1.57	3.03	-0.46	-0.19	-1.12	-1.17	3.07	4.71	2.11	3.42	-0.23	0.18	-0.77	-0.77
	USDHKD	2.73	3.55	32.52	21.25	-2.13	-2.90	5.40	3.17	3.15	4.63	-41.28	55.34	-0.97	-1.58	-0.15	2.77
	USDIDR	3.05	4.52	2.14	3.24	0.97	0.97	0.77	0.39	3.14	4.73	1.80	2.92	1.52	1.52	0.91	0.27
	USDINR	2.74	4.02	1.50	2.81	-0.54	-0.68	1.29	0.85	2.70	3.98	0.95	2.15	-0.13	-0.43	1.59	1.15
	USDPHP	2.93	4.26	2.51	3.75	-0.06	-0.05	0.89	1.00	3.00	4.42	2.23	3.49	0.03	0.03	0.70	0.79
	USDSGD	3.04	4.38	3.83	4.73	-0.59	-0.19	1.71	2.28	3.31	4.92	4.94	5.52	-0.43	-0.21	1.95	2.37
	USDTWD	3.30	4.93	13.93	10.42	1.96	1.88	5.78	4.80	3.55	5.41	14.63	10.29	1.66	1.65	3.89	3.20
G10	EURUSD	3.08	4.57	2.12	3.30	3.14	3.09	-1.28	-1.42	3.02	4.54	1.74	2.93	3.21	3.17	-1.02	-1.60
	EURGBP	3.06	4.51	1.95	3.05	1.88	2.10	0.77	0.55	3.05	4.55	1.49	2.61	2.17	2.40	0.62	0.46
	EURJPY	2.59	3.56	3.65	4.90	-0.81	-0.64	-1.40	-1.16	2.72	3.82	4.18	5.28	-0.78	-0.64	-1.33	-1.31
	USDJPY	2.65	3.73	4.48	5.63	-1.49	-1.08	-0.95	0.13	2.81	4.04	6.36	6.92	-1.90	-1.45	-1.21	0.43
	AUDJPY	2.60	3.55	4.11	5.36	-0.38	0.03	-2.00	-1.71	2.68	3.71	5.39	6.27	-1.78	-1.45	-2.10	-1.88
	GBPJPY	2.59	3.59	4.43	5.53	-1.57	-1.43	-1.69	-1.33	2.75	3.92	6.13	6.70	-1.69	-1.47	-2.01	-1.84
	GBPUSD	3.01	4.45	2.76	3.96	3.14	3.24	-2.37	-1.58	3.00	4.47	2.78	4.07	3.25	3.32	-3.01	-2.59

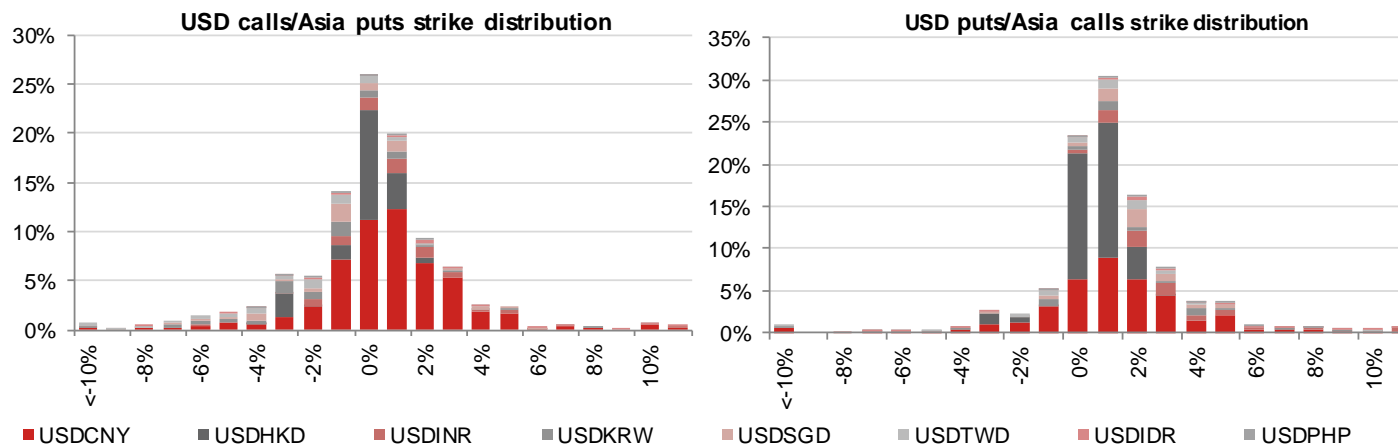
# SDR FX Analysis

Last 1m of option volume recorded at the DTCC as % of total regional activity

## G10



## Asia





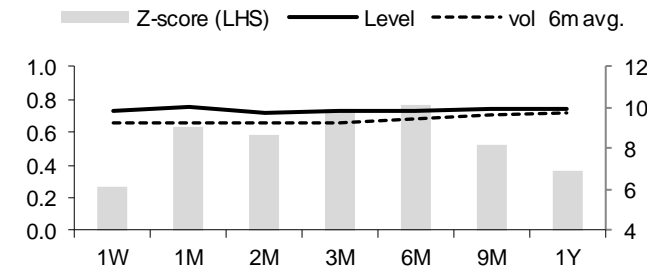
17-Apr-25	1W	1M	2M	3M	6M	9M	1Y
<b>Implied Vol</b>							
Z-score	0.3	0.6	0.6	0.7	0.8	0.5	0.4
Level	9.9	10.0	9.7	9.8	9.9	9.9	9.9
1m chg	2.4	1.6	1.2	1.2	1.0	0.9	0.8
Average	9.3	9.2	9.2	9.3	9.5	9.7	9.8
Max	20.7	13.9	12.0	11.3	10.4	10.6	10.8
Min	7.1	7.9	8.1	8.3	8.7	8.8	8.9
<b>25-delta Risk Reversals</b>							
Z-score	-1.0	-0.9	-0.8	-0.7	-0.5	-0.4	-0.4
Level	0.1	0.3	0.6	0.7	1.1	1.3	1.3
1m chg	-0.2	-0.1	-0.1	0.0	0.1	0.1	0.1
Max	0.7	1.7	1.7	1.8	1.9	1.9	2.0
Min	0.0	0.2	0.4	0.6	0.8	1.0	1.1
RR/ATM	0.0	0.0	0.1	0.1	0.1	0.1	0.1
Z-score	-1.0	-1.0	-0.9	-0.9	-0.7	-0.6	-0.6

1W	1M	2M	3M	6M	9M	1Y
<b>Implied-Realized Vol Spread</b>						
-1.4	-3.2	-3.1	-2.7	-2.1	-1.4	-0.9
-5.6	-5.6	-2.5	-1.0	0.5	0.7	1.2
-7.7	-6.0	-3.0	-1.7	-0.6	-0.2	0.2
1.2	1.3	1.3	1.3	1.3	1.4	1.7
16.9	7.3	3.5	3.2	2.2	2.5	2.8
-19.1	-5.7	-2.5	-1.2	0.3	0.5	0.9
<b>10-delta Risk Reversals</b>						
-1.0	-0.9	-0.8	-0.7	-0.5	-0.4	-0.4
0.2	0.6	1.1	1.5	2.2	2.5	2.7
-0.3	-0.3	-0.1	0.0	0.2	0.2	0.3
3.4	3.3	3.5	3.6	3.7	3.9	4.0
-0.1	0.4	0.8	1.1	1.7	2.0	2.2
0.0	0.1	0.1	0.1	0.2	0.3	0.3
-1.0	-1.0	-0.9	-0.9	-0.7	-0.7	-0.6

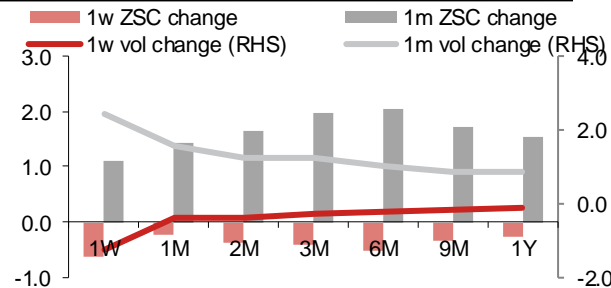
### Cost and leverage of 1M call and put spreads by strike delta<sup>1</sup>

Spot ref:		Δ	50D	40D	30D	20D	10D	CALLS
1,416.0	Strike		1,414	1,424	1,436	1,450	1,473	
Δ	Strike	Dist	0.00%	0.74%	1.57%	2.59%	4.16%	
50D	1,414	0.00%		2.35	2.72	3.26	4.24	
40D	1,424	0.74%	0.31%		3.16	3.85	5.13	
30D	1,436	1.57%	0.57%	0.26%		4.67	6.39	
20D	1,450	2.59%	0.79%	0.48%	0.22%		8.42	
10D	1,473	4.16%	0.98%	0.67%	0.41%	0.19%		
		Strike	1,414	1,404	1,393	1,380	1,361	PUTS
Δ	Strike	Dist	0.00%	-0.73%	-1.51%	-2.44%	-3.79%	
50D	1,414	0.00%		2.15	2.46	2.91	3.69	
40D	1,404	-0.73%	0.34%		2.84	3.41	4.44	
30D	1,393	-1.51%	0.61%	0.27%		4.11	5.50	
20D	1,380	-2.44%	0.84%	0.50%	0.23%		7.19	
10D	1,361	-3.79%	1.03%	0.69%	0.41%	0.19%		

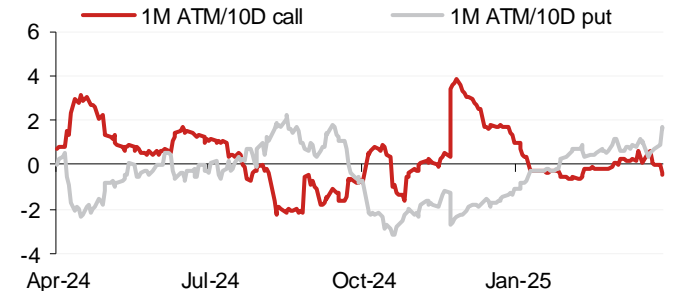
### Vol and z-score levels



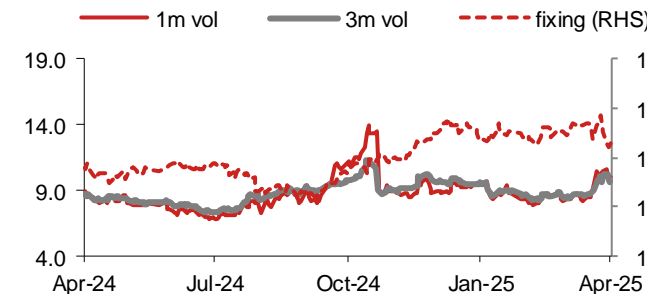
### Vol and z-score changes



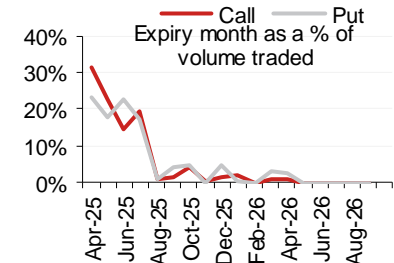
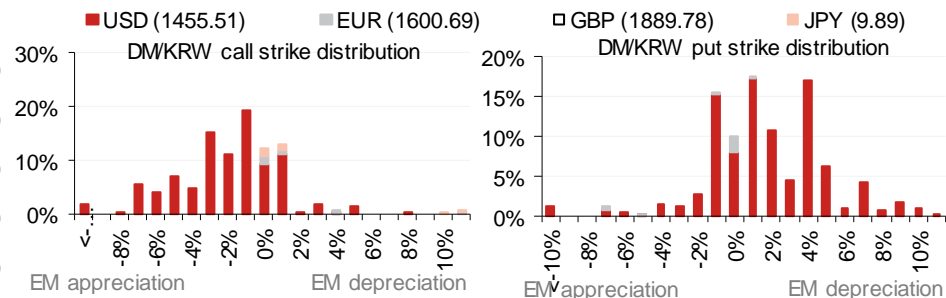
### Call/put spread leverage z-score



### Vol and spot FX fixing time series<sup>3</sup>



### DTCC analysis of strike and expiry distributions<sup>2</sup>



Source: Nomura. Note: all Z-scores, avg, min and max are based on 120 trading day window; 1) Upper quadrant is ratio of max. payout/cost; lower quadrant is cost of call/put spread; 2) DTCC volume is total traded over the past 1m; numbers in parentheses are average spot values over the past 1m as of publication; 3) Fixing used is KRW F000 Currency

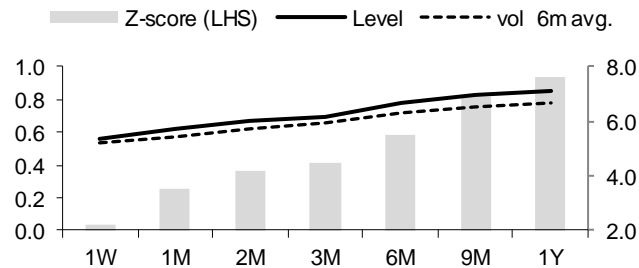
17-Apr-25	1W	1M	2M	3M	6M	9M	1Y
<b>Implied Vol</b>							
Z-score	0.0	0.3	0.4	0.4	0.6	0.8	0.9
Level	5.3	5.7	6.0	6.2	6.6	6.9	7.1
1m chg	1.1	0.9	1.0	1.1	1.0	1.0	1.1
Average	5.2	5.4	5.7	5.9	6.3	6.5	6.7
Max	15.3	9.2	7.8	7.7	7.7	7.7	7.8
Min	2.8	4.2	4.6	4.9	5.4	5.7	5.9
<b>25-delta Risk Reversals</b>							
Z-score	0.8	0.8	0.9	1.0	1.4	1.7	1.9
Level	0.0	0.1	0.3	0.4	0.8	1.0	1.1
1m chg	0.3	0.2	0.2	0.2	0.2	0.3	0.3
Max	1.8	1.5	1.5	1.5	1.5	1.6	1.6
Min	-1.2	-0.8	-0.5	-0.2	0.2	0.3	0.4
RR/ATM	0.0	0.0	0.0	0.1	0.1	0.1	0.2
Z-score	1.0	0.9	0.9	0.9	1.2	1.4	1.5

1W	1M	2M	3M	6M	9M	1Y
<b>Implied-Realized Vol Spread</b>						
-0.2	-1.1	-0.3	-0.5	0.0	0.1	-0.1
0.5	-0.6	1.0	1.2	1.8	2.4	2.8
-2.1	-1.9	0.8	0.2	0.6	1.1	0.8
1.0	1.1	1.3	1.5	1.8	2.3	2.8
11.5	5.5	4.0	3.5	3.0	3.4	3.9
-5.1	-1.4	-0.1	0.6	1.0	1.2	1.9
<b>10-delta Risk Reversals</b>						
0.9	0.8	1.0	1.1	1.6	1.9	2.0
-0.1	0.1	0.6	0.9	1.7	2.2	2.6
0.4	0.3	0.4	0.4	0.6	0.8	0.9
2.4	2.4	2.9	3.1	3.4	3.5	3.7
-1.9	-1.6	-0.9	-0.4	0.3	0.6	0.8
0.0	0.0	0.1	0.1	0.3	0.3	0.4
1.0	0.9	1.0	1.0	1.5	1.7	1.7

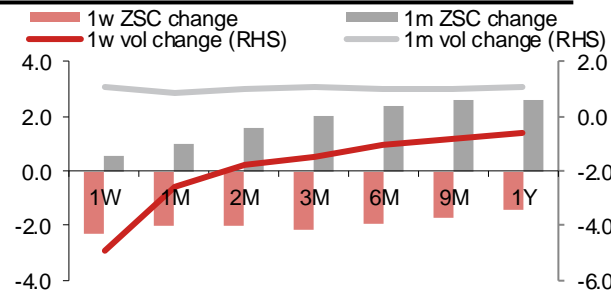
### Cost and leverage of 1M call and put spreads by strike delta<sup>1</sup>

Spot ref:		Δ	50D	40D	30D	20D	10D	CALLS
7.30		Strike	7.28	7.31	7.35	7.39	7.47	
Δ	Strike	Dist	0.00%	0.43%	0.90%	1.51%	2.52%	
50D	7.28	0.00%	2.29	2.67	3.26	4.43	4.43	
40D	7.31	0.43%	0.19%	3.15	3.92	5.47	5.47	
30D	7.35	0.90%	0.34%	0.15%	4.85	6.98	6.98	
20D	7.39	1.51%	0.46%	0.28%	0.13%	9.49	9.49	
10D	7.47	2.52%	0.57%	0.38%	0.23%	0.11%	0.11%	
Δ	Strike	Dist	0.00%	-0.43%	-0.90%	-1.51%	-2.50%	PUTS
50D	7.28	0.00%	2.26	2.64	3.21	4.31	4.31	
40D	7.25	-0.43%	0.19%	3.11	3.85	5.30	5.30	
30D	7.22	-0.90%	0.34%	0.15%	4.73	6.71	6.71	
20D	7.17	-1.51%	0.47%	0.28%	0.13%	9.02	9.02	
10D	7.10	-2.50%	0.58%	0.39%	0.24%	0.11%	0.11%	

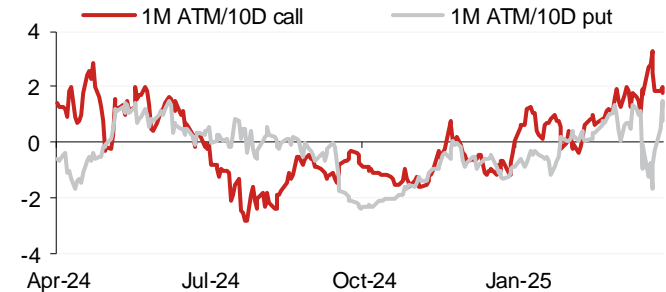
### Vol and z-score levels



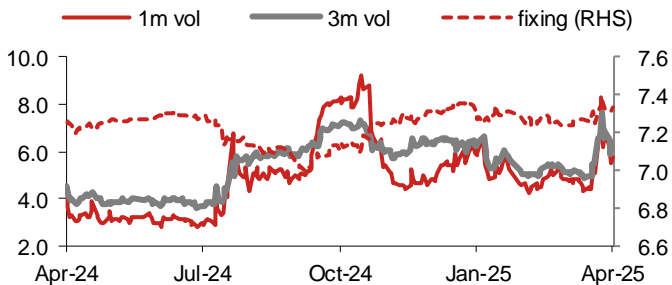
### Vol and z-score changes



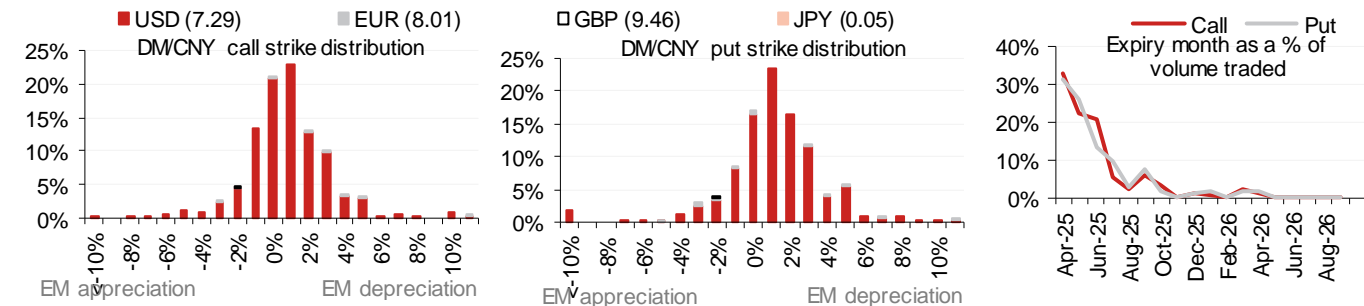
### Call/put spread leverage z-score



### Vol and spot FX fixing time series<sup>3</sup>



### DTCC analysis of strike and expiry distributions<sup>2</sup>



Source: Nomura. Note: all z-scores, avg, min and max are based on 120 trading day window; 1) Upper quadrant is ratio of max. payout/cost; lower quadrant is cost of call/put spread; 2) DTCC volume is total for CNH and CNY traded over the past 1m; numbers in parentheses are average spot values over the past 1m as of publication. 3) Fixing used is CNYMUSD Index

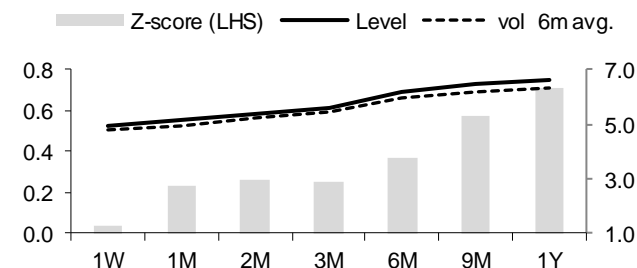
17-Apr-25	1W	1M	2M	3M	6M	9M	1Y
<b>Implied Vol</b>							
Z-score	0.0	0.2	0.3	0.3	0.4	0.6	0.7
Level	4.9	5.2	5.4	5.6	6.1	6.4	6.6
1m chg	1.1	0.9	1.0	1.0	0.9	0.9	1.0
Average	4.8	4.9	5.2	5.4	5.9	6.1	6.3
Max	14.7	8.7	7.3	6.9	7.0	7.1	7.2
Min	2.4	3.7	4.0	4.3	5.0	5.3	5.5
<b>25-delta Risk Reversals</b>							
Z-score	0.9	0.8	0.9	1.0	1.4	1.7	1.9
Level	0.0	0.1	0.3	0.4	0.8	1.0	1.1
1m chg	0.3	0.2	0.2	0.2	0.2	0.3	0.3
Max	1.8	1.5	1.5	1.5	1.5	1.6	1.6
Min	-1.2	-0.8	-0.5	-0.2	0.2	0.3	0.4
RR/ATM	0.0	0.0	0.1	0.1	0.1	0.2	0.2
Z-score	1.0	0.9	0.9	0.9	1.2	1.4	1.5

1W	1M	2M	3M	6M	9M	1Y
<b>Implied-Realized Vol Spread</b>						
-0.2	0.3	0.7	0.4	0.6	-0.3	0.3
1.2	2.0	2.4	2.0	2.6	2.5	3.2
-0.9	0.9	1.8	0.6	1.1	0.8	0.8
1.7	1.6	1.7	1.8	2.2	2.7	3.0
11.8	5.3	3.8	3.4	3.5	3.8	4.0
-2.6	-1.0	0.0	0.8	1.3	1.5	2.1
<b>10-delta Risk Reversals</b>						
0.9	0.8	1.0	1.1	1.6	1.9	2.0
-0.1	0.1	0.6	0.9	1.7	2.2	2.6
0.4	0.3	0.4	0.4	0.6	0.8	0.9
2.4	2.4	2.9	3.1	3.4	3.5	3.7
-1.9	-1.6	-0.9	-0.4	0.3	0.6	0.8
0.0	0.0	0.1	0.2	0.3	0.3	0.4
0.9	0.9	1.0	1.0	1.5	1.7	1.7

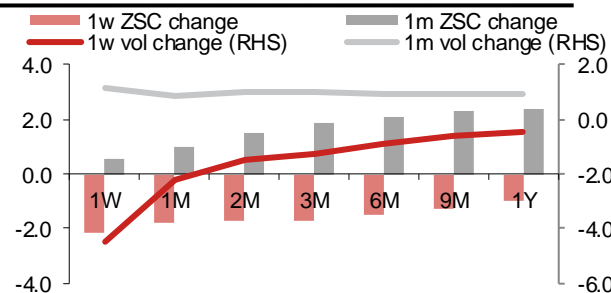
## Cost and leverage of 1M call and put spreads by strike delta<sup>1</sup>

Spot ref:		Δ	50D	40D	30D	20D	10D	CALLS
7.21	Strike	7.22	7.25	7.28	7.32	7.39		
Δ	Strike	Dist	0.00%	0.37%	0.79%	1.33%	2.24%	
50D	7.22	0.00%	2.30	2.70	3.31	4.52		
40D	7.25	0.37%	0.16%	3.19	3.99	5.60		
30D	7.28	0.79%	0.29%	0.13%	4.95	7.17		
20D	7.32	1.33%	0.40%	0.24%	0.11%	9.78		
10D	7.39	2.24%	0.50%	0.33%	0.20%	0.09%		
Δ	Strike	Dist	0.00%	-0.37%	-0.79%	-1.34%	-2.23%	PUTS
50D	7.22	0.00%	2.29	2.68	3.28	4.44		
40D	7.20	-0.37%	0.16%	3.16	3.94	5.47		
30D	7.17	-0.79%	0.30%	0.13%	4.86	6.94		
20D	7.13	-1.34%	0.41%	0.24%	0.11%	9.37		
10D	7.06	-2.23%	0.50%	0.34%	0.21%	0.10%		

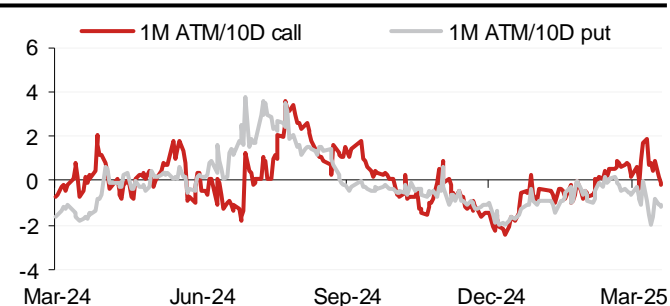
## Vol and z-score levels



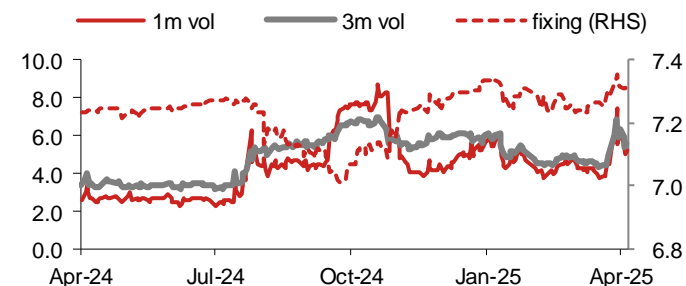
## Vol and z-score changes



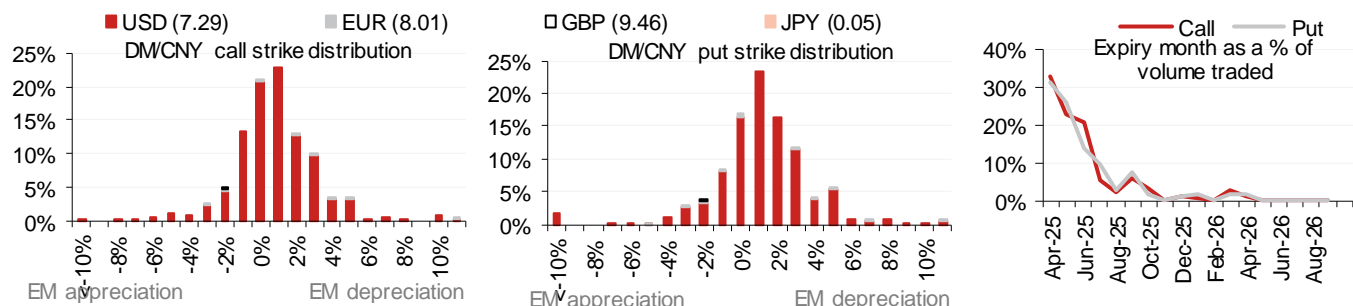
## Call/put spread leverage z-score



## Vol and spot FX fixing time series<sup>3</sup>



## DTCC analysis of strike and expiry distributions<sup>2</sup>



Source: Nomura. Note: all z-scores, avg, min and max are based on 120 trading day window; 1) Upper quadrant is ratio of max. payout/cost; lower quadrant is cost of call/put spread; 2) DTCC volume is total for CNH and CNY traded over the past 1m; numbers in parentheses are average spot values over the past 1m as of publication. 3) Fixing used is CNYMUSD Index

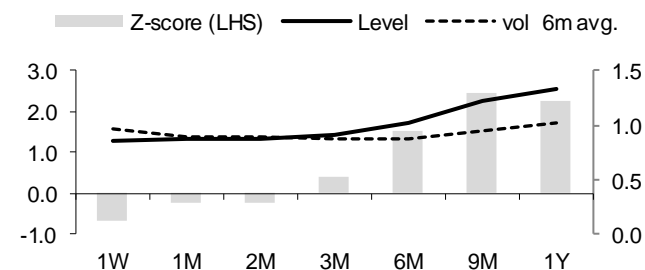
17-Apr-25	1W	1M	2M	3M	6M	9M	1Y
<b>Implied Vol</b>							
Z-score	-0.7	-0.2	-0.2	0.4	1.5	2.5	2.3
Level	0.9	0.9	0.9	0.9	1.0	1.2	1.3
1m chg	0.1	0.0	0.0	0.1	0.2	0.4	0.4
Average	1.0	0.9	0.9	0.9	0.9	1.0	1.0
Max	1.4	1.2	1.1	1.1	1.1	1.2	1.3
Min	0.7	0.7	0.8	0.7	0.7	0.8	0.8
<b>25-delta Risk Reversals</b>							
Z-score	-1.7	-2.2	-1.9	-1.2	-2.7	-2.4	-2.5
Level	-0.3	-0.4	-0.5	-0.7	-1.0	-1.3	-1.5
1m chg	-0.4	-0.5	-0.5	-0.5	-0.4	-0.3	-0.4
Max	0.2	0.1	0.1	-0.2	-0.6	-0.7	-0.8
Min	-0.4	-0.4	-0.5	-0.8	-1.0	-1.3	-1.6
RR/ATM	-0.4	-0.5	-0.6	-0.7	-1.0	-1.1	-1.2
Z-score	-2.1	-2.4	-2.1	-1.2	-2.1	-0.3	-0.2

1W	1M	2M	3M	6M	9M	1Y
<b>Implied-Realized Vol Spread</b>						
-0.3	-0.7	-0.4	0.4	1.9	4.0	2.1
0.3	0.2	0.2	0.3	0.4	0.6	0.5
-0.1	0.0	0.0	0.2	0.2	0.6	0.4
0.4	0.3	0.3	0.2	0.1	0.1	0.2
1.0	0.7	0.6	0.5	0.4	0.6	0.5
-0.2	0.1	0.1	-0.5	-0.2	-0.1	0.0
<b>10-delta Risk Reversals</b>						
-1.9	-2.5	-2.2	-1.6	-3.5	-3.3	-3.7
-0.9	-1.2	-1.5	-1.9	-2.9	-3.7	-4.4
-1.2	-1.4	-1.4	-1.3	-1.3	-1.2	-1.5
0.5	0.3	0.2	-0.5	-1.5	-1.8	-2.0
-1.0	-1.2	-1.5	-1.9	-2.9	-3.7	-4.4
-1.1	-1.4	-1.7	-2.1	-2.8	-3.1	-3.3
-2.4	-2.6	-2.4	-1.6	-3.2	-0.9	-1.0

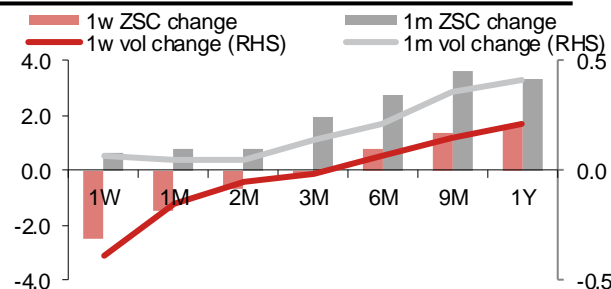
Cost and leverage of 1M call and put spreads by strike delta<sup>1</sup>

Spot ref:		Δ	50D	40D	30D	20D	10D	CALLS
7.76	Strike	7.76	7.76	7.77	7.77	7.78	7.78	
Δ	Strike	Dist	0.00%	0.07%	0.14%	0.22%	0.30%	
50D	7.76	0.00%	1.87	2.10	2.38	2.76	3.26	
40D	7.76	0.07%	0.04%	2.42	2.76	3.26	3.87	
30D	7.77	0.14%	0.07%	0.03%	3.18	3.87	4.77	
20D	7.77	0.22%	0.09%	0.05%	0.02%	4.77		
10D	7.78	0.30%	0.11%	0.07%	0.04%	0.02%		
Δ	Strike	Dist	0.00%	-0.08%	-0.20%	-0.40%	-0.83%	PUTS
50D	7.76	0.00%	3.10	4.08	5.83	9.27	11.89	
40D	7.75	-0.08%	0.03%	5.30	7.61	15.36	19.95	
30D	7.74	-0.20%	0.05%	0.02%	10.19	15.36	19.95	
20D	7.73	-0.40%	0.07%	0.04%	0.02%	19.95		
10D	7.69	-0.83%	0.09%	0.06%	0.04%	0.02%		

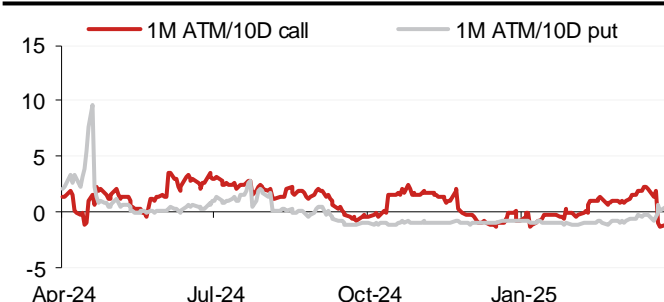
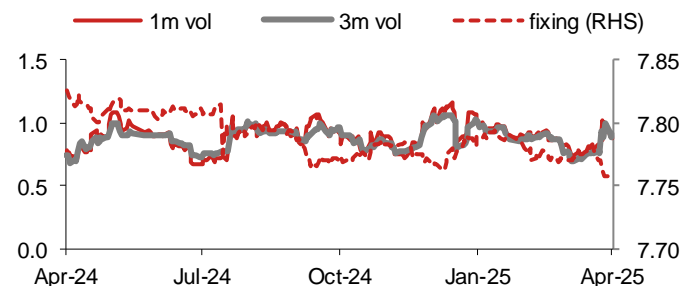
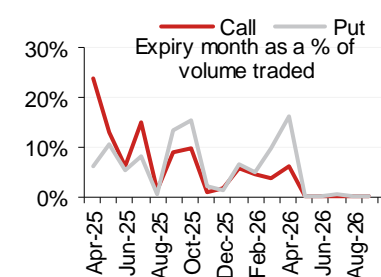
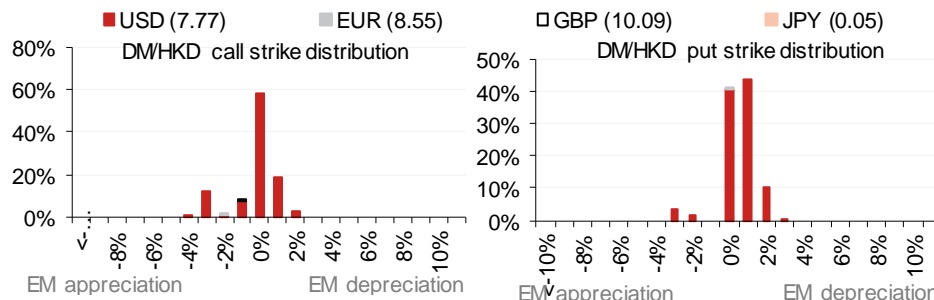
Vol and z-score levels



Vol and z-score changes



Call/put spread leverage z-score

Vol and spot FX fixing time series<sup>3</sup>DTCC analysis of strike and expiry distributions<sup>2</sup>

Source: Nomura. Note: all z-scores, avg, min and max are based on 120 trading day window; 1) Upper quadrant is ratio of max. payout/cost; lower quadrant is cost of call/put spread 2) DTCC volume is total traded over the past 1m; numbers in parentheses are average spot values over the past 1m as of publication, 3) Fixing used is UHFNSPOT Index

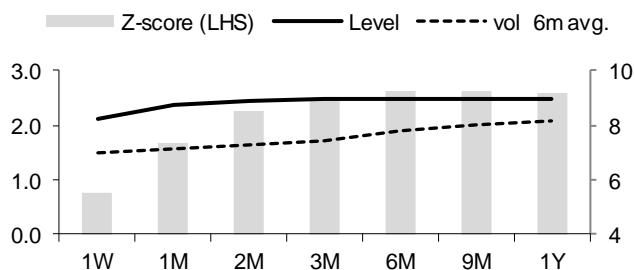
17-Apr-25	1W	1M	2M	3M	6M	9M	1Y
<b>Implied Vol</b>							
Z-score	0.8	1.7	2.3	2.4	2.6	2.6	2.6
Level	8.2	8.7	8.9	8.9	9.0	8.9	8.9
1m chg	1.9	1.7	1.8	1.7	1.4	1.1	1.0
Average	7.0	7.1	7.3	7.4	7.8	8.0	8.2
Max	13.7	10.9	10.1	9.8	9.6	9.4	9.3
Min	5.3	6.2	6.5	6.7	7.2	7.5	7.7
<b>25-delta Risk Reversals</b>							
Z-score	0.4	0.9	1.3	1.5	2.0	2.2	2.3
Level	0.6	0.8	1.0	1.1	1.4	1.5	1.5
1m chg	0.0	0.1	0.2	0.3	0.4	0.4	0.5
Max	1.8	1.6	1.6	1.6	1.7	1.7	1.7
Min	0.2	0.3	0.4	0.4	0.5	0.6	0.6
RR/ATM	0.1	0.1	0.1	0.1	0.2	0.2	0.2
Z-score	0.1	0.5	0.9	1.1	1.6	1.9	2.0

1W	1M	2M	3M	6M	9M	1Y
<b>Implied-Realized Vol Spread</b>						
-0.5	1.3	2.0	1.8	2.4	2.3	1.9
0.0	2.7	2.9	2.9	3.2	2.2	2.7
-0.8	1.7	1.7	1.2	1.6	0.9	0.9
1.4	1.4	1.3	1.2	1.3	1.6	2.1
10.4	5.9	4.5	4.3	4.0	2.8	3.2
-4.8	-0.1	-0.7	-0.6	0.4	1.2	1.5
<b>10-delta Risk Reversals</b>						
0.4	0.9	1.3	1.5	2.0	2.2	2.2
1.3	1.7	1.9	2.2	2.7	2.9	3.0
0.0	0.2	0.4	0.5	0.8	0.9	0.9
4.0	3.3	3.1	3.2	3.3	3.4	3.4
0.4	0.5	0.7	0.9	1.0	1.1	1.2
0.2	0.2	0.2	0.2	0.3	0.3	0.3
0.1	0.5	0.9	1.1	1.6	1.9	2.0

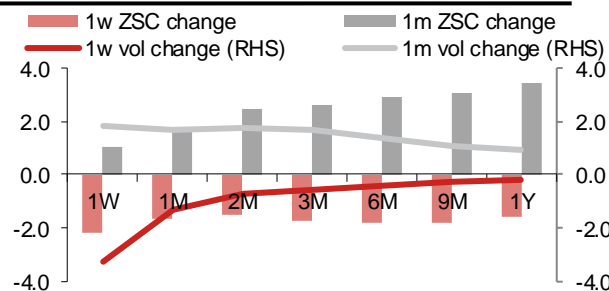
### Cost and leverage of 1M call and put spreads by strike delta<sup>1</sup>

Spot ref:		Δ	50D	40D	30D	20D	10D	CALLS
16,838	Strike	16,864	16,978	17,109	17,280	17,560		
Δ	Strike	Dist	0.00%	0.68%	1.45%	2.47%	4.13%	
50D	16,864	0.00%	2.47	2.89	3.54	4.75		
40D	16,978	0.68%	0.27%	3.40	4.23	5.80		
30D	17,109	1.45%	0.50%	0.23%	5.19	7.30		
20D	17,280	2.47%	0.70%	0.43%	0.20%	9.73		
10D	17,560	4.13%	0.87%	0.60%	0.37%	0.17%		
		Strike	16,868	16,758	16,642	16,504	16,303	
Δ	Strike	Dist	0.00%	-0.65%	-1.34%	-2.16%	-3.35%	PUTS
50D	16,868	0.00%	2.10	2.40	2.84	3.63		
40D	16,758	-0.65%	0.31%	2.78	3.36	4.40		
30D	16,642	-1.34%	0.56%	0.25%	4.06	5.49		
20D	16,504	-2.16%	0.76%	0.45%	0.20%	7.23		
10D	16,303	-3.35%	0.92%	0.61%	0.37%	0.16%		

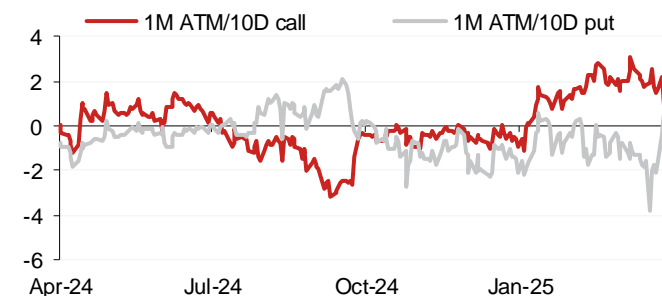
### Vol and z-score levels



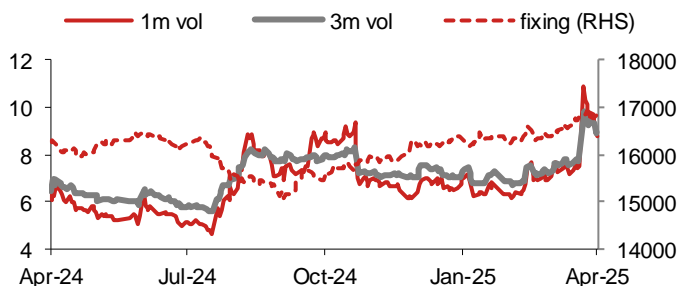
### Vol and z-score changes



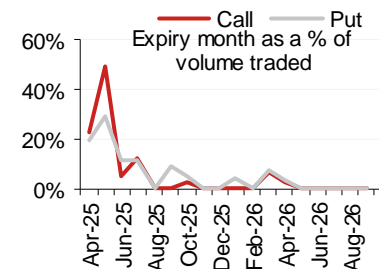
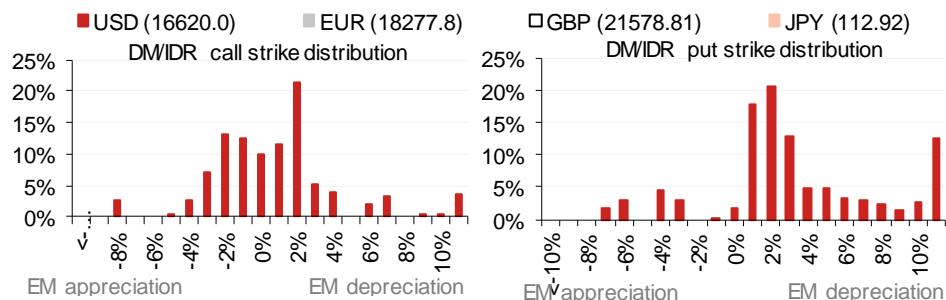
### Call/put spread leverage z-score



### Vol and spot FX fixing time series<sup>3</sup>



### DTCC analysis of strike and expiry distributions<sup>2</sup>



Source: Nomura. Note: all z-scores, avg, min and max are based on 120 trading day window; 1) Upper quadrant is ratio of max. payout/cost; lower quadrant is cost of call/put spread; 2) DTCC volume is total traded over the past 1m; numbers in parentheses are average spot values over the past 1m as of publication; 3) Fixing used is JISDOR Index

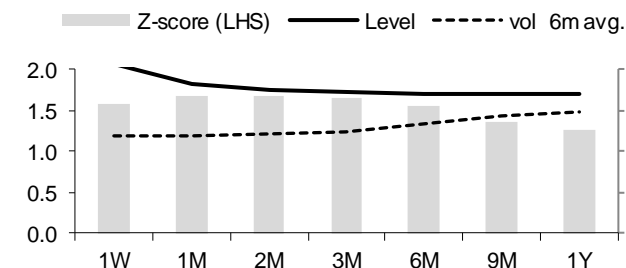
17-Apr-25	1W	1M	2M	3M	6M	9M	1Y
<b>Implied Vol</b>							
Z-score	1.6	1.7	1.7	1.7	1.6	1.4	1.3
Level	5.1	4.6	4.5	4.5	4.4	4.4	4.4
1m chg	1.8	1.1	0.9	0.8	0.5	0.4	0.3
Average	3.4	3.4	3.4	3.5	3.7	3.8	3.9
Max	6.3	4.9	4.6	4.5	4.5	4.6	4.6
Min	1.4	2.2	2.3	2.5	2.8	3.1	3.3
<b>25-delta Risk Reversals</b>							
Z-score	-1.6	-1.2	-1.2	-1.0	-0.4	0.1	0.4
Level	0.0	0.2	0.3	0.4	0.6	0.7	0.8
1m chg	-0.2	-0.1	0.0	0.0	0.0	0.1	0.1
Max	0.9	0.8	0.8	0.8	0.9	1.0	1.0
Min	0.0	0.2	0.3	0.4	0.5	0.6	0.6
RR/ATM	0.0	0.0	0.1	0.1	0.1	0.2	0.2
Z-score	-1.6	-1.4	-1.5	-1.6	-1.3	-0.9	-0.5

1W	1M	2M	3M	6M	9M	1Y
<b>Implied-Realized Vol Spread</b>						
0.1	-2.3	-1.5	-1.8	-1.8	-1.7	-1.3
1.1	-0.9	0.1	0.2	1.0	1.5	1.8
0.3	-1.6	0.0	-0.2	-0.4	-0.3	-0.2
1.0	0.9	1.1	1.3	1.8	2.0	2.2
3.6	2.2	2.2	2.4	2.7	2.6	2.8
-3.6	-0.9	-0.1	0.2	1.0	1.5	1.7
<b>10-delta Risk Reversals</b>						
-1.6	-1.2	-1.1	-1.0	-0.4	0.1	0.4
0.0	0.4	0.6	0.8	1.2	1.4	1.5
-0.3	-0.1	-0.1	-0.1	0.0	0.1	0.1
1.8	1.6	1.6	1.6	1.8	1.9	2.0
0.0	0.3	0.6	0.7	0.9	1.1	1.2
0.0	0.1	0.1	0.2	0.3	0.3	0.4
-1.6	-1.4	-1.6	-1.6	-1.3	-0.9	-0.5

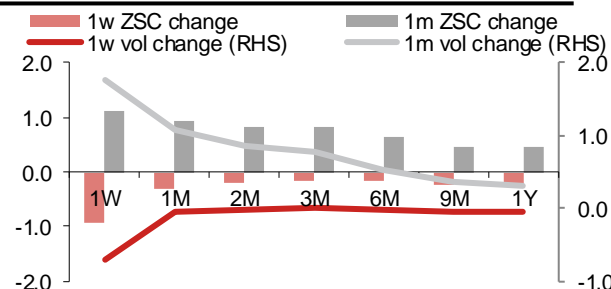
**Cost and leverage of 1M call and put spreads by strike delta<sup>1</sup>**

Spot ref:		Δ	50D	40D	30D	20D	10D	CALLS
85.4		Strike	85.6	85.9	86.2	86.7	87.4	
Δ	Strike	Dist	0.00%	0.36%	0.77%	1.29%	2.15%	
50D	85.6	0.00%	0.00%	2.38	2.78	3.39	4.57	
40D	85.9	0.36%	0.15%	0.00%	3.26	4.05	5.60	
30D	86.2	0.77%	0.28%	0.12%	0.00%	4.99	7.09	
20D	86.7	1.29%	0.38%	0.23%	0.11%	0.00%	9.54	
10D	87.4	2.15%	0.47%	0.32%	0.20%	0.09%	0.00%	
		Strike	85.6	85.3	85.0	84.6	83.9	
Δ	Strike	Dist	0.00%	-0.35%	-0.73%	-1.20%	-1.94%	
50D	85.6	0.00%	0.00%	2.18	2.51	3.02	3.99	PUTS
40D	85.3	-0.35%	0.16%	0.00%	2.93	3.60	4.89	
30D	85.0	-0.73%	0.29%	0.13%	0.00%	4.41	6.19	
20D	84.6	-1.20%	0.40%	0.24%	0.11%	0.00%	8.34	
10D	83.9	-1.94%	0.49%	0.33%	0.20%	0.09%	0.00%	

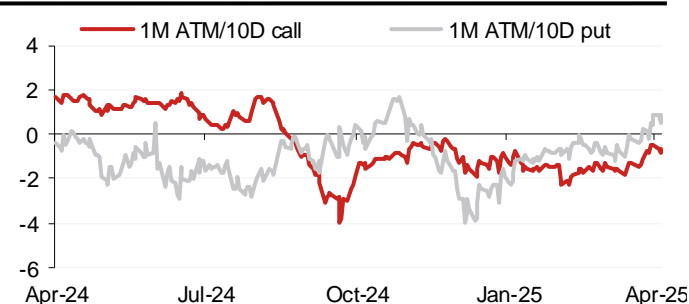
**Vol and z-score levels**



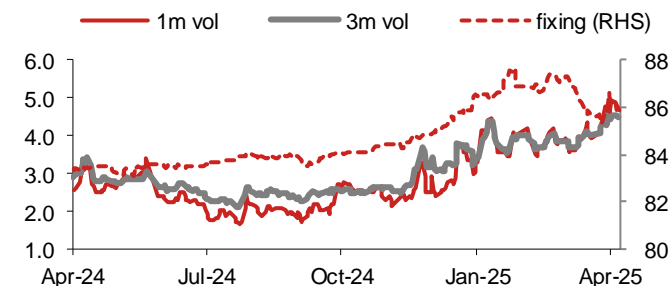
**Vol and z-score changes**



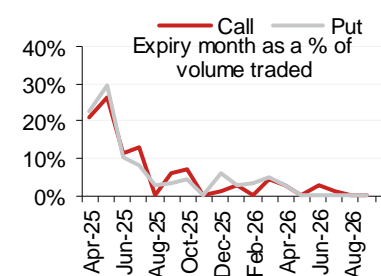
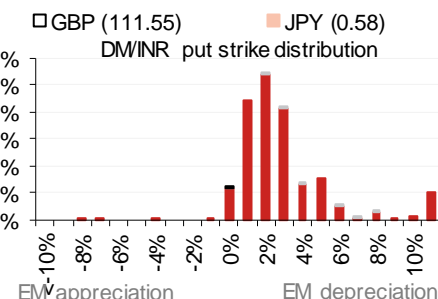
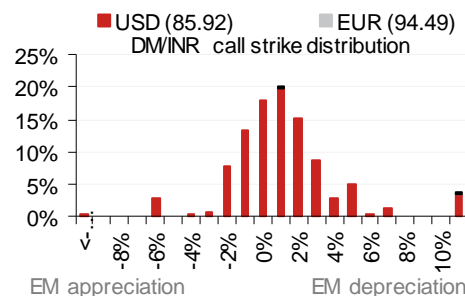
**Call/put spread leverage z-score**



**Vol and spot FX fixing time series<sup>3</sup>**



**DTCC analysis of strike and expiry distributions<sup>2</sup>**



Source: Nomura. Note: all z-scores, avg, min and max are based on 120 trading day window; 1) Upper quadrant is ratio of max. payout/cost; lower quadrant is cost of call/put spread 2) DTCC volume is total traded over the past 1m; numbers in parentheses are average spot values over the past 1m as of publication, 3) Fixing used is INRRATE Index



17-Apr-25	1W	1M	2M	3M	6M	9M	1Y
<b>Implied Vol</b>							
Z-score	-0.4	-0.3	-0.3	-0.2	-0.5	-0.7	-1.0
Level	5.5	5.7	5.8	5.9	6.0	6.0	6.1
1m chg	0.8	0.7	0.7	0.7	0.5	0.3	0.3
Average	6.1	6.0	6.0	6.0	6.1	6.3	6.4
Max	12.6	8.7	7.7	7.2	6.9	6.7	6.8
Min	4.3	4.8	4.9	5.1	5.4	5.6	5.8
<b>25-delta Risk Reversals</b>							
Z-score	-3.0	-3.1	-3.0	-3.0	-2.2	-1.6	-1.4
Level	0.1	0.2	0.2	0.3	0.4	0.5	0.6
1m chg	-0.2	-0.1	-0.1	-0.1	0.0	0.0	0.0
Max	0.5	0.5	0.5	0.6	0.6	0.7	0.7
Min	0.1	0.1	0.2	0.3	0.4	0.5	0.6
RR/ATM	0.0	0.0	0.0	0.0	0.1	0.1	0.1
Z-score	-2.5	-2.4	-2.4	-2.6	-2.4	-2.0	-1.5

1W	1M	2M	3M	6M	9M	1Y
<b>Implied-Realized Vol Spread</b>						
-0.4	-0.7	1.6	1.4	0.5	-0.9	-0.6
0.6	0.5	1.7	1.5	1.0	0.7	1.0
-1.9	-1.0	0.6	1.1	0.7	0.3	0.4
1.4	1.1	0.9	0.8	0.8	1.0	1.2
7.2	3.0	2.1	2.2	1.7	1.5	1.7
-3.7	-0.5	0.1	-0.1	0.2	0.4	0.5
<b>10-delta Risk Reversals</b>						
-3.0	-3.1	-3.0	-3.1	-2.3	-1.7	-1.5
0.1	0.3	0.4	0.5	0.8	0.9	1.1
-0.3	-0.3	-0.2	-0.2	-0.1	-0.1	0.0
0.9	0.9	1.0	1.0	1.2	1.3	1.4
0.1	0.3	0.4	0.5	0.8	0.9	1.1
0.0	0.0	0.1	0.1	0.1	0.2	0.2
-2.5	-2.4	-2.4	-2.6	-2.4	-2.0	-1.6

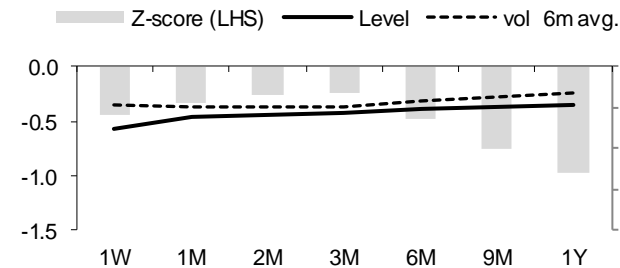
## Cost and leverage of 1M call and put spreads by strike delta<sup>1</sup>

Spot ref:		Δ	50D	40D	30D	20D	10D	CALLS
56.6		Strike	56.7	57.0	57.2	57.6	58.2	
Δ	Strike	Dist	0.00%	0.44%	0.94%	1.58%	2.57%	
50D	56.7	0.00%		2.35	2.74	3.32	4.37	
40D	57.0	0.44%	0.19%		3.22	3.96	5.33	
30D	57.2	0.94%	0.34%	0.16%		4.83	6.67	
20D	57.6	1.58%	0.48%	0.29%	0.13%		8.83	
10D	58.2	2.57%	0.59%	0.40%	0.24%	0.11%		
		Strike	56.7	56.5	56.2	55.9	55.4	
Δ	Strike	Dist	0.00%	-0.44%	-0.91%	-1.50%	-2.40%	PUTS
50D	56.7	0.00%		2.20	2.54	3.04	3.96	
40D	56.5	-0.44%	0.20%		2.96	3.62	4.82	
30D	56.2	-0.91%	0.36%	0.16%		4.41	6.04	
20D	55.9	-1.50%	0.49%	0.30%	0.13%		7.98	
10D	55.4	-2.40%	0.61%	0.41%	0.25%	0.11%		

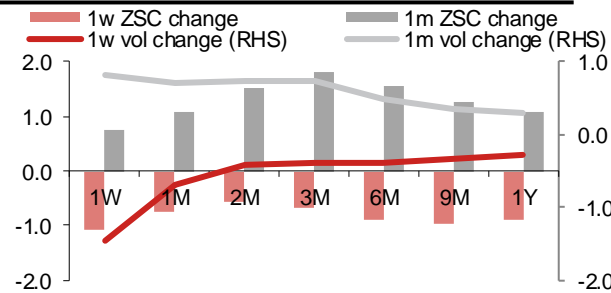
CALLS

PUTS

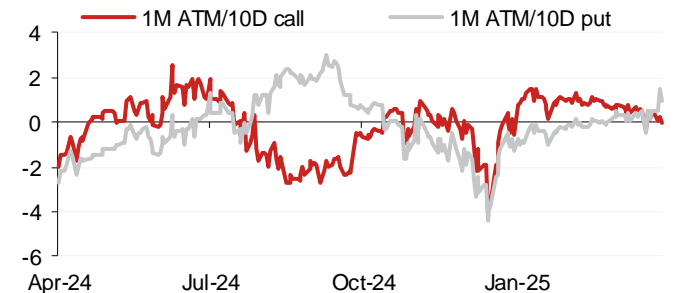
## Vol and z-score levels



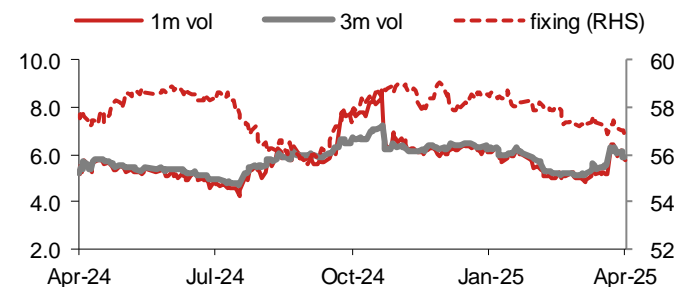
## Vol and z-score changes



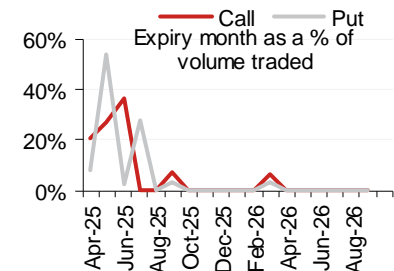
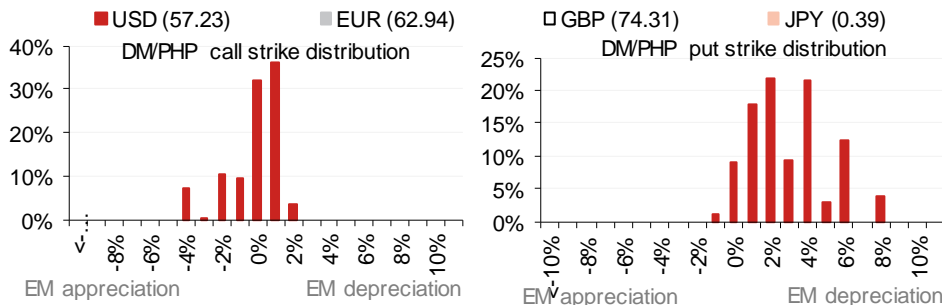
## Call/put spread leverage z-score



## Vol and spot FX fixing time series<sup>3</sup>



## DTCC analysis of strike and expiry distributions<sup>2</sup>



Source: Nomura. Note: all Z-scores, avg, min and max are based on 120 trading day window; 1) Upper quadrant is ratio of max. payout/cost; lower quadrant is cost of call/put spread; 2) DTCC volume is total traded over the past 1m; numbers in parentheses are average spot values over the past 1m as of publication; 3) Fixing used is PHFRATE Index

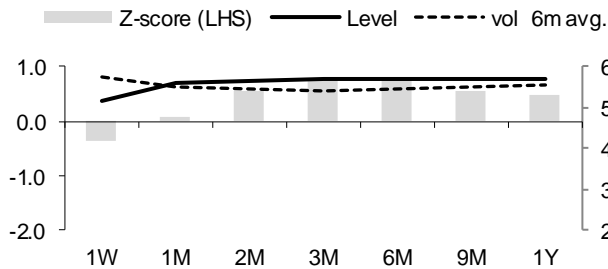
17-Apr-25	1W	1M	2M	3M	6M	9M	1Y
<b>Implied Vol</b>							
Z-score	-0.4	0.1	0.6	0.8	0.8	0.5	0.5
Level	5.5	5.9	6.0	6.0	6.0	6.0	6.0
1m chg	0.9	0.6	0.8	0.8	0.7	0.5	0.4
Average	6.0	5.8	5.7	5.7	5.7	5.8	5.8
Max	13.4	7.9	6.9	6.5	6.4	6.4	6.5
Min	4.2	4.9	5.1	5.1	5.1	5.1	5.1
<b>25-delta Risk Reversals</b>							
Z-score	-1.7	-2.2	-2.2	-2.5	-3.2	-3.4	-3.4
Level	0.0	0.1	0.2	0.2	0.3	0.3	0.4
1m chg	-0.1	-0.1	-0.2	-0.2	-0.2	-0.3	-0.3
Max	0.7	0.5	0.5	0.5	0.7	0.8	0.9
Min	0.0	0.1	0.2	0.2	0.3	0.3	0.4
RR/ATM	0.0	0.0	0.0	0.0	0.0	0.1	0.1
Z-score	-2.8	-2.7	-2.5	-2.9	-3.7	-4.0	-4.2

1W	1M	2M	3M	6M	9M	1Y
<b>Implied-Realized Vol Spread</b>						
-1.1	-1.7	-1.3	-2.2	-1.4	-1.4	-1.1
-2.5	-2.0	-0.7	-0.6	0.0	0.4	0.8
-3.6	-1.9	0.3	-0.4	0.0	0.1	0.1
0.8	0.5	0.4	0.4	0.7	1.0	1.3
11.9	4.7	2.2	1.6	1.7	1.8	2.1
-5.5	-2.0	-1.0	-0.7	-0.1	0.3	0.5
<b>10-delta Risk Reversals</b>						
-1.7	-2.2	-2.2	-2.5	-3.2	-3.5	-3.5
0.0	0.1	0.3	0.3	0.5	0.6	0.7
-0.2	-0.3	-0.3	-0.3	-0.5	-0.6	-0.6
1.3	1.0	1.0	1.0	1.3	1.5	1.7
0.0	0.1	0.3	0.3	0.5	0.6	0.7
0.0	0.0	0.0	0.1	0.1	0.1	0.1
-2.8	-2.8	-2.6	-2.9	-3.7	-4.1	-4.2

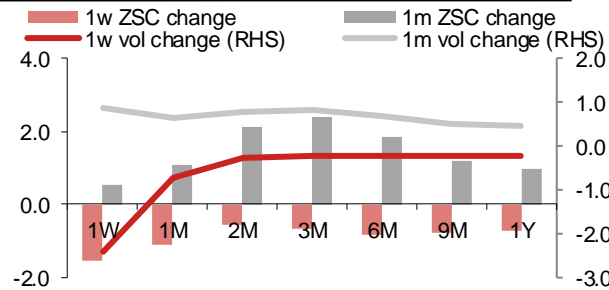
Cost and leverage of 1M call and put spreads by strike delta<sup>1</sup>

Spot ref:		Δ	50D	40D	30D	20D	10D	CALLS
Δ	Strike	Dist	0.00%	0.46%	0.96%	1.58%	2.52%	
50D	1.31	0.00%	0.00%	2.31	2.66	3.17	4.11	
40D	1.32	0.46%	0.20%	0.00%	3.08	3.75	4.98	
30D	1.32	0.96%	0.36%	0.16%	0.00%	4.54	6.20	
20D	1.33	1.58%	0.50%	0.30%	0.14%	0.00%	8.19	
10D	1.34	2.52%	0.61%	0.41%	0.25%	0.11%	0.00%	
Δ	Strike	Dist	0.00%	-0.45%	-0.94%	-1.53%	-2.40%	PUTS
50D	1.31	0.00%	0.00%	2.19	2.51	2.98	3.81	
40D	1.30	-0.45%	0.21%	0.00%	2.90	3.50	4.60	
30D	1.30	-0.94%	0.37%	0.17%	0.00%	4.23	5.72	
20D	1.29	-1.53%	0.51%	0.31%	0.14%	0.00%	7.51	
10D	1.28	-2.40%	0.63%	0.42%	0.25%	0.12%	0.00%	

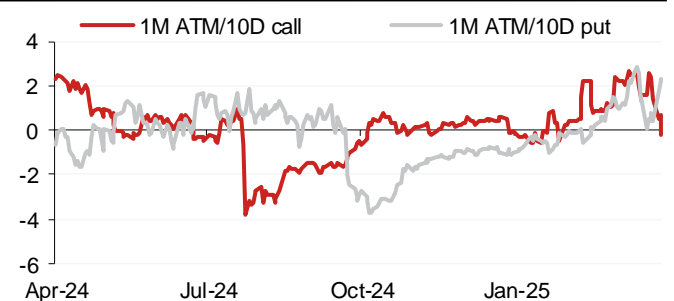
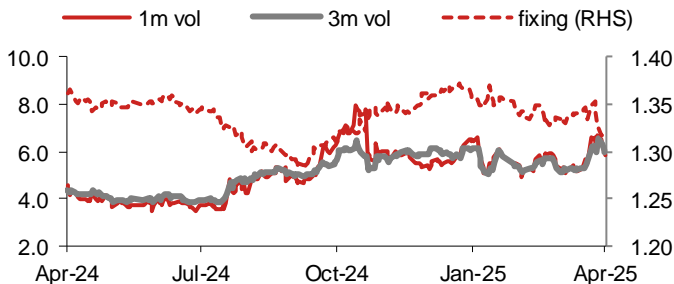
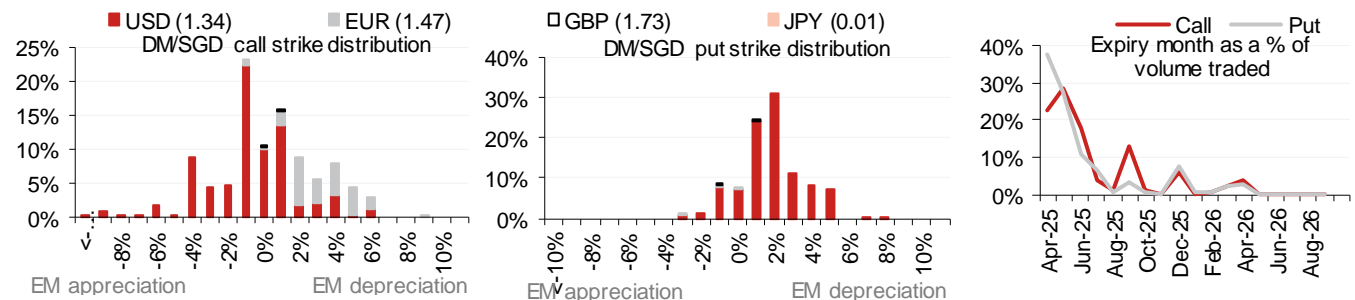
Vol and z-score levels



Vol and z-score changes



Call/put spread leverage z-score

Vol and spot FX fixing time series<sup>3</sup>DTCC analysis of strike and expiry distributions<sup>2</sup>

Source: Nomura. Note: all Z-scores, avg, min and max are based on 120 trading day window; 1) Upper quadrant is ratio of max. payout/cost; lower quadrant is cost of call/put spread; 2) DTCC volume is total traded over the past 1m; numbers in parentheses are average spot values over the past 1m as of publication; 3) Fixing used is USDSGD F210 Currency



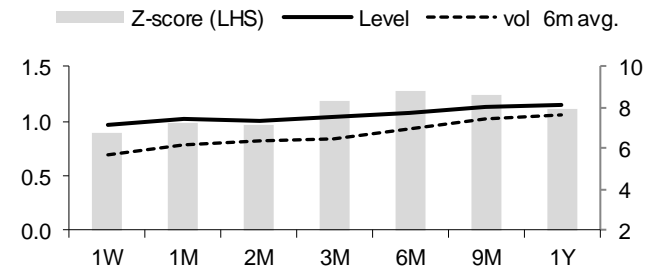
17-Apr-25	1W	1M	2M	3M	6M	9M	1Y
<b>Implied Vol</b>							
Z-score	0.9	1.0	1.0	1.2	1.3	1.2	1.1
Level	7.2	7.4	7.3	7.5	7.8	8.0	8.1
1m chg	3.2	2.6	2.2	2.1	1.5	1.2	1.0
Average	5.6	6.2	6.3	6.5	7.0	7.4	7.7
Max	14.0	9.6	8.8	8.4	8.3	8.3	8.4
Min	3.4	4.4	4.8	5.2	6.1	6.6	6.8
<b>25-delta Risk Reversals</b>							
Z-score	-1.9	-1.5	-1.3	-1.2	-1.0	-0.7	-0.3
Level	-1.1	-1.0	-0.8	-0.6	-0.1	0.2	0.5
1m chg	-1.0	-0.9	-0.7	-0.6	-0.4	-0.2	-0.1
Max	0.5	0.4	0.5	0.6	0.7	0.8	0.9
Min	-1.4	-1.1	-0.9	-0.7	-0.3	0.1	0.3
RR/ATM	-0.2	-0.1	-0.1	-0.1	0.0	0.0	0.1
Z-score	-1.3	-1.1	-1.0	-1.0	-0.9	-0.8	-0.5

1W	1M	2M	3M	6M	9M	1Y
<b>Implied-Realized Vol Spread</b>						
-0.8	-0.6	0.7	0.8	1.2	0.9	1.5
0.3	1.4	2.8	2.7	3.4	3.5	3.8
-1.3	-1.1	1.7	1.1	1.4	0.9	0.9
2.0	2.2	2.1	2.2	2.7	3.1	3.3
11.7	5.7	4.3	3.7	4.0	4.0	4.0
-3.3	-0.3	0.8	1.4	1.8	2.3	2.5
<b>10-delta Risk Reversals</b>						
-1.9	-1.5	-1.3	-1.2	-1.0	-0.7	-0.4
-2.2	-2.0	-1.5	-1.2	-0.4	0.4	0.9
-1.9	-1.7	-1.4	-1.3	-0.8	-0.5	-0.3
0.9	0.9	1.0	1.1	1.4	1.7	1.9
-2.7	-2.2	-1.8	-1.5	-0.6	0.1	0.6
-0.3	-0.3	-0.2	-0.2	0.0	0.0	0.1
-1.3	-1.1	-1.0	-1.0	-0.9	-0.8	-0.5

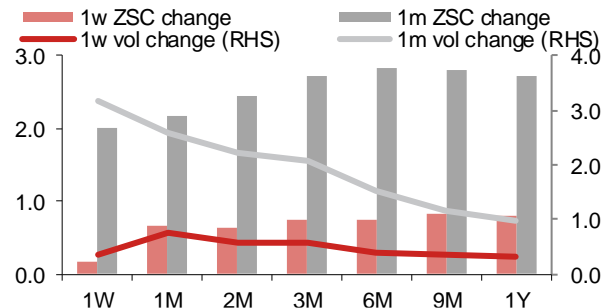
### Cost and leverage of 1M call and put spreads by strike delta<sup>1</sup>

Spot ref:		Δ	50D	40D	30D	20D	10D	CALLS
32.5		Strike	32.3	32.4	32.6	32.8	33.2	
Δ	Strike	Dist	0.00%	0.52%	1.08%	1.75%	2.74%	
50D	32.3	0.00%	2.12	2.44	2.91	3.76		
40D	32.4	0.52%	0.24%	2.84	3.46	4.59		
30D	32.6	1.08%	0.44%	0.19%	4.22	5.77		
20D	32.8	1.75%	0.60%	0.35%	0.16%	7.68		
10D	33.2	2.74%	0.72%	0.48%	0.29%	0.13%		
		Strike	32.3	32.1	31.9	31.6	31.2	
Δ	Strike	Dist	0.00%	-0.54%	-1.17%	-1.98%	-3.31%	
50D	32.3	0.00%	2.39	2.81	3.43	4.57		PUTS
40D	32.1	-0.54%	0.22%	3.30	4.09	5.56		
30D	31.9	-1.17%	0.41%	0.19%	5.00	6.96		
20D	31.6	-1.98%	0.57%	0.35%	0.16%	9.17		
10D	31.2	-3.31%	0.72%	0.49%	0.31%	0.14%		

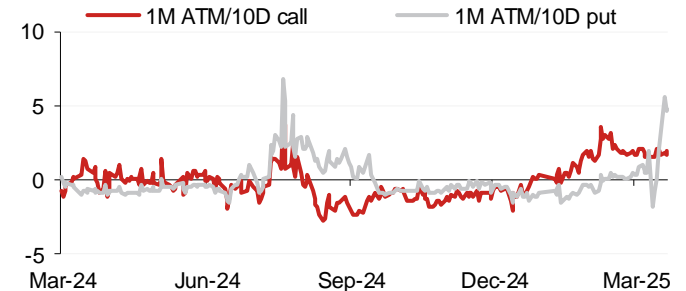
### Vol and z-score levels



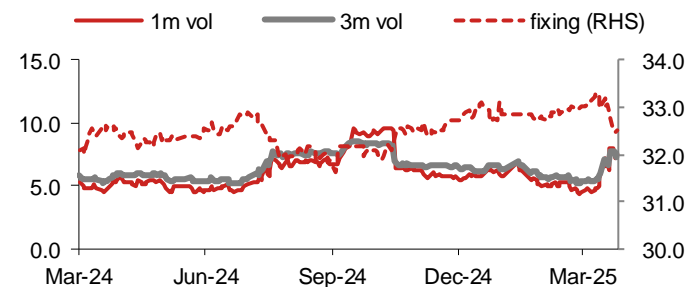
### Vol and z-score changes



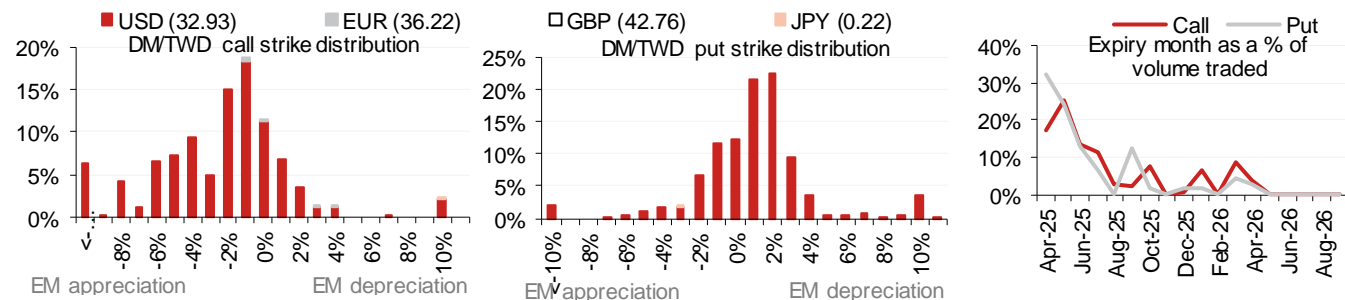
### Call/put spread leverage z-score



### Vol and spot FX fixing time series<sup>3</sup>



### DTCC analysis of strike and expiry distributions<sup>2</sup>



Source: Nomura. Note: all z-scores, avg, min and max are based on 120 trading day window; 1) Upper quadrant is ratio of max. payout/cost; lower quadrant is cost of call/put spread; 2) DTCC volume is total traded over the past 1m; numbers in parentheses are average spot values over the past 1m as of publication, 3) Fixing used is TWDT1100 Index

# EURUSD

NOMURA

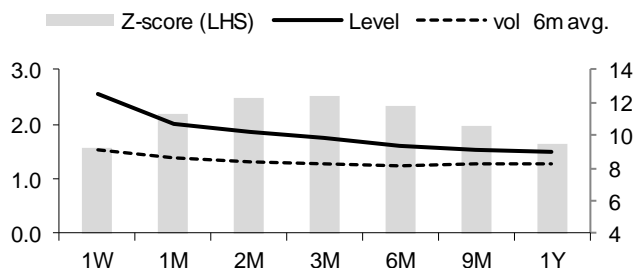
17-Apr-25	1W	1M	2M	3M	6M	9M	1Y
<b>Implied Vol</b>							
Z-score	1.6	2.2	2.5	2.5	2.3	2.0	1.7
Level	11.9	10.1	9.7	9.4	8.9	8.6	8.5
1m chg	4.3	2.3	2.0	1.9	1.4	1.1	0.9
Average	8.6	8.1	7.8	7.8	7.7	7.7	7.8
Max	18.9	12.9	11.4	10.7	9.7	9.1	8.8
Min	5.1	6.3	6.2	6.4	6.5	6.7	6.8
<b>25-delta Risk Reversals</b>							
Z-score	2.8	3.1	3.1	3.1	3.1	3.2	3.2
Level	1.3	1.0	0.9	0.9	0.7	0.6	0.6
1m chg	1.2	1.1	1.1	1.1	1.1	1.2	1.2
Max	2.4	1.5	1.2	1.1	0.8	0.7	0.6
Min	-0.9	-0.9	-1.1	-1.3	-1.5	-1.6	-1.7
RR/ATM	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Z-score	2.8	2.9	2.9	3.0	3.1	3.2	3.2

1W	1M	2M	3M	6M	9M	1Y
<b>Implied-Realized Vol Spread</b>						
-0.1	-1.3	-1.5	-1.3	-1.5	-1.3	-1.2
0.0	-2.9	-2.0	-1.3	-0.8	0.2	0.6
0.9	-0.3	-0.3	0.1	0.0	0.1	0.0
0.2	-0.4	-0.1	0.1	0.6	1.1	1.4
8.5	4.6	3.2	2.3	1.9	2.2	2.6
-10.6	-3.9	-3.3	-2.4	-1.5	-0.5	0.1
<b>10-delta Risk Reversals</b>						
2.8	3.0	3.1	3.1	3.1	3.1	3.2
2.0	1.8	1.8	1.6	1.3	1.1	1.1
2.0	1.9	2.1	2.1	2.2	2.2	2.4
3.8	2.6	2.3	2.0	1.5	1.3	1.2
-1.8	-1.7	-2.2	-2.5	-2.9	-3.2	-3.4
0.2	0.2	0.2	0.2	0.1	0.1	0.1
2.7	2.9	2.9	2.9	3.0	3.1	3.2

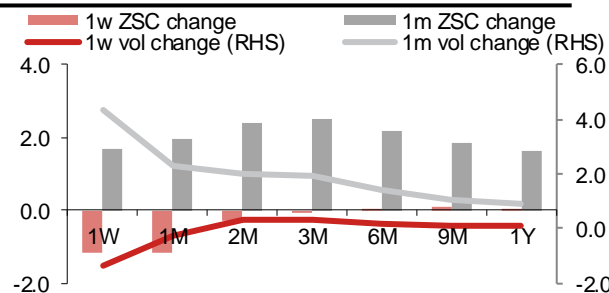
## Cost and leverage of 1M call and put spreads by strike delta<sup>1</sup>

Spot ref:		Δ	50D	40D	30D	20D	10D	CALLS
1.14	Strike	1.14	1.15	1.16	1.17	1.19		
Δ	Strike	Dist	0.00%	0.73%	1.58%	2.68%	4.48%	
50D	1.14	0.00%	2.52	2.95	3.59	4.80		
40D	1.15	0.73%	0.29%	3.44	4.26	5.83		
30D	1.16	1.58%	0.54%	0.25%	5.21	7.31		
20D	1.17	2.68%	0.75%	0.46%	0.21%	9.72		
10D	1.19	4.48%	0.93%	0.64%	0.40%	0.19%		
Δ	Strike	Dist	0.00%	-0.69%	-1.42%	-2.28%	-3.59%	PUTS
50D	1.14	0.00%	2.05	2.34	2.78	3.62		
40D	1.13	-0.69%	0.34%	2.70	3.29	4.43		
30D	1.12	-1.42%	0.61%	0.27%	4.02	5.62		
20D	1.11	-2.28%	0.82%	0.48%	0.21%	7.62		
10D	1.10	-3.59%	1.00%	0.66%	0.39%	0.17%		

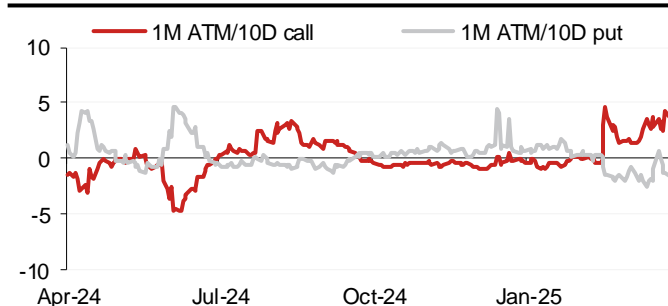
## Vol and z-score levels



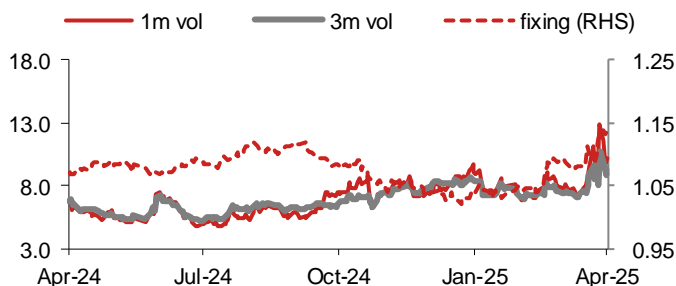
## Vol and z-score changes



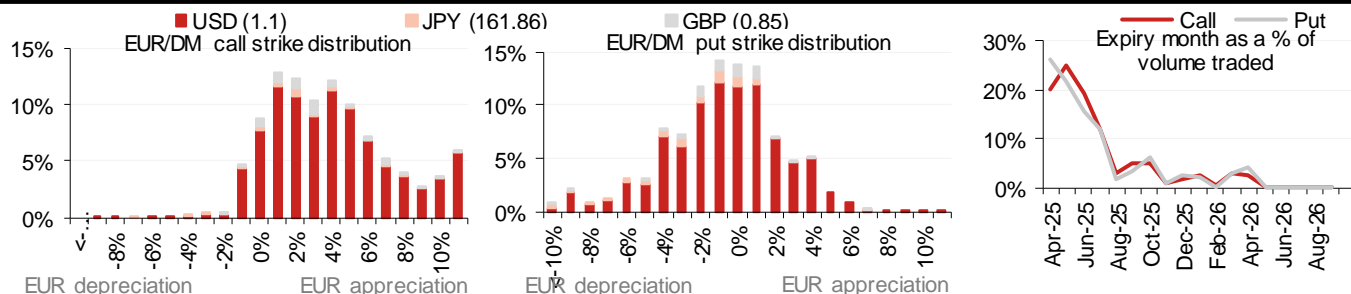
## Call/put spread leverage z-score



## Vol and spot FX fixing time series<sup>3</sup>



## DTCC analysis of strike and expiry distributions<sup>2</sup>



Source: Nomura. Note: all Z-scores, avg, min and max are based on 120 trading day window; 1) Upper quadrant is ratio of max. payout/cost; lower quadrant is cost of call/put spread; 2) DTCC volume is total traded over the past 1m; numbers in parentheses are average spot values over the past 1m as of publication; 3) Fixing used is EUR L160 Currency

# EURGBP

NOMURA

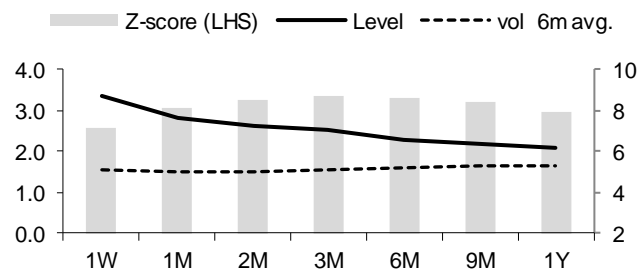
17-Apr-25	1W	1M	2M	3M	6M	9M	1Y
<b>Implied Vol</b>							
Z-score	2.6	3.0	3.2	3.3	3.3	3.2	3.0
Level	8.7	7.6	7.2	7.0	6.6	6.4	6.2
1m chg	3.1	2.2	1.9	1.8	1.3	1.1	0.8
Average	5.1	5.0	5.0	5.1	5.2	5.3	5.4
Max	12.0	8.8	8.0	7.6	7.0	6.7	6.5
Min	3.4	3.9	4.2	4.3	4.5	4.7	4.9
<b>25-delta Risk Reversals</b>							
Z-score	1.9	2.1	2.2	2.4	2.7	3.0	3.1
Level	1.0	1.0	1.0	1.0	1.1	1.2	1.2
1m chg	0.4	0.4	0.4	0.5	0.5	0.5	0.5
Max	1.6	1.3	1.3	1.2	1.2	1.2	1.2
Min	0.1	0.1	0.2	0.2	0.3	0.4	0.5
RR/ATM	0.1	0.1	0.1	0.1	0.2	0.2	0.2
Z-score	1.0	1.3	1.5	1.6	2.0	2.4	2.6

1W	1M	2M	3M	6M	9M	1Y
<b>Implied-Realized Vol Spread</b>						
-1.0	-0.5	0.4	1.4	1.6	0.9	0.3
-1.9	-0.8	0.2	0.8	0.7	1.0	1.1
-1.5	-0.6	-0.4	0.2	0.7	0.7	0.3
0.1	-0.2	-0.2	0.0	0.1	0.7	1.0
3.2	2.3	1.6	0.8	1.3	1.5	1.8
-6.7	-2.7	-1.7	-1.2	-0.4	0.0	0.5
<b>10-delta Risk Reversals</b>						
1.9	2.1	2.2	2.4	2.7	3.0	3.1
1.7	1.7	1.8	1.9	2.0	2.1	2.1
0.7	0.7	0.8	0.8	0.9	0.9	0.9
2.8	2.4	2.3	2.2	2.2	2.1	2.1
0.2	0.2	0.3	0.4	0.6	0.7	0.8
0.2	0.2	0.3	0.3	0.3	0.3	0.3
1.0	1.3	1.4	1.6	2.0	2.3	2.5

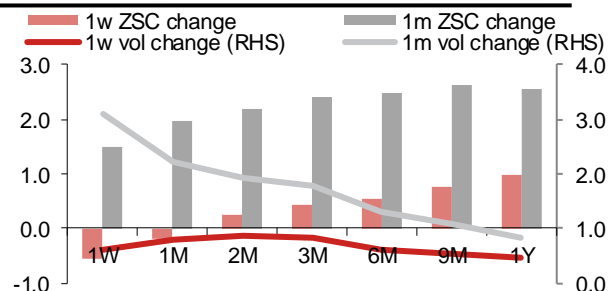
## Cost and leverage of 1M call and put spreads by strike delta<sup>1</sup>

Spot ref:		Δ	50D	40D	30D	20D	10D	CALLS
0.86	Strike	Dist	0.86	0.86	0.87	0.88	0.89	
Δ	Strike	Dist	0.00%	0.54%	1.16%	1.98%	3.32%	
50D	0.86	0.00%		2.54	2.96	3.61	4.85	
40D	0.86	0.54%	0.21%		3.46	4.29	5.88	
30D	0.87	1.16%	0.39%	0.18%		5.23	7.36	
20D	0.88	1.98%	0.55%	0.34%	0.16%		9.78	
10D	0.89	3.32%	0.69%	0.47%	0.29%	0.14%		
		Strike	0.86	0.85	0.85	0.85	0.84	PUTS
Δ	Strike	Dist	0.00%	-0.51%	-1.03%	-1.65%	-2.55%	
50D	0.86	0.00%		2.03	2.31	2.72	3.50	
40D	0.85	-0.51%	0.25%		2.66	3.21	4.26	
30D	0.85	-1.03%	0.45%	0.20%		3.91	5.38	
20D	0.85	-1.65%	0.61%	0.36%	0.16%		7.22	
10D	0.84	-2.55%	0.73%	0.48%	0.28%	0.13%		

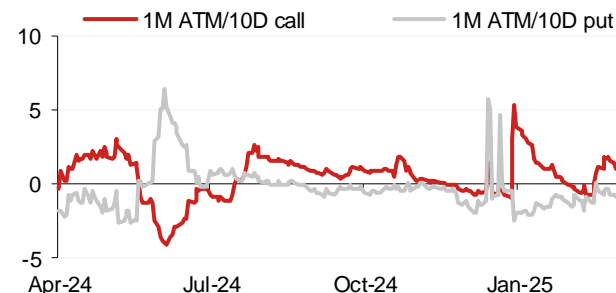
## Vol and z-score levels



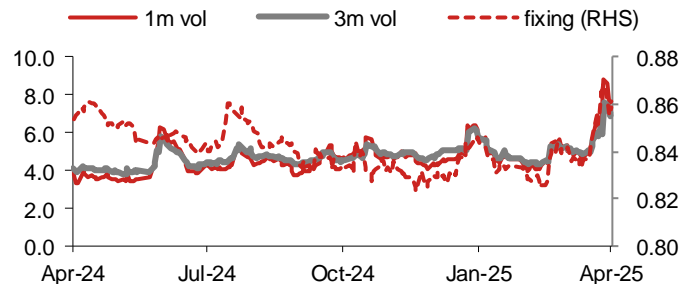
## Vol and z-score changes



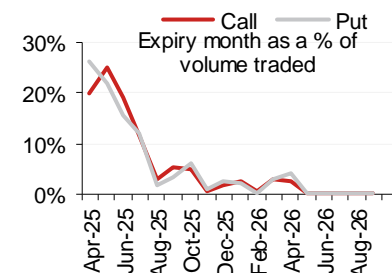
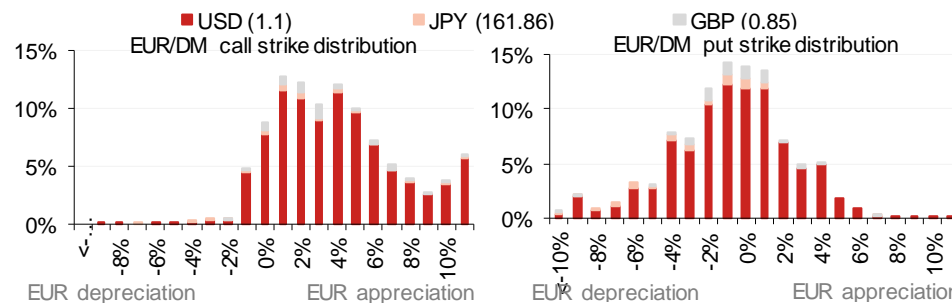
## Call/put spread leverage z-score



## Vol and spot FX fixing time series<sup>3</sup>



## DTCC analysis of strike and expiry distributions<sup>2</sup>



Source: Nomura. Note: all z-scores, avg, min and max are based on 120 trading day window; 1) Upper quadrant is ratio of max. payout/cost; lower quadrant is cost of call/put spread 2) DTCC volume is total traded over the past 1m; numbers in parentheses are average spot values over the past 1m as of publication, 3) Fixing used is EURGBP L160 Currency

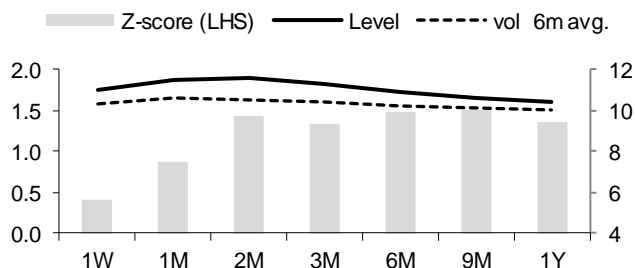
17-Apr-25	1W	1M	2M	3M	6M	9M	1Y
<b>Implied Vol</b>							
Z-score	0.4	0.9	1.4	1.3	1.5	1.5	1.4
Level	10.9	11.5	11.6	11.3	10.9	10.7	10.4
1m chg	0.2	1.3	1.3	1.1	1.0	0.8	0.7
Average	10.3	10.6	10.5	10.4	10.2	10.1	10.0
Max	16.0	14.1	13.1	12.7	11.8	11.2	10.9
Min	7.2	8.4	8.8	9.1	9.3	9.4	9.4
<b>25-delta Risk Reversals</b>							
Z-score	-0.3	-0.7	-0.7	-0.5	-0.3	-0.1	0.1
Level	-1.5	-1.8	-1.8	-1.7	-1.7	-1.6	-1.5
1m chg	-0.4	-0.6	-0.5	-0.4	-0.3	-0.2	-0.1
Max	-0.7	-1.0	-1.2	-1.3	-1.3	-1.3	-1.3
Min	-2.8	-2.6	-2.4	-2.3	-2.0	-1.9	-1.8
RR/ATM	-0.1	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1
Z-score	-0.1	-0.3	-0.1	0.0	0.3	0.5	0.6

1W	1M	2M	3M	6M	9M	1Y
<b>Implied-Realized Vol Spread</b>						
-0.2	0.0	-0.6	-0.8	0.8	0.9	-0.6
-0.9	0.1	-0.7	-0.7	-0.1	0.1	-0.3
0.8	3.2	1.6	0.7	0.6	1.7	0.6
-0.2	0.1	0.0	0.1	-0.5	-0.4	0.0
5.8	4.2	3.4	1.8	0.9	0.5	1.0
-11.3	-4.4	-2.8	-2.1	-1.5	-1.7	-1.0
<b>10-delta Risk Reversals</b>						
-0.3	-0.7	-0.7	-0.6	-0.4	-0.2	0.1
-2.8	-3.4	-3.5	-3.4	-3.2	-3.2	-3.1
-0.7	-1.1	-1.0	-0.8	-0.5	-0.3	-0.2
-1.4	-1.9	-2.3	-2.4	-2.5	-2.6	-2.6
-5.3	-4.9	-4.7	-4.5	-4.0	-3.8	-3.7
-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3
-0.1	-0.3	-0.1	0.0	0.3	0.5	0.6

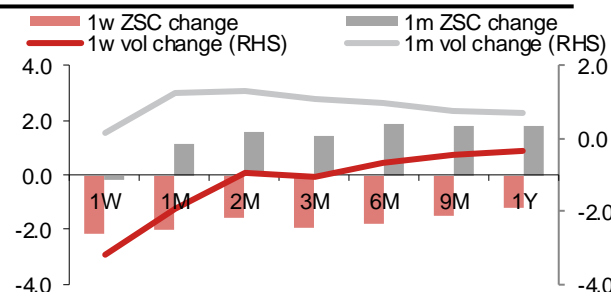
Cost and leverage of 1M call and put spreads by strike delta<sup>1</sup>

Spot ref:		Δ	50D	40D	30D	20D	10D	CALLS
161.91	Strike	161.72	163.04	164.41	165.99	168.22		
Δ	Strike	Dist	0.00%	0.82%	1.66%	2.64%	4.02%	
50D	161.72	0.00%		2.10	2.38	2.79	3.51	
40D	163.04	0.82%	0.39%		2.74	3.27	4.24	
30D	164.41	1.66%	0.70%	0.31%		3.94	5.28	
20D	165.99	2.64%	0.95%	0.56%	0.25%		6.95	
10D	168.22	4.02%	1.14%	0.76%	0.45%	0.20%		
		Strike	161.74	160.37	158.79	156.80	153.70	
Δ	Strike	Dist	0.00%	-0.85%	-1.82%	-3.06%	-4.97%	PUTS
50D	161.74	0.00%		2.40	2.77	3.32	4.33	
40D	160.37	-0.85%	0.35%		3.21	3.90	5.19	
30D	158.79	-1.82%	0.66%	0.30%		4.70	6.41	
20D	156.80	-3.06%	0.92%	0.56%	0.26%		8.37	
10D	153.70	-4.97%	1.15%	0.79%	0.49%	0.23%		

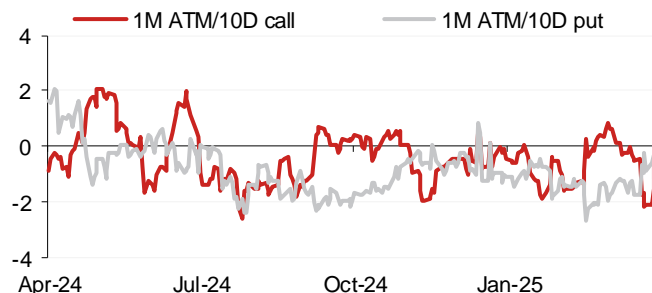
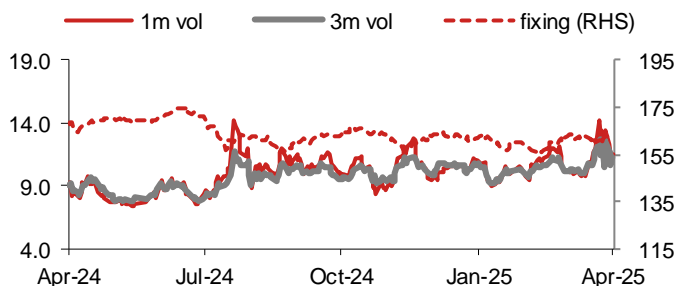
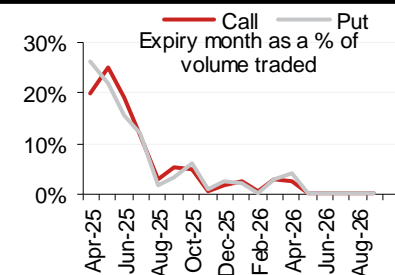
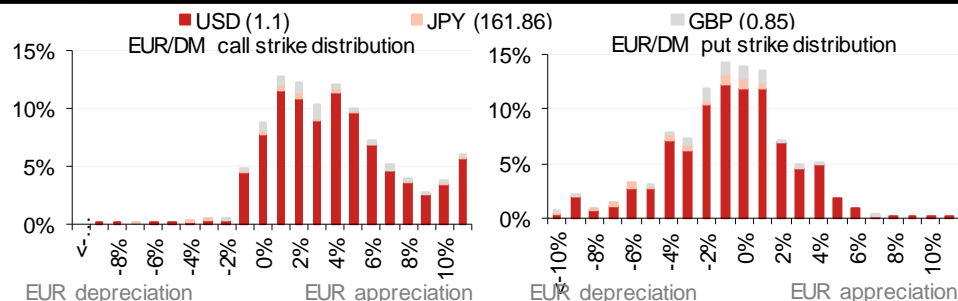
## Vol and z-score levels



## Vol and z-score changes



## Call/put spread leverage z-score

Vol and spot FX fixing time series<sup>3</sup>DTCC analysis of strike and expiry distributions<sup>2</sup>

Source: Nomura. Note: all Z-scores, avg, min and max are based on 120 trading day window; 1) Upper quadrant is ratio of max. payout/cost; lower quadrant is cost of call/put spread; 2) DTCC volume is total traded over the past 1m; numbers in parentheses are average spot values over the past 1m as of publication; 3) Fixing used is EURJPY L160 Currency

# USDJPY

NOMURA

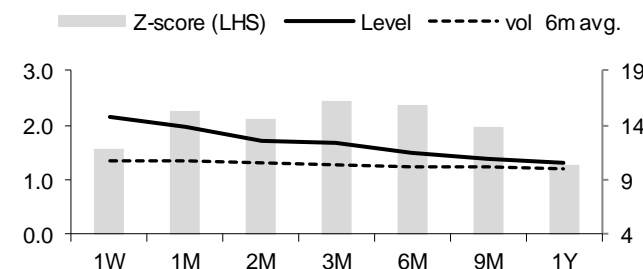
17-Apr-25	1W	1M	2M	3M	6M	9M	1Y
<b>Implied Vol</b>							
<b>Z-score</b>	1.6	2.3	2.1	2.4	2.4	2.0	1.3
<b>Level</b>	14.7	13.9	12.6	12.3	11.4	10.9	10.5
<b>1m chg</b>	3.8	3.7	2.5	2.4	1.7	1.2	0.9
<b>Average</b>	10.8	10.7	10.6	10.4	10.2	10.1	10.0
<b>Max</b>	20.9	15.8	14.2	13.6	12.1	11.3	10.8
<b>Min</b>	6.9	8.8	9.2	9.2	9.4	9.5	9.4
<b>25-delta Risk Reversals</b>							
<b>Z-score</b>	-1.3	-2.3	-2.6	-2.8	-2.9	-3.0	-3.1
<b>Level</b>	-2.0	-2.6	-2.7	-2.6	-2.3	-2.0	-1.8
<b>1m chg</b>	-0.8	-1.3	-1.2	-1.2	-1.1	-1.0	-0.9
<b>Max</b>	-0.5	-0.6	-0.7	-0.7	-0.5	-0.3	-0.1
<b>Min</b>	-4.9	-3.8	-3.8	-3.6	-2.9	-2.5	-2.1
<b>RR/ATM</b>	-0.1	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
<b>Z-score</b>	-0.8	-1.8	-2.3	-2.3	-2.6	-2.8	-2.9

1W	1M	2M	3M	6M	9M	1Y
<b>Implied-Realized Vol Spread</b>						
2.0	-0.8	0.1	1.2	1.7	2.5	-0.2
9.9	-1.1	0.2	0.7	0.3	-0.3	-1.3
5.5	-2.8	-0.3	-0.8	0.8	2.3	0.5
0.5	0.4	0.1	-0.2	-1.6	-1.8	-1.2
10.2	4.8	1.9	1.9	0.9	-0.3	-0.4
-12.0	-3.9	-1.9	-2.0	-3.6	-2.6	-2.0
<b>10-delta Risk Reversals</b>						
-1.3	-2.4	-2.6	-2.8	-3.0	-3.1	-3.2
-3.7	-4.8	-5.0	-5.1	-4.6	-4.2	-3.8
-1.4	-2.4	-2.2	-2.3	-2.1	-2.0	-1.9
-1.0	-1.2	-1.4	-1.3	-1.0	-0.7	-0.3
-8.9	-7.1	-7.1	-6.9	-5.9	-5.1	-4.6
-0.2	-0.3	-0.4	-0.4	-0.4	-0.4	-0.4
-0.8	-1.8	-2.2	-2.4	-2.6	-2.8	-3.0

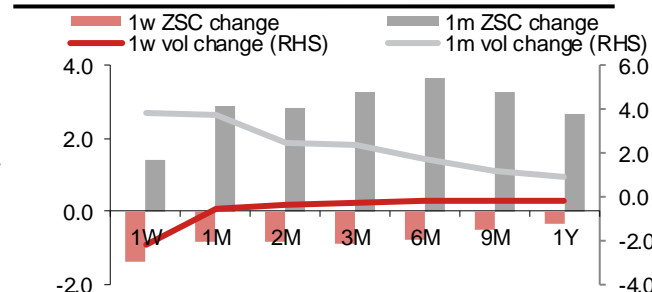
## Cost and leverage of 1M call and put spreads by strike delta<sup>1</sup>

Spot ref:		Δ	50D	40D	30D	20D	10D	CALLS
142.41		Strike	142.00	143.32	144.68	146.24	148.44	
Δ	Strike	Dist	0.00%	0.93%	1.88%	2.98%	4.53%	
50D	142.00	0.00%		2.06	2.34	2.74	3.46	
40D	143.32	0.93%	0.45%		2.69	3.22	4.19	
30D	144.68	1.88%	0.80%	0.35%		3.89	5.24	
20D	146.24	2.98%	1.08%	0.64%	0.28%		6.95	
10D	148.44	4.53%	1.31%	0.86%	0.50%	0.22%		
		Strike	142.05	140.66	139.05	136.98	133.74	PUTS
Δ	Strike	Dist	0.00%	-0.98%	-2.11%	-3.57%	-5.85%	
50D	142.05	0.00%		2.45	2.84	3.42	4.46	
40D	140.66	-0.98%	0.40%		3.30	4.02	5.34	
30D	139.05	-2.11%	0.74%	0.34%		4.83	6.57	
20D	136.98	-3.57%	1.04%	0.64%	0.30%		8.53	
10D	133.74	-5.85%	1.31%	0.91%	0.57%	0.27%		

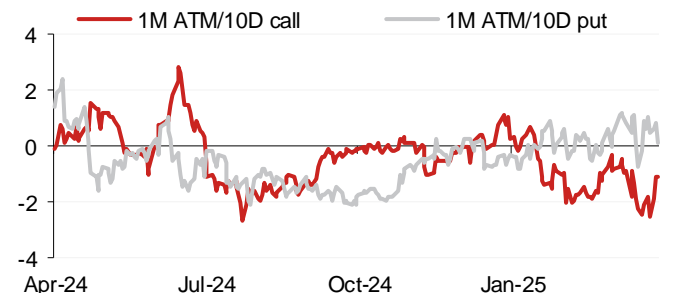
## Vol and z-score levels



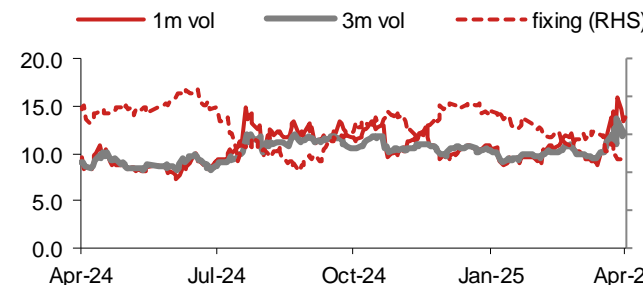
## Vol and z-score changes



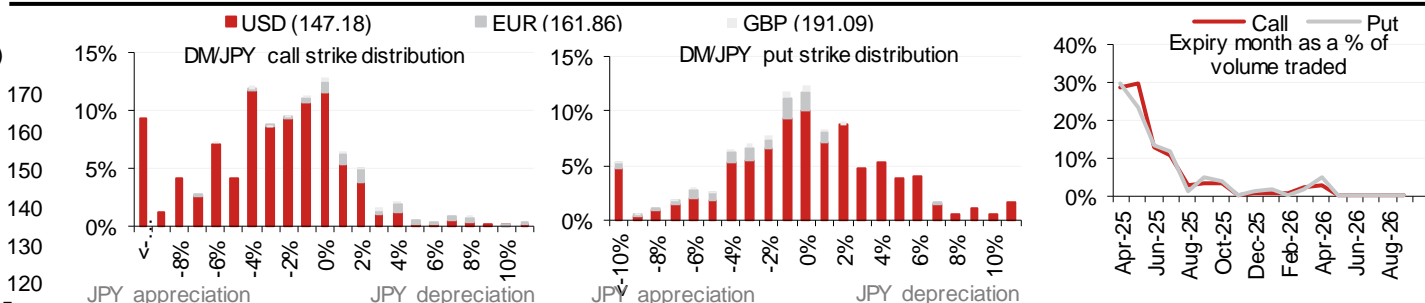
## Call/put spread leverage z-score



## Vol and spot FX fixing time series<sup>3</sup>



## DTCC analysis of strike and expiry distributions<sup>2</sup>



Source: Nomura. Note: all Z-scores, avg, min and max are based on 120 trading day window; 1) Upper quadrant is ratio of max. payout/cost; lower quadrant is cost of call/put spread 2) DTCC volume is total traded over the past 1m; numbers in parentheses are average spot values over the past 1m as of publication, 3) Fixing used is JPY L160 Currency

# AUDJPY

NOMURA

17-Apr-25	1W	1M	2M	3M	6M	9M	1Y
<b>Implied Vol</b>							
Z-score	1.4	2.0	2.4	2.5	2.5	2.4	2.3
Level	16.1	15.5	15.1	14.5	13.4	12.7	12.3
1m chg	4.1	3.9	3.6	3.1	2.3	1.7	1.4
Average	11.9	11.9	11.8	11.6	11.4	11.2	11.1
Max	28.0	21.0	18.4	17.0	15.1	14.0	13.3
Min	8.5	10.0	10.3	10.2	10.3	10.3	10.4
<b>25-delta Risk Reversals</b>							
Z-score	-0.9	-1.4	-2.2	-2.4	-3.1	-3.6	-3.8
Level	-2.8	-3.0	-3.3	-3.4	-3.4	-3.4	-3.4
1m chg	-1.1	-1.2	-1.3	-1.1	-1.0	-0.9	-0.8
Max	-1.1	-1.7	-1.8	-1.9	-2.0	-2.1	-2.1
Min	-6.3	-4.8	-4.3	-4.1	-3.8	-3.5	-3.4
RR/ATM	-0.2	-0.2	-0.2	-0.2	-0.3	-0.3	-0.3
Z-score	-0.2	-0.4	-1.3	-1.6	-2.6	-3.0	-3.2

1W	1M	2M	3M	6M	9M	1Y
<b>Implied-Realized Vol Spread</b>						
-1.7	-3.7	-4.0	-3.5	-0.2	0.6	-2.0
-12.5	-12.5	-6.6	-4.1	-1.9	-1.5	-2.1
-12.7	-10.8	-6.1	-4.8	-1.9	1.0	-0.6
-1.3	-0.3	0.1	-0.1	-1.6	-1.8	-0.9
8.4	5.2	2.6	2.4	1.4	-0.6	-0.1
-34.4	-12.5	-6.7	-4.4	-3.6	-3.2	-2.4
<b>10-delta Risk Reversals</b>						
-0.9	-1.4	-2.2	-2.4	-3.1	-3.6	-3.8
-5.5	-6.0	-6.6	-6.7	-6.9	-6.9	-6.8
-2.1	-2.3	-2.5	-2.3	-2.1	-1.9	-1.7
-2.2	-3.3	-3.6	-3.8	-4.1	-4.3	-4.3
-12.4	-9.5	-8.5	-8.3	-7.6	-7.1	-6.8
-0.3	-0.4	-0.4	-0.5	-0.5	-0.5	-0.6
-0.3	-0.5	-1.4	-1.7	-2.6	-3.1	-3.3

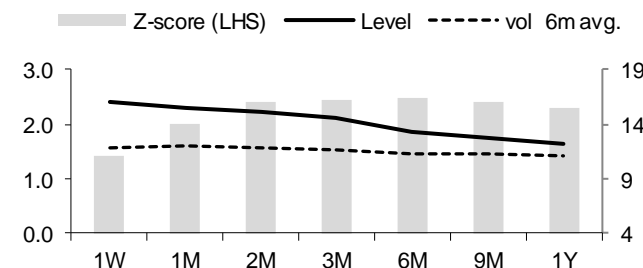
## Cost and leverage of 1M call and put spreads by strike delta<sup>1</sup>

Spot ref:		Δ	50D	40D	30D	20D	10D
90.98	Strike	90.76	91.77	92.81	94.00	95.64	
Δ	Strike	Dist	0.00%	1.11%	2.26%	3.57%	5.37%
50D	90.76	0.00%	2.07	2.35	2.74	3.42	
40D	91.77	1.11%	0.54%	2.70	3.21	4.12	
30D	92.81	2.26%	0.96%	0.42%	3.86	5.12	
20D	94.00	3.57%	1.30%	0.76%	0.34%	6.71	
10D	95.64	5.37%	1.57%	1.03%	0.61%	0.27%	
		Strike	90.80	89.73	88.49	86.88	84.35
Δ	Strike	Dist	0.00%	-1.18%	-2.54%	-4.31%	-7.10%
50D	90.80	0.00%	2.45	2.84	3.43	4.49	
40D	89.73	-1.18%	0.48%	3.30	4.04	5.39	
30D	88.49	-2.54%	0.89%	0.41%	4.87	6.65	
20D	86.88	-4.31%	1.25%	0.77%	0.36%	8.64	
10D	84.35	-7.10%	1.58%	1.10%	0.69%	0.32%	

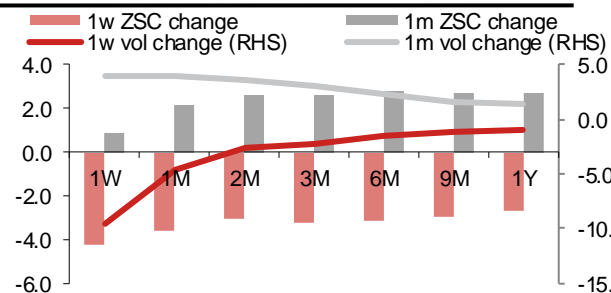
CALLS

PUTS

## Vol and z-score levels



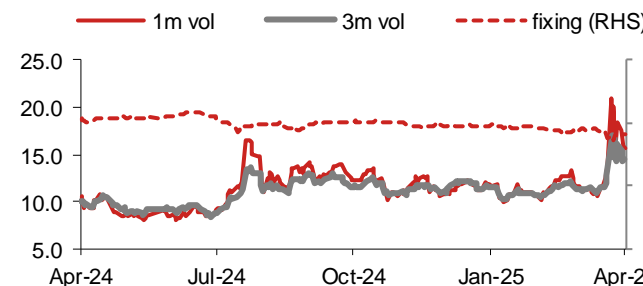
## Vol and z-score changes



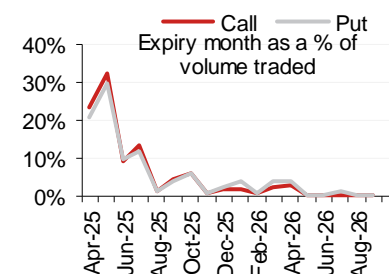
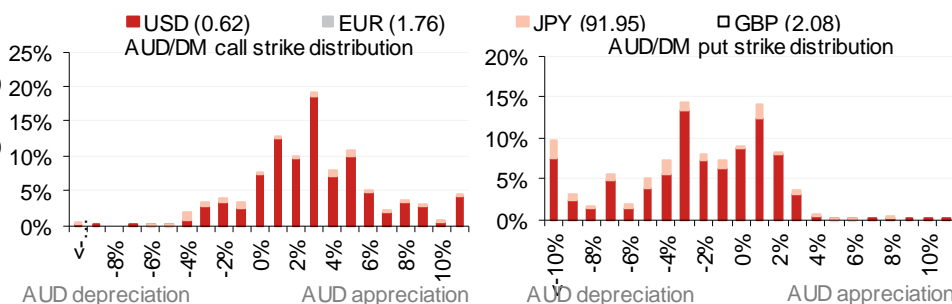
## Call/put spread leverage z-score



## Vol and spot FX fixing time series<sup>3</sup>



## DTCC analysis of strike and expiry distributions<sup>2</sup>



Source: Nomura. Note: all Z-scores, avg, min and max are based on 120 trading day window; 1) Upper quadrant is ratio of max. payout/cost; lower quadrant is cost of call/put spread; 2) DTCC volume is total traded over the past 1m; numbers in parentheses are average spot values over the past 1m as of publication; 3) Fixing used is AUDJPY L160 Currency



# GBPJPY

NOMURA

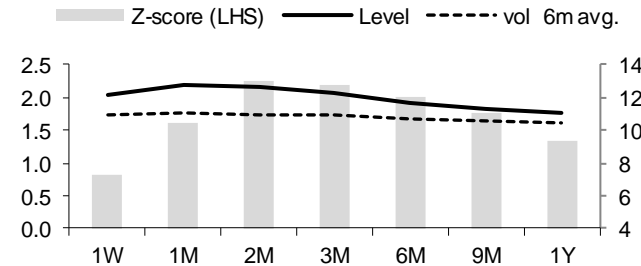
17-Apr-25	1W	1M	2M	3M	6M	9M	1Y
<b>Implied Vol</b>							
Z-score	0.8	1.6	2.3	2.2	2.0	1.8	1.3
Level	12.2	12.8	12.6	12.3	11.7	11.3	11.0
1m chg	1.0	2.4	2.3	2.0	1.6	1.3	1.1
Average	10.9	11.1	11.0	10.9	10.7	10.6	10.5
Max	16.6	14.3	13.6	13.3	12.3	11.8	11.7
Min	7.8	9.4	9.8	10.0	9.9	9.9	9.8
<b>25-delta Risk Reversals</b>							
Z-score	-1.3	-1.6	-1.9	-2.0	-2.1	-2.2	-2.0
Level	-2.3	-2.5	-2.6	-2.6	-2.5	-2.5	-2.4
1m chg	-0.9	-1.1	-0.9	-0.8	-0.6	-0.5	-0.4
Max	-0.9	-1.3	-1.5	-1.6	-1.8	-1.8	-1.8
Min	-3.3	-3.0	-2.9	-2.8	-2.6	-2.5	-2.5
RR/ATM	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Z-score	-1.1	-1.1	-1.1	-1.1	-1.3	-1.3	-1.3

1W	1M	2M	3M	6M	9M	1Y
<b>Implied-Realized Vol Spread</b>						
0.4	-1.2	0.1	0.7	1.5	1.9	-0.1
1.1	-1.4	0.2	0.4	0.3	0.2	-0.5
-1.8	-1.6	0.5	0.5	0.9	2.4	0.8
-0.1	0.2	0.1	0.0	-1.1	-1.1	-0.5
6.2	3.5	1.8	1.5	1.0	0.4	0.9
-10.2	-3.1	-1.4	-2.5	-3.0	-2.4	-1.5
<b>10-delta Risk Reversals</b>						
-1.3	-1.6	-1.9	-2.0	-2.2	-2.2	-2.0
-3.9	-4.6	-5.0	-4.9	-4.9	-4.9	-4.8
-1.5	-2.0	-1.7	-1.5	-1.2	-1.0	-0.8
-1.5	-2.4	-2.9	-3.1	-3.5	-3.6	-3.6
-5.6	-5.5	-5.5	-5.4	-4.9	-5.0	-5.0
-0.3	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4
-1.1	-1.1	-1.1	-1.1	-1.3	-1.4	-1.3

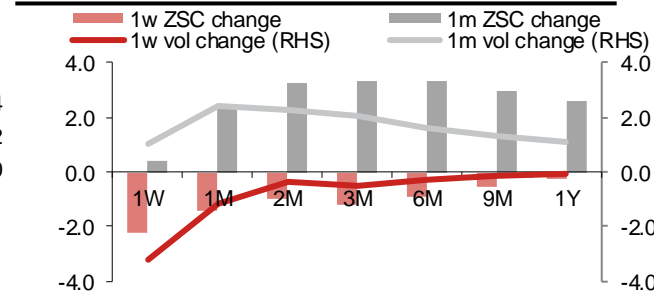
## Cost and leverage of 1M call and put spreads by strike delta<sup>1</sup>

Spot ref:		Δ	50D	40D	30D	20D	10D	CALLS
188.82	Strike		188.28	190.01	191.79	193.85	196.77	
Δ	Strike	Dist	0.00%	0.92%	1.86%	2.96%	4.51%	
50D	188.28	0.00%		2.07	2.35	2.76	3.49	
40D	190.01	0.92%	0.44%		2.70	3.24	4.23	
30D	191.79	1.86%	0.79%	0.35%		3.92	5.30	
20D	193.85	2.96%	1.07%	0.63%	0.28%		7.04	
10D	196.77	4.51%	1.29%	0.85%	0.50%	0.22%		
		Strike	188.34	186.53	184.45	181.80	177.71	
Δ	Strike	Dist	0.00%	-0.96%	-2.07%	-3.48%	-5.65%	PUTS
50D	188.34	0.00%		2.43	2.80	3.35	4.35	
40D	186.53	-0.96%	0.40%		3.24	3.93	5.19	
30D	184.45	-2.07%	0.74%	0.34%		4.71	6.38	
20D	181.80	-3.48%	1.03%	0.64%	0.30%		8.28	
10D	177.71	-5.65%	1.30%	0.90%	0.56%	0.26%		

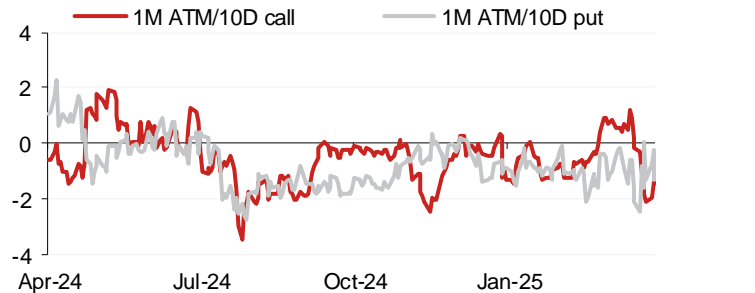
## Vol and z-score levels



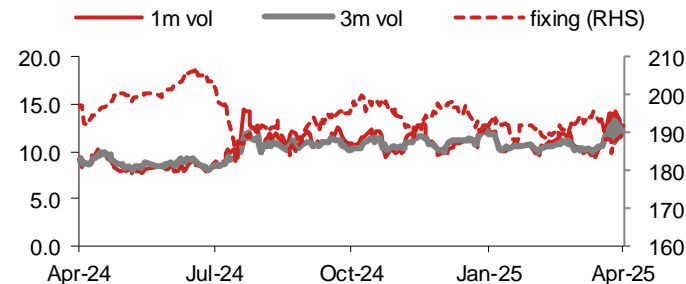
## Vol and z-score changes



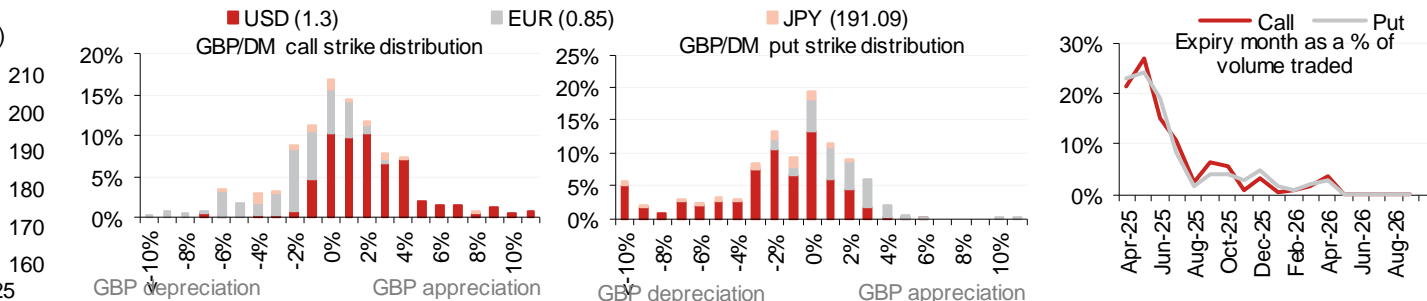
## Call/put spread leverage z-score



## Vol and spot FX fixing time series<sup>3</sup>



## DTCC analysis of strike and expiry distributions<sup>2</sup>



Source: Nomura. Note: all Z-scores, avg, min and max are based on 120 trading day window; 1) Upper quadrant is ratio of max. payout/cost; lower quadrant is cost of call/put spread; 2) DTCC volume is total traded over the past 1m; numbers in parentheses are average spot values over the past 1m as of publication; 3) Fixing used is GBPJPY L160 Curncy

# GBPUSD

NOMURA

17-Apr-25	1W	1M	2M	3M	6M	9M	1Y
<b>Implied Vol</b>							
Z-score	0.7	1.3	1.4	1.5	1.2	1.1	0.9
Level	9.5	9.3	9.0	8.9	8.7	8.7	8.6
1m chg	2.3	2.0	1.7	1.7	1.3	1.1	1.0
Average	8.2	7.9	7.8	7.9	8.0	8.1	8.1
Max	14.3	10.8	10.3	10.2	10.0	10.0	10.0
Min	5.5	6.5	6.8	7.0	7.2	7.4	7.5
<b>25-delta Risk Reversals</b>							
Z-score	2.0	2.2	2.3	2.4	2.5	2.6	2.7
Level	0.4	0.2	0.1	0.0	-0.3	-0.5	-0.5
1m chg	0.5	0.5	0.6	0.6	0.5	0.5	0.5
Max	0.5	0.3	0.1	0.0	-0.3	-0.5	-0.5
Min	-1.8	-1.8	-1.7	-1.8	-1.9	-2.0	-2.0
RR/ATM	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1
Z-score	2.5	2.6	2.7	2.8	3.1	3.3	3.4

1W	1M	2M	3M	6M	9M	1Y
<b>Implied-Realized Vol Spread</b>						
0.2	-2.8	-1.5	-0.8	-1.3	-1.1	-0.8
0.8	-3.7	-1.1	-0.3	-0.3	0.7	1.2
-1.1	-4.6	-1.6	0.2	0.0	0.1	0.2
0.1	0.1	0.2	0.3	0.9	1.4	1.6
6.2	3.2	2.3	2.2	2.9	3.4	3.6
-12.1	-4.7	-2.3	-1.4	-1.0	-0.1	0.5
<b>10-delta Risk Reversals</b>						
2.0	2.2	2.3	2.4	2.5	2.6	2.7
0.8	0.5	0.2	-0.1	-0.6	-0.9	-1.1
0.9	1.0	1.1	1.1	1.0	1.0	1.1
1.0	0.6	0.2	-0.1	-0.6	-0.9	-1.1
-3.5	-3.4	-3.4	-3.5	-3.7	-3.9	-4.1
0.1	0.1	0.0	0.0	-0.1	-0.1	-0.1
2.5	2.6	2.7	2.8	3.1	3.3	3.4

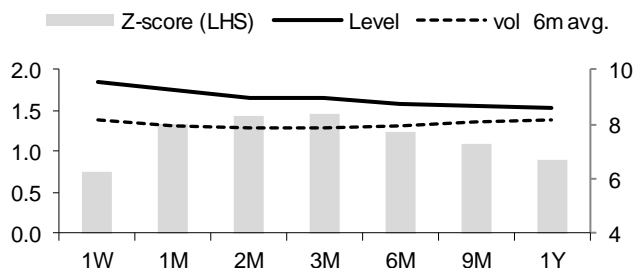
## Cost and leverage of 1M call and put spreads by strike delta<sup>1</sup>

Spot ref:		Δ	50D	40D	30D	20D	10D	CALLS
1.33	Strike		1.33	1.34	1.35	1.36	1.38	
Δ	Strike	Dist	0.00%	0.69%	1.46%	2.43%	3.98%	
50D	1.33	0.00%		2.37	2.75	3.33	4.41	
40D	1.34	0.69%	0.29%		3.22	3.97	5.37	
30D	1.35	1.46%	0.53%	0.24%		4.85	6.75	
20D	1.36	2.43%	0.73%	0.44%	0.20%		8.97	
10D	1.38	3.98%	0.90%	0.61%	0.37%	0.17%		
		Strike	1.33	1.32	1.31	1.30	1.28	
Δ	Strike	Dist	0.00%	-0.67%	-1.40%	-2.28%	-3.61%	PUTS
50D	1.33	0.00%		2.17	2.49	2.97	3.83	
40D	1.32	-0.67%	0.31%		2.89	3.51	4.65	
30D	1.31	-1.40%	0.56%	0.25%		4.26	5.81	
20D	1.30	-2.28%	0.77%	0.46%	0.21%		7.68	
10D	1.28	-3.61%	0.94%	0.63%	0.38%	0.17%		

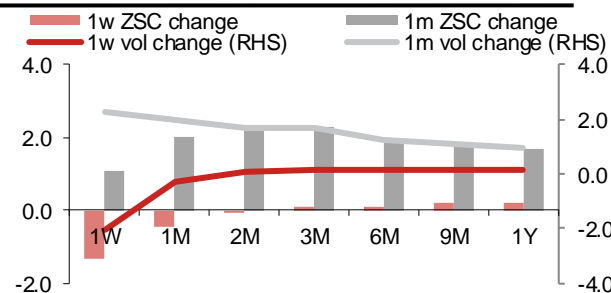
CALLS

PUTS

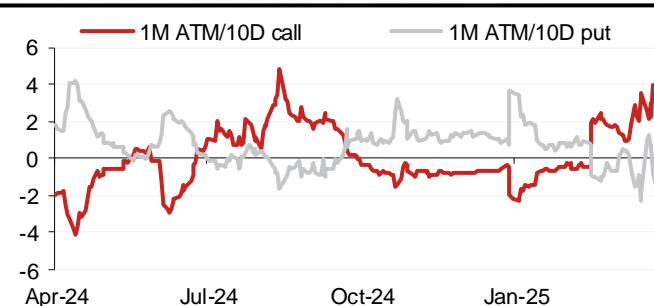
## Vol and z-score levels



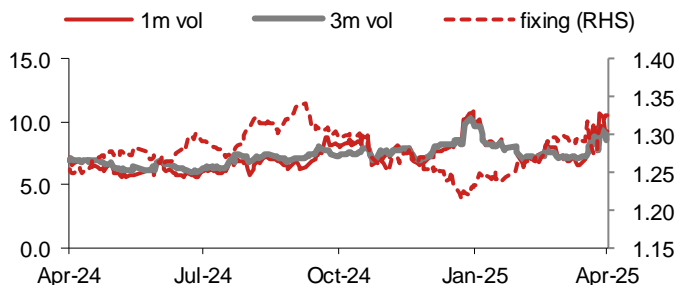
## Vol and z-score changes



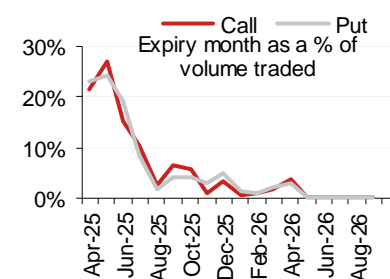
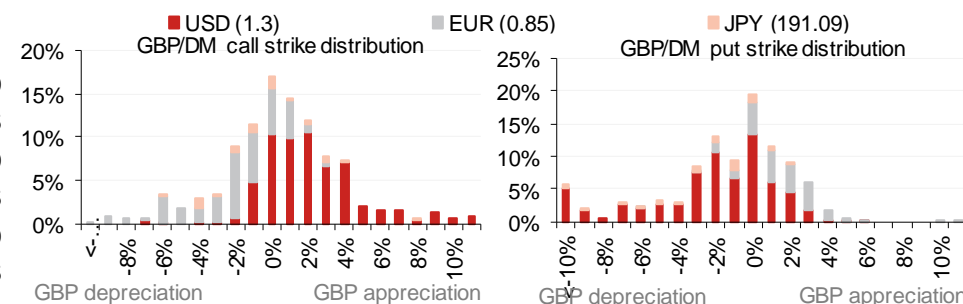
## Call/put spread leverage z-score



## Vol and spot FX fixing time series<sup>3</sup>



## DTCC analysis of strike and expiry distributions<sup>2</sup>



Source: Nomura. Note: all z-scores, avg, min and max are based on 120 trading day window; 1) Upper quadrant is ratio of max. payout/cost; lower quadrant is cost of call/put spread; 2) DTCC volume is total traded over the past 1m; numbers in parentheses are average spot values over the past 1m as of publication; 3) Fixing used is GBP L160 Currency



# AUDUSD

NOMURA

17-Apr-25	1W	1M	2M	3M	6M	9M	1Y
<b>Implied Vol</b>							
Z-score	0.9	1.6	1.9	2.1	2.1	2.0	1.9
Level	12.3	12.3	12.1	12.0	11.5	11.2	11.1
1m chg	3.3	2.8	2.7	2.6	1.9	1.5	1.3
Average	10.2	10.1	10.0	10.0	10.0	10.1	10.1
Max	22.5	17.3	15.6	14.6	13.2	12.4	12.0
Min	7.6	8.5	8.8	8.8	9.0	9.2	9.3
<b>25-delta Risk Reversals</b>							
Z-score	-0.6	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1
Level	-1.0	-1.3	-1.4	-1.5	-1.7	-1.7	-1.7
1m chg	-0.5	-0.6	-0.7	-0.7	-0.6	-0.6	-0.6
Max	-0.1	-0.5	-0.7	-0.8	-1.0	-1.1	-1.1
Min	-3.8	-3.2	-3.0	-3.0	-3.0	-2.9	-2.8
RR/ATM	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2
Z-score	-0.7	-1.2	-0.9	-0.7	-0.7	-0.7	-0.7

1W	1M	2M	3M	6M	9M	1Y
<b>Implied-Realized Vol Spread</b>						
-1.8	-3.9	-4.0	-4.2	-3.5	-3.2	-2.7
-12.7	-13.0	-6.9	-4.1	-1.6	-0.3	0.5
-13.6	-12.7	-7.5	-5.4	-2.4	-1.7	-1.1
-0.3	0.3	0.7	1.0	1.4	1.7	1.8
10.3	5.1	3.4	2.9	2.7	2.8	2.8
-35.7	-13.1	-7.0	-4.3	-1.7	-0.3	0.4
<b>10-delta Risk Reversals</b>						
-0.6	-1.1	-1.1	-1.1	-1.0	-1.0	-1.0
-1.8	-2.6	-2.8	-3.0	-3.2	-3.4	-3.5
-1.0	-1.3	-1.3	-1.3	-1.2	-1.2	-1.2
-0.2	-1.0	-1.4	-1.5	-1.9	-2.1	-2.2
-6.8	-6.2	-5.9	-5.9	-5.8	-5.6	-5.6
-0.1	-0.2	-0.2	-0.2	-0.3	-0.3	-0.3
-0.7	-1.2	-0.9	-0.7	-0.6	-0.6	-0.7

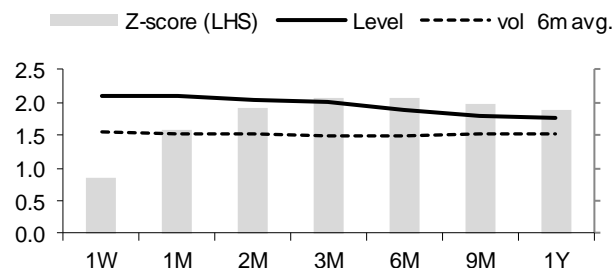
## Cost and leverage of 1M call and put spreads by strike delta<sup>1</sup>

Spot ref:		Δ	50D	40D	30D	20D	10D
0.64	Strike	0.639	0.645	0.651	0.659	0.669	
Δ	Strike	Dist	0.00%	0.89%	1.85%	2.99%	4.67%
50D	0.639	0.00%	2.18	2.50	2.97	3.80	
40D	0.645	0.89%	0.41%	2.90	3.51	4.63	
30D	0.651	1.85%	0.74%	0.33%	4.26	5.80	
20D	0.659	2.99%	1.01%	0.60%	0.27%	7.68	
10D	0.669	4.67%	1.23%	0.82%	0.49%	0.22%	
		Strike	0.640	0.634	0.627	0.619	0.605
Δ	Strike	Dist	0.00%	-0.92%	-1.96%	-3.29%	-5.37%
50D	0.640	0.00%	2.36	2.73	3.29	4.30	
40D	0.634	-0.92%	0.39%	3.18	3.89	5.19	
30D	0.627	-1.96%	0.72%	0.33%	4.71	6.44	
20D	0.619	-3.29%	1.00%	0.61%	0.28%	8.42	
10D	0.605	-5.37%	1.25%	0.86%	0.53%	0.25%	

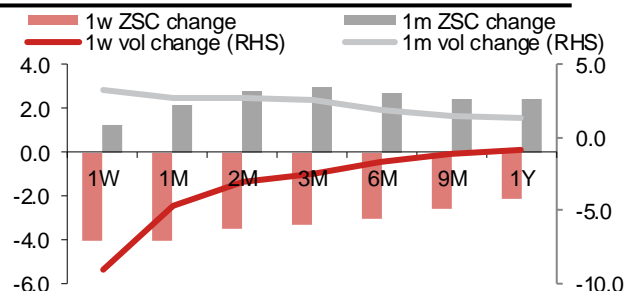
CALLS

PUTS

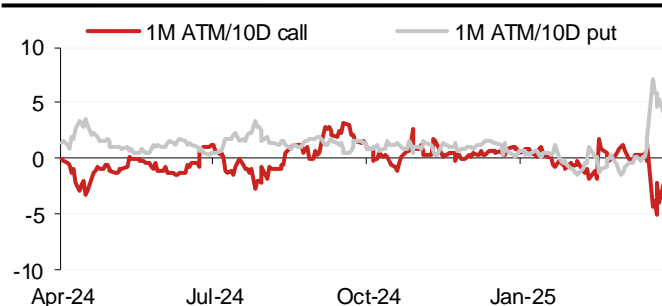
## Vol and z-score levels



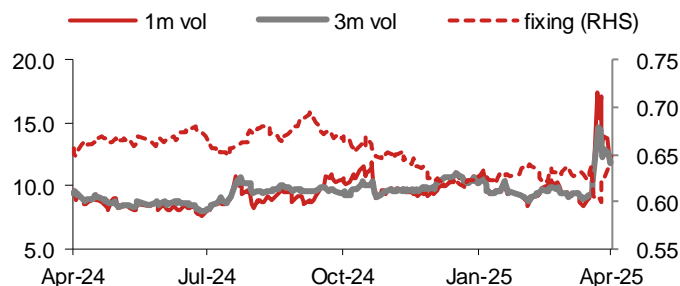
## Vol and z-score changes



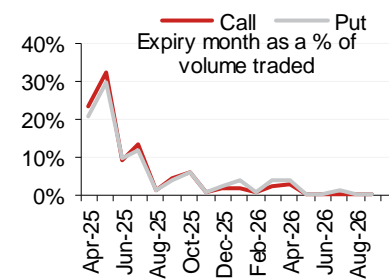
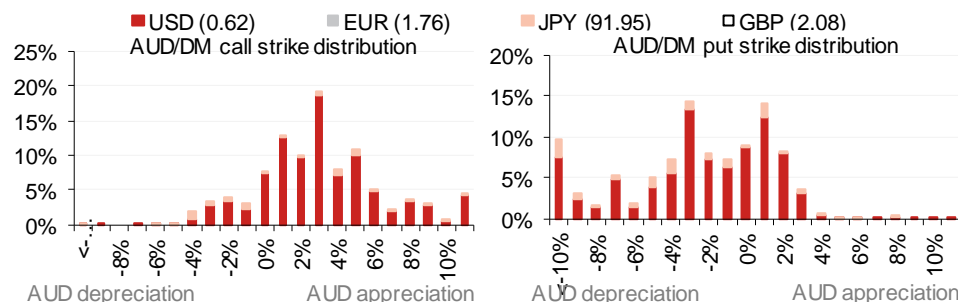
## Call/put spread leverage z-score



## Vol and spot FX fixing time series<sup>3</sup>



## DTCC analysis of strike and expiry distributions<sup>2</sup>



Source: Nomura. Note: all Z-scores, avg, min and max are based on 120 trading day window; 1) Upper quadrant is ratio of max. payout/cost; lower quadrant is cost of call/put spread; 2) DTCC volume is total traded over the past 1m; numbers in parentheses are average spot values over the past 1m as of publication; 3) Fixing used is AUD L160 Currency

# USDCAD

NOMURA

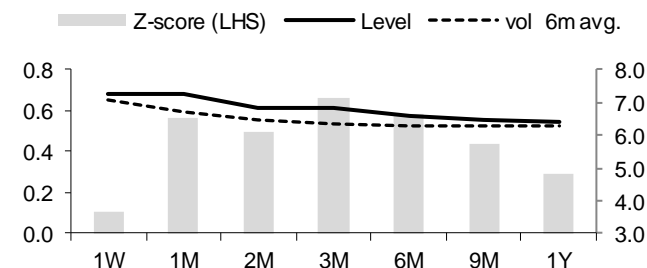
17-Apr-25	1W	1M	2M	3M	6M	9M	1Y
<b>Implied Vol</b>							
Z-score	0.1	0.6	0.5	0.7	0.6	0.4	0.3
Level	7.3	7.3	6.9	6.8	6.6	6.5	6.4
1m chg	0.6	0.1	0.1	0.3	0.2	0.0	0.0
Average	7.1	6.7	6.5	6.4	6.3	6.3	6.3
Max	12.2	9.1	8.4	8.0	7.5	7.3	7.1
Min	4.1	4.7	4.8	5.0	5.2	5.3	5.5
<b>25-delta Risk Reversals</b>							
Z-score	-1.0	-1.4	-1.6	-1.7	-2.0	-2.2	-2.3
Level	0.3	0.4	0.4	0.4	0.5	0.5	0.5
1m chg	-0.5	-0.8	-0.7	-0.8	-0.8	-0.9	-0.9
Max	2.7	2.4	2.3	2.2	2.1	2.0	1.9
Min	0.1	0.2	0.2	0.3	0.3	0.4	0.4
RR/ATM	0.0	0.1	0.1	0.1	0.1	0.1	0.1
Z-score	-1.5	-1.9	-2.1	-2.2	-2.5	-2.6	-2.7

1W	1M	2M	3M	6M	9M	1Y
<b>Implied-Realized Vol Spread</b>						
-1.3	-2.4	-2.5	-2.6	-2.5	-2.2	-1.9
-3.3	-3.5	-2.3	-1.8	-0.5	0.4	0.8
-4.7	-3.4	-1.6	-1.9	-1.2	-1.0	-0.8
1.0	0.9	0.9	1.1	1.6	1.8	1.8
7.4	4.8	3.8	3.1	3.1	3.0	2.8
-9.4	-3.7	-2.5	-2.1	-0.6	0.2	0.7
<b>10-delta Risk Reversals</b>						
-1.0	-1.4	-1.6	-1.7	-2.0	-2.2	-2.3
0.6	0.7	0.7	0.7	0.8	0.8	0.9
-1.0	-1.4	-1.4	-1.4	-1.5	-1.6	-1.6
5.0	4.4	4.2	4.1	3.9	3.7	3.5
0.2	0.4	0.4	0.5	0.6	0.6	0.7
0.1	0.1	0.1	0.1	0.1	0.1	0.1
-1.5	-1.9	-2.1	-2.2	-2.5	-2.7	-2.7

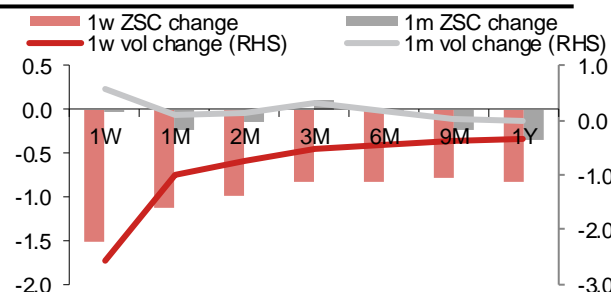
## Cost and leverage of 1M call and put spreads by strike delta<sup>1</sup>

Spot ref:		Δ	50D	40D	30D	20D	10D	CALLS
1.38	Strike	1.38	1.39	1.40	1.41	1.42		
Δ	Strike	Dist	0.00%	0.52%	1.10%	1.84%	3.00%	
50D	1.38	0.00%	2.38	2.77	3.34	4.39		
40D	1.39	0.52%	0.22%	3.24	3.97	5.34		
30D	1.40	1.10%	0.40%	0.18%	4.84	6.67		
20D	1.41	1.84%	0.55%	0.33%	0.15%	8.80		
10D	1.42	3.00%	0.68%	0.46%	0.28%	0.13%		
		Strike	1.38	1.38	1.37	1.36	1.35	
Δ	Strike	Dist	0.00%	-0.51%	-1.05%	-1.71%	-2.70%	PUTS
50D	1.38	0.00%	2.16	2.48	2.95	3.80		
40D	1.38	-0.51%	0.23%	2.88	3.49	4.61		
30D	1.37	-1.05%	0.42%	0.19%	4.24	5.76		
20D	1.36	-1.71%	0.58%	0.34%	0.16%	7.60		
10D	1.35	-2.70%	0.71%	0.47%	0.29%	0.13%		
		Strike	1.38	1.38	1.37	1.36	1.35	

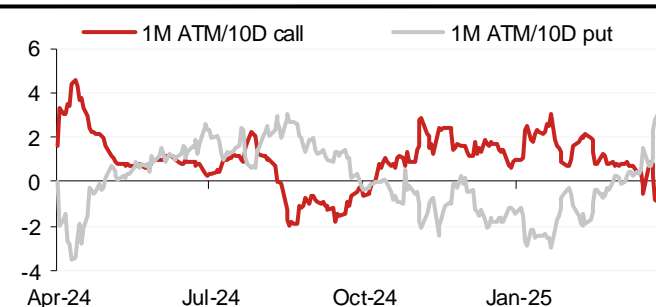
## Vol and z-score levels



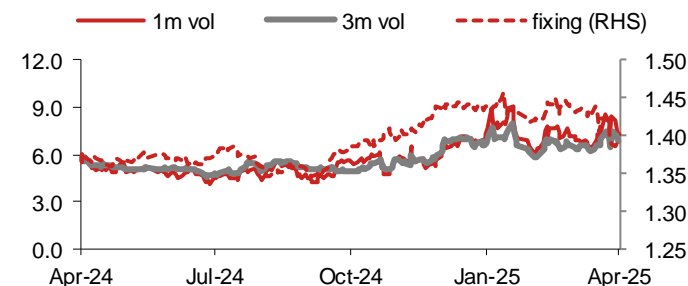
## Vol and z-score changes



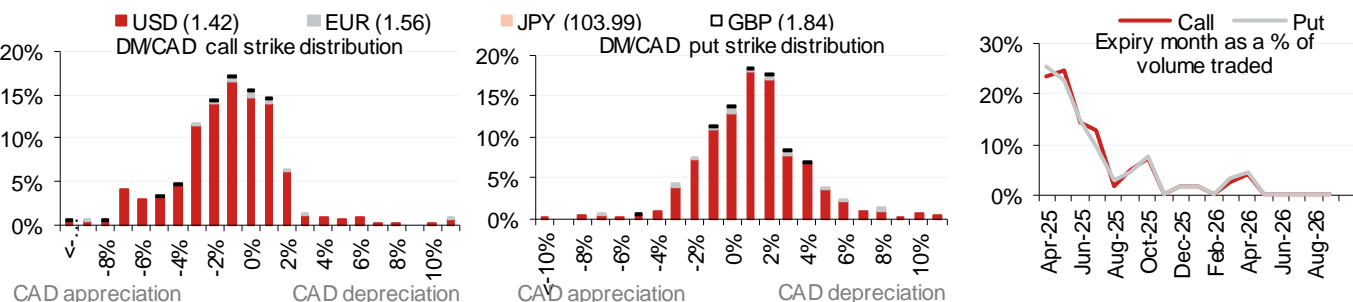
## Call/put spread leverage z-score



## Vol and spot FX fixing time series<sup>3</sup>



## DTCC analysis of strike and expiry distributions<sup>2</sup>



Source: Nomura. Note: all Z-scores, avg, min and max are based on 120 trading day window; 1) Upper quadrant is ratio of max. payout/cost; lower quadrant is cost of call/put spread; 2) DTCC volume is total traded over the past 1m; numbers in parentheses are average spot values over the past 1m as of publication; 3) Fixing used is CAD L160 Currency

## **Asia FX carry & curve analytics**

# Asia FX Carry Summary

Annualized Carry from Short USD/Asia (bp)

	CNY	CNH	HKD	INR	KRW	IDR	PHP	THB	TWD	MYR
1W	952	-325	-110	276	-6228	1760	-1462	-155	-721	44
1M	309	-287	-103	277	-1608	513	-274	-215	-630	-211
2M	126	-314	-92	261	-923	338	-101	-233	-547	-185
3M	77	-302	-78	245	-683	287	-41	-233	-498	-147
6M	-55	-287	-68	229	-448	253	18	-243	-439	-135
9M	-106	-272	-58	225	-363	240	34	-239	-405	-110
12M	-129	-257	-55	231	-316	240	46	-236	-389	-111

Spread Z-score (126d)

	CNY	CNH	HKD	INR	KRW	IDR	PHP	THB	TWD	MYR
1W	0.69	-0.90	-1.00	-0.28	-11.01	1.36	-6.08	-0.05	-1.76	0.24
1M	0.79	-1.14	-1.76	-0.08	-10.62	1.79	-3.49	-1.07	-3.28	-0.72
2M	0.58	-1.91	-1.96	-0.06	-10.37	1.66	-2.63	-1.92	-2.86	-0.85
3M	0.59	-1.99	-1.59	-0.23	-9.87	1.54	-2.16	-2.24	-2.19	-0.37
6M	0.21	-2.34	-1.70	-0.46	-9.77	1.69	-1.48	-3.01	-1.73	0.17
9M	0.00	-2.62	-1.13	-0.53	-9.44	1.63	-1.23	-3.51	-1.57	0.91
12M	-0.13	-2.77	-1.33	-0.43	-7.87	1.90	-0.98	-3.60	-1.42	0.08

Carry (Short USD/Asia) Z-score (126d)

	CNY	CNH	HKD	INR	KRW	IDR	PHP	THB	TWD	MYR
1W	0.69	-0.88	-1.00	-0.27	-11.02	1.33	-6.18	-0.06	-1.78	0.24
1M	0.79	-1.10	-1.77	-0.06	-10.63	1.74	-3.56	-1.11	-3.29	-0.72
2M	0.58	-1.86	-1.98	-0.04	-10.37	1.58	-2.68	-1.97	-2.84	-0.85
3M	0.59	-1.93	-1.61	-0.22	-9.80	1.44	-2.19	-2.28	-2.16	-0.37
6M	0.21	-2.24	-1.73	-0.46	-9.90	1.52	-1.48	-3.08	-1.68	0.16
9M	0.01	-2.49	-1.17	-0.54	-10.17	1.42	-1.22	-3.65	-1.51	0.88
12M	-0.11	-2.62	-1.38	-0.42	-9.01	1.61	-0.95	-3.87	-1.37	0.07

Annualized carry-to-vol (Short USD/Asia) Z-score (126d)

	CNY	CNH	HKD	INR	KRW	IDR	PHP	THB	TWD	MYR
1W	2.53	-0.61	-1.72	0.82	-7.12	2.67	-2.36	-0.16	-1.41	0.06
1M	0.76	-0.53	-1.71	0.82	-1.83	0.70	-0.44	-0.22	-1.14	-0.30
2M	0.30	-0.57	-1.63	0.78	-1.05	0.49	-0.16	-0.24	-0.93	-0.27
3M	0.18	-0.54	-1.42	0.72	-0.78	0.41	-0.06	-0.24	-0.83	-0.21
6M	-0.13	-0.50	-1.36	0.67	-0.51	0.35	0.03	-0.25	-0.66	-0.19
9M	-0.23	-0.48	-1.21	0.64	-0.41	0.37	0.05	-0.25	-0.59	-0.15
12M	-0.27	-0.44	-1.14	0.65	-0.36	0.34	0.07	-0.24	-0.55	-0.16

Note: **Annualized carry** calculated using the log of the corresponding forward tenor price divided by spot price and then annualized accordingly. **Z-Score of the spread** is calculated by deducting from the current spread (not annualized) the average spread over the past 126 trading days followed by dividing by the standard deviation of the spread over the past 126 trading days. **Carry Z-Score** is calculated by subtracting the average carry over the past 126 trading days by the current carry (not annualized), followed by dividing by the standard deviation of the carry over the past 126 trading days. **Annualized carry-to-vol** is calculated by dividing the annualized carry of the tenor by the annualized daily volatility (126 trading day window) of the forward price. Conditional Formatting applied across rows, with larger values in the row being in green while lower values are in red.

# Asia FX Spread summary

## Avg mthly rolldown from selling the spread (bp)

	CNY	CNH	HKD	INR	KRW	IDR	PHP	THB	TWD	MYR
1X2	-30.7	-4.4	1.7	-2.6	113.6	-29.1	28.8	-3.0	13.9	4.3
1X3	-27.5	0.8	4.5	-5.3	116.6	-27.4	29.5	-1.5	19.4	11.8
1X6	-41.4	1.5	3.7	-5.2	115.6	-24.4	29.1	-3.0	21.1	7.3
1X9	-42.9	4.1	5.4	-4.7	117.6	-24.8	28.4	-1.0	24.9	12.6
1X12	-42.2	6.5	4.6	-2.2	118.8	-22.4	29.8	-0.9	24.9	8.1
2X3	-13.7	0.4	2.2	-2.7	58.3	-13.7	14.7	-0.7	9.7	5.9
2X6	-26.1	3.7	2.9	-3.9	58.8	-9.8	14.7	-1.5	14.2	5.2
2X9	-27.6	6.3	4.5	-3.4	60.8	-10.2	14.0	0.5	18.0	10.4
2X12	-26.9	8.7	3.7	-0.9	62.0	-7.8	15.4	0.6	18.0	5.9
3X6	-22.1	2.7	1.7	-2.6	38.9	-5.6	9.7	-1.5	10.1	2.0
3X9	-23.5	5.3	3.3	-2.0	40.8	-5.9	9.0	0.5	13.9	7.2
3X12	-22.8	7.7	2.5	0.4	42.1	-3.6	10.4	0.6	13.9	2.7
6X9	-11.8	2.7	1.7	-1.0	20.4	-3.0	4.5	0.2	6.9	3.6
6X12	-12.2	5.2	2.1	0.5	22.0	-2.0	4.8	1.3	8.8	4.0
9X12	-7.6	2.6	0.8	0.1	14.0	-1.2	3.5	0.2	4.6	0.9

## Ann carry-to-vol (126d) from selling the spread

	CNY	CNH	HKD	INR	KRW	IDR	PHP	THB	TWD	MYR
1X2	-0.8	-1.4	1.7	-0.8	8.1	-1.2	3.6	-0.5	1.1	0.2
1X3	-0.7	0.2	3.2	-1.2	8.3	-1.0	3.2	-0.2	1.2	0.6
1X6	-1.0	0.2	1.8	-1.0	8.3	-0.8	2.8	-0.4	1.0	0.4
1X9	-1.0	0.6	2.0	-0.8	8.4	-0.8	2.5	-0.1	1.1	0.6
1X12	-0.9	0.9	1.5	-0.3	8.3	-0.9	2.4	-0.1	1.0	0.4
2X3	-0.3	0.1	2.2	-0.8	4.2	-0.6	1.9	-0.1	0.7	0.3
2X6	-0.6	0.7	1.6	-0.8	4.2	-0.4	1.5	-0.2	0.8	0.3
2X9	-0.6	1.0	1.8	-0.6	4.3	-0.3	1.3	0.1	0.8	0.6
2X12	-0.6	1.3	1.2	-0.1	4.4	-0.3	1.3	0.1	0.7	0.3
3X6	-0.5	0.5	1.0	-0.5	2.8	-0.2	1.0	-0.2	0.6	0.1
3X9	-0.5	0.8	1.4	-0.3	2.9	-0.2	0.8	0.1	0.6	0.4
3X12	-0.5	1.1	0.9	0.1	3.0	-0.1	0.9	0.1	0.6	0.1
6X9	-0.3	0.5	1.0	-0.2	1.4	-0.1	0.5	0.0	0.4	0.2
6X12	-0.3	0.8	0.9	0.1	1.6	-0.1	0.5	0.2	0.4	0.2
9X12	-0.2	0.5	0.5	0.0	1.0	0.0	0.4	0.0	0.3	0.0

## Spread (Z-Score)

	CNY	CNH	HKD	INR	KRW	IDR	PHP	THB	TWD	MYR
1X2	-0.1	-2.9	-1.5	0.0	-2.3	0.2	-0.3	-2.6	-1.5	-0.1
1X3	0.1	-2.5	-0.8	-0.3	-1.7	0.1	-0.1	-2.5	-1.1	0.7
1X6	-0.4	-2.8	-1.0	-0.7	-2.9	0.8	0.0	-3.3	-1.0	1.1
1X9	-0.7	-3.1	-0.3	-0.7	-1.9	0.8	-0.1	-3.7	-0.9	1.8
1X12	-0.8	-3.2	-0.7	-0.5	-0.8	1.1	0.1	-3.7	-0.8	1.0
2X3	0.5	-1.9	0.8	-0.5	-0.5	0.0	0.1	-1.7	-0.5	0.9
2X6	-0.5	-2.6	-0.3	-0.9	-2.1	0.8	0.0	-3.1	-0.7	1.3
2X9	-0.9	-3.0	0.3	-0.9	-1.1	0.8	0.0	-3.5	-0.6	2.0
2X12	-1.1	-2.8	-0.2	-0.6	-0.4	1.0	0.2	-3.3	-0.5	1.3
3X6	-1.2	-2.9	-0.9	-1.3	-1.8	1.1	0.0	-3.4	-0.8	1.0
3X9	-1.4	-3.1	0.1	-1.2	-0.8	0.9	0.0	-3.4	-0.6	1.7
3X12	-1.6	-2.5	-0.4	-0.5	-0.3	1.4	0.2	-3.0	-0.5	0.6
6X9	-1.8	-1.9	1.0	-0.4	-0.1	0.2	-0.1	-2.1	0.0	1.2
6X12	-2.0	-0.9	-0.2	0.1	0.2	0.7	0.3	-1.9	0.0	-0.1
9X12	-1.3	-0.1	-1.3	0.4	0.4	0.4	1.0	-1.4	0.0	-1.1

Note: **Average monthly rolldown** calculated by deducting the current points of the tenor of the trade from the difference in points across the two tenors followed by dividing by current spot price and tenor of the shorter leg to obtain average monthly average rolldown in bp. **Ann carry to vol** calculated by annualizing the average monthly rolldown followed by dividing by the annualized volatility (126 session window) of the points corresponding to the tenor of the trade. **Z-Score** calculated by deducting the average spread (in pips) over the past 126 sessions from the current spread then dividing by the standard deviation (126 sessions) of the spread. We define best trades to be selling (buying) the spread as the trade with highest (lowest) values when selling the spread. Conditional Formatting applied across rows, with larger values in the row being in green while lower values are in red.

## Best mthly rolldown from selling the spread (bp)

Rolldown Rank	Trade	Avg roll per month (bp)	Z-Score of the Spread	Ann carry-to-vol
1	KRW 1X12	118.8	-0.82	8.30
2	PHP 1X12	29.8	0.11	2.42
3	TWD 1X9	24.9	-0.86	1.08
4	CNH 2X12	8.7	-2.79	1.25
5	HKD 1X9	5.4	-0.33	1.99

## Best Ann carry-to-vol (126d) from selling the spread

Ann carry-to-vol Rank	Trade	Ann carry-to-vol	Z-Score of the Spread	Avg roll per month (bp)
1	KRW 1X9	8.36	-1.94	117.56
2	PHP 1X2	3.64	-0.30	28.79
3	HKD 1X3	3.16	-0.78	4.48
4	CNH 2X12	1.25	-2.79	8.68
5	TWD 1X3	1.23	-1.10	19.39

## Spread (Highest Z-Score)

Spread Rank	Trade	Spread Z-Score	Avg roll per month (bp)	Ann carry-to-vol
1	IDR 3X12	1.35	-3.57	-0.10
2	HKD 6X9	1.03	1.65	1.01
3	PHP 9X12	0.95	3.47	0.36
4	CNY 2X3	0.52	-13.74	-0.34
5	KRW 9X12	0.42	14.03	1.00

## Best mthly rolldown from buying the spread (bp)

Rolldown Rank	Trade	Avg roll per month (bp)	Z-Score of the Spread	Ann carry-to-vol
1	CNY 1X9	42.9	-0.65	0.98
2	IDR 1X2	29.1	0.15	1.23
3	INR 1X3	5.3	-0.32	1.18
4	CNH 1X2	4.4	-2.85	1.39
5	THB 1X2	3.0	-2.59	0.48

## Best Ann carry-to-vol (126d) from buying the spread

Ann carry-to-vol Rank	Trade	Ann carry-to-vol	Z-Score of the Spread	Avg roll per month (bp)
1	CNH 1X2	1.39	-2.85	4.36
2	IDR 1X2	1.23	0.15	29.14
3	INR 1X3	1.18	-0.32	5.30
4	CNY 1X9	0.98	-0.65	42.92
5	THB 1X2	0.48	-2.59	2.98

## Spread (Lowest Z-Score)

Spread Rank	Trade	Spread Z-Score	Avg roll per month (bp)	Ann carry-to-vol
1	THB 1X9	-3.70	0.99	0.15
2	CNH 1X12	-3.21	-6.50	-0.90
3	KRW 1X6	-2.87	-115.63	-8.28
4	CNY 6X12	-1.95	12.16	0.28
5	TWD 1X2	-1.52	-13.85	-1.06

Note: We limit each currency to appear only once per table. MYR is excluded from the calculation of these tables. Rows shaded green appear in all 3 tables.

# USD/CNY Carry and Spread Z-Score

## Z score of carry from short USD/CNY

18-Apr-25	1W	1M	2M	3M	6M	9M	12M
Carry (Short USD/CNY)							
Act. Carry (bp)	18	26	21	19	-28	-79	-129
3M Carry (bp)	238	77	31	19	-14	-26	-32
Ann. Carry (bp)	952	309	126	77	-55	-106	-129
252 trading days							
Zscore (252d)	0.95	0.96	0.74	0.73	0.37	0.18	0.07
Ann. carry-to-vol (252d)	2.93	0.87	0.34	0.20	-0.14	-0.26	-0.31
Low (252D, act carry bp)	-71	-116	-148	-178	-242	-294	-330
Avg (252D, act carry bp)	-1	-5	-11	-19	-53	-93	-135
High (252D, act carry bp)	104	122	131	129	107	70	43
126 trading days							
Zscore (126d)	0.69	0.79	0.58	0.59	0.21	0.01	-0.11
Ann. carry-to-vol (126d)	2.53	0.76	0.30	0.18	-0.13	-0.23	-0.27
Low (126D, act carry bp)	-52	-81	-101	-126	-180	-226	-270
Avg (126D, act carry bp)	3	1	-3	-9	-40	-80	-121
High (126D, act carry bp)	104	122	131	129	107	70	43

## Z score of USD/CNY spread

18-Apr-25	1W	1M	2M	3M	6M	9M	12M
Spread trade (pips)							
Spot	132	186	151	139	-199	-569	-924
Spot, Zscore (126d)	0.69	0.79	0.58	0.59	0.21	0.00	-0.13
1W	-	54	19	7	-331	-701	-1056
1W, Zscore (126d)	-	0.60	0.30	0.36	-0.06	-0.29	-0.42
1M	-	-	-35	-47	-385	-755	-1110
1M, Zscore (126d)	-	-	-0.13	0.15	-0.39	-0.65	-0.82
2M	-	-	-	-12	-350	-720	-1075
2M, Zscore (126d)	-	-	-	0.52	-0.51	-0.85	-1.06
3M	-	-	-	-	-338	-708	-1063
3M, Zscore (126d)	-	-	-	-	-1.15	-1.44	-1.64
6M	-	-	-	-	-	-370	-725
6M, Zscore (126d)	-	-	-	-	-	-1.83	-1.95
9M	-	-	-	-	-	-	-355
9M, Zscore (126d)	-	-	-	-	-	-	-1.25

## Average monthly roll (bp) and annualized carry-to-vol from selling the spread

18-Apr-25	1M	2M	3M	4M	5M	6M	7M	8M	9M	10M	11M	12M
USD/CNY												
1M		-30.7	-27.5	-41.4	-41.4	-41.4	-42.9	-42.9	-42.9	-42.2	-42.2	-42.2
2M	-0.75		-13.7	-19.1	-26.1	-26.1	-26.8	-27.6	-27.6	-27.2	-26.9	-26.9
3M	-0.66	-0.34		-13.8	-17.4	-22.1	-22.6	-23.0	-23.5	-23.3	-23.1	-22.8
4M	-0.97	-0.46	-0.34		-10.4	-13.1	-16.9	-17.3	-17.7	-17.9	-17.7	-17.5
5M	-0.97	-0.61	-0.42	-0.25		-8.3	-10.7	-13.8	-14.1	-14.3	-14.4	-14.3
6M	-0.97	-0.61	-0.52	-0.31	-0.20		-7.2	-9.2	-11.8	-11.9	-12.0	-12.2
7M	-1.00	-0.63	-0.53	-0.40	-0.26	-0.18		-6.1	-7.9	-10.0	-10.1	-10.2
8M	-0.99	-0.64	-0.54	-0.40	-0.32	-0.22	-0.15		-5.4	-6.8	-8.7	-8.8
9M	-0.98	-0.64	-0.55	-0.41	-0.33	-0.28	-0.19	-0.13		-4.7	-6.0	-7.6
10M	-0.95	-0.62	-0.54	-0.42	-0.33	-0.28	-0.23	-0.16	-0.12		-4.2	-5.4
11M	-0.95	-0.61	-0.53	-0.41	-0.34	-0.28	-0.24	-0.20	-0.14	-0.10		-3.8
12M	-0.94	-0.60	-0.52	-0.40	-0.33	-0.28	-0.24	-0.20	-0.18	-0.13	-0.09	

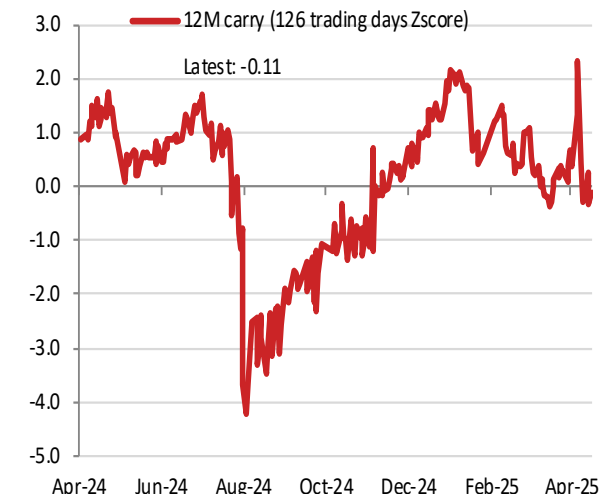
Avg mthly rolldown n from selling the spread(bp) is in the top right section of the table.

Ann carry-to-vol (252d) from selling the spread is in the bottom left section of the table.

## 6M rolling Z score of 1M carry



## 6M rolling Z score of 12M carry



# USD/CNH Carry and Spread Z-Score

## Z score of carry from short USD/CNH

18-Apr-25	1W	1M	2M	3M	6M	9M	12M
Carry (Short USD/CNH)							
Act. Carry (bp)	-6	-24	-52	-76	-144	-204	-257
3M Carry (bp)	-81	-72	-78	-76	-72	-68	-64
Ann. Carry (bp)	-325	-287	-314	-302	-287	-272	-257
252 trading days							
Zscore (252d)	-0.39	-0.41	-0.90	-0.90	-1.00	-1.10	-1.17
Ann. carry-to-vol (252d)	-0.67	-0.58	-0.63	-0.60	-0.56	-0.53	-0.50
Low (252D, act carry bp)	-15	-38	-67	-97	-172	-227	-275
Avg (252D, act carry bp)	-5	-21	-40	-59	-119	-175	-228
High (252D, act carry bp)	1	-1	-9	-21	-66	-123	-174
126 trading days							
Zscore (126d)	-0.88	-1.10	-1.86	-1.93	-2.24	-2.49	-2.62
Ann. carry-to-vol (126d)	-0.61	-0.53	-0.57	-0.54	-0.50	-0.48	-0.44
Low (126D, act carry bp)	-9	-27	-52	-76	-144	-204	-257
Avg (126D, act carry bp)	-4	-17	-33	-49	-102	-157	-210
High (126D, act carry bp)	1	-1	-9	-21	-66	-123	-174

## Z score of USD/CNH spread

18-Apr-25	1W	1M	2M	3M	6M	9M	12M
Spread trade (pips)							
Spot	-46	-175	-381	-550	-1041	-1474	-1856
Spot, Zscore (126d)	-0.90	-1.14	-1.91	-1.99	-2.34	-2.62	-2.77
1W	-	-129	-335	-504	-995	-1429	-1810
1W, Zscore (126d)	-	-1.15	-2.05	-2.10	-2.44	-2.74	-2.89
1M	-	-	-206	-375	-866	-1300	-1681
1M, Zscore (126d)	-	-	-2.85	-2.54	-2.83	-3.15	-3.21
2M	-	-	-	-169	-660	-1093	-1475
2M, Zscore (126d)	-	-	-	-1.93	-2.64	-2.98	-2.79
3M	-	-	-	-	-491	-924	-1306
3M, Zscore (126d)	-	-	-	-	-2.89	-3.15	-2.53
6M	-	-	-	-	-	-433	-815
6M, Zscore (126d)	-	-	-	-	-	-1.94	-0.93
9M	-	-	-	-	-	-	-381
9M, Zscore (126d)	-	-	-	-	-	-	-0.14

## Average monthly roll (bp) and annualized carry-to-vol from selling the spread

18-Apr-25	1M	2M	3M	4M	5M	6M	7M	8M	9M	10M	11M	12M
USD/CNH												
1M		-4.4	0.8	1.5	1.5	1.5	4.1	4.1	4.1	6.5	6.5	6.5
2M	-1.39		0.4	3.3	3.7	3.7	5.0	6.3	6.3	7.5	8.7	8.7
3M	0.19	0.12		0.5	2.5	2.7	3.6	4.5	5.3	6.1	6.9	7.7
4M	0.30	0.80	0.16		0.4	1.8	2.7	3.3	4.0	5.2	5.8	6.4
5M	0.27	0.72	0.59	0.12		0.3	2.0	2.7	3.2	4.2	5.2	5.7
6M	0.25	0.67	0.53	0.45	0.10		0.7	2.1	2.7	3.5	4.3	5.2
7M	0.62	0.83	0.65	0.53	0.48	0.22		0.6	1.8	2.6	3.3	4.1
8M	0.62	0.94	0.74	0.61	0.53	0.51	0.19		0.5	1.9	2.6	3.2
9M	0.62	0.95	0.80	0.66	0.58	0.52	0.44	0.17		0.7	1.9	2.6
10M	0.95	1.12	0.92	0.79	0.69	0.64	0.52	0.45	0.23		0.6	1.7
11M	0.94	1.27	1.04	0.88	0.78	0.72	0.61	0.51	0.47	0.21		0.6
12M	0.90	1.25	1.13	0.96	0.86	0.77	0.67	0.58	0.50	0.42	0.19	

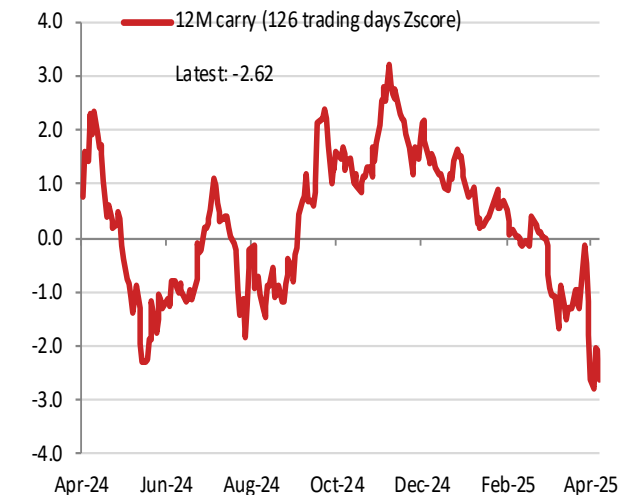
Avg mthly rolldown n from selling the spread(bp) is in the top right section of the table.

Ann carry-to-vol (252d) from selling the spread is in the bottom left section of the table.

## 6M rolling Z score of 1M carry



## 6M rolling Z score of 12M carry





# USD/HKD Carry and Spread Z-Score

## Z score of carry from short USD/HKD

18-Apr-25	1W	1M	2M	3M	6M	9M	12M
Carry (Short USD/HKD)							
Act. Carry (bp)	-2	-9	-15	-19	-34	-43	-55
3M Carry (bp)	-27	-26	-23	-19	-17	-14	-14
Ann. Carry (bp)	-110	-103	-92	-78	-68	-58	-55
252 trading days							
Zscore (252d)	-0.29	-0.26	-0.18	0.16	0.25	0.44	0.31
Ann. carry-to-vol (252d)	-1.47	-1.43	-1.36	-1.19	-1.15	-1.07	-1.08
Low (252D, act carry bp)	-5	-16	-28	-36	-58	-73	-88
Avg (252D, act carry bp)	-2	-8	-14	-21	-36	-48	-59
High (252D, act carry bp)	3	0	-4	-7	-19	-28	-36
126 trading days							
Zscore (126d)	-1.00	-1.77	-1.98	-1.61	-1.73	-1.17	-1.38
Ann. carry-to-vol (126d)	-1.72	-1.71	-1.63	-1.42	-1.36	-1.21	-1.14
Low (126D, act carry bp)	-3	-10	-18	-22	-36	-49	-60
Avg (126D, act carry bp)	-1	-5	-10	-15	-28	-39	-49
High (126D, act carry bp)	3	0	-4	-9	-20	-29	-39

## Z score of USD/HKD spread

18-Apr-25	1W	1M	2M	3M	6M	9M	12M
Spread trade (pips)							
Spot	-16	-66	-119	-151	-262	-336	-428
Spot, Zscore (126d)	-1.00	-1.76	-1.96	-1.59	-1.70	-1.13	-1.33
1W	-	-50	-103	-134	-246	-320	-412
1W, Zscore (126d)	-	-1.86	-2.01	-1.54	-1.63	-0.97	-1.19
1M	-	-	-53	-85	-196	-270	-362
1M, Zscore (126d)	-	-	-1.51	-0.78	-1.04	-0.33	-0.68
2M	-	-	-	-32	-143	-217	-309
2M, Zscore (126d)	-	-	-	0.82	-0.25	0.30	-0.21
3M	-	-	-	-	-112	-186	-277
3M, Zscore (126d)	-	-	-	-	-0.88	0.08	-0.44
6M	-	-	-	-	-	-74	-166
6M, Zscore (126d)	-	-	-	-	-	1.03	-0.15
9M	-	-	-	-	-	-	-92
9M, Zscore (126d)	-	-	-	-	-	-	-1.31

## Average monthly roll (bp) and annualized carry-to-vol from selling the spread

18-Apr-25	1M	2M	3M	4M	5M	6M	7M	8M	9M	10M	11M	12M
USD/HKD												
1M		1.7	4.5	3.7	3.7	3.7	5.4	5.4	5.4	4.6	4.6	4.6
2M	1.68		2.2	3.3	2.9	2.9	3.7	4.5	4.5	4.1	3.7	3.7
3M	3.16	2.21		1.2	1.9	1.7	2.2	2.8	3.3	3.0	2.8	2.5
4M	2.29	2.30	1.24		0.9	1.4	1.7	2.1	2.5	2.7	2.5	2.3
5M	2.01	1.77	1.36	0.93		0.7	1.5	1.7	2.0	2.2	2.3	2.2
6M	1.76	1.55	1.03	1.02	0.74		0.9	1.5	1.7	1.8	1.9	2.1
7M	2.23	1.74	1.19	1.02	1.04	0.88		0.8	1.3	1.3	1.4	1.5
8M	2.11	1.88	1.30	1.11	1.01	1.06	0.76		0.7	1.0	1.0	1.2
9M	1.99	1.78	1.37	1.16	1.06	1.01	0.91	0.66		0.5	0.8	0.8
10M	1.61	1.54	1.20	1.12	1.01	0.96	0.80	0.73	0.51		0.5	0.7
11M	1.53	1.31	1.04	0.99	0.97	0.91	0.76	0.64	0.59	0.45		0.4
12M	1.45	1.25	0.89	0.86	0.86	0.86	0.73	0.62	0.52	0.53	0.41	

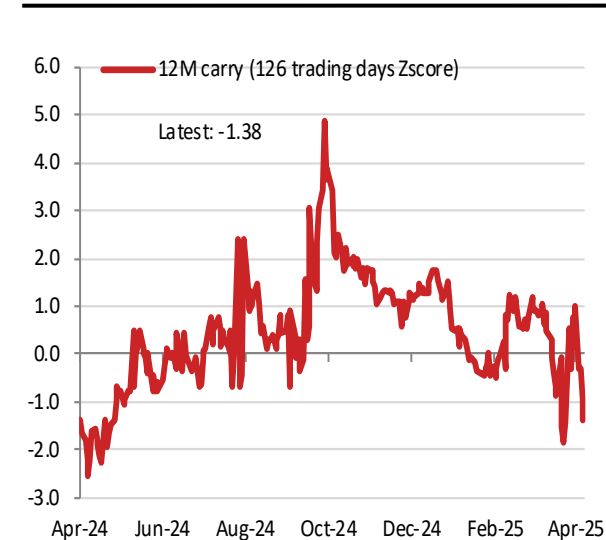
Avg mthly rolldown from selling the spread(bp) is in the top right section of the table.

Ann carry-to-vol (252d) from selling the spread is in the bottom left section of the table.

## 6M rolling Z score of 1M carry



## 6M rolling Z score of 12M carry





# USD/INR Carry and Spread Z-Score

## Z score of carry from short USD/INR

18-Apr-25	1W	1M	2M	3M	6M	9M	12M
Carry (Short USD/INR)							
Act. Carry (bp)	5	23	44	61	115	169	231
3M Carry (bp)	69	69	65	61	57	56	58
Ann. Carry (bp)	276	277	261	245	229	225	231
252 trading days							
Zscore (252d)	0.34	0.72	0.78	0.65	0.58	0.53	0.55
Ann. carry-to-vol (252d)	1.02	1.02	0.97	0.90	0.82	0.80	0.81
Low (252D, act carry bp)	1	7	17	27	62	104	155
Avg (252D, act carry bp)	4	17	33	49	99	153	212
High (252D, act carry bp)	22	44	66	94	160	219	279
126 trading days							
Zscore (126d)	-0.27	-0.06	-0.04	-0.22	-0.46	-0.54	-0.42
Ann. carry-to-vol (126d)	0.82	0.82	0.78	0.72	0.67	0.64	0.65
Low (126D, act carry bp)	1	11	24	39	96	153	207
Avg (126D, act carry bp)	6	24	44	64	122	177	237
High (126D, act carry bp)	22	44	66	94	160	219	279

## Z score of USD/INR spread

18-Apr-25	1W	1M	2M	3M	6M	9M	12M
Spread trade (pips)							
Spot	5	20	37	53	98	146	199
Spot, Zscore (126d)	-0.28	-0.08	-0.06	-0.23	-0.46	-0.53	-0.43
1W	-	15	33	48	94	141	195
1W, Zscore (126d)	-	0.07	0.03	-0.19	-0.45	-0.53	-0.40
1M	-	-	18	33	79	126	179
1M, Zscore (126d)	-	-	-0.01	-0.32	-0.66	-0.73	-0.54
2M	-	-	-	15	61	108	162
2M, Zscore (126d)	-	-	-	-0.46	-0.85	-0.89	-0.58
3M	-	-	-	-	46	93	147
3M, Zscore (126d)	-	-	-	-	-1.29	-1.17	-0.49
6M	-	-	-	-	-	47	101
6M, Zscore (126d)	-	-	-	-	-	-0.39	0.08
9M	-	-	-	-	-	-	54
9M, Zscore (126d)	-	-	-	-	-	-	0.40

## Average monthly roll (bp) and annualized carry-to-vol from selling the spread

18-Apr-25	1M	2M	3M	4M	5M	6M	7M	8M	9M	10M	11M	12M
USD/INR												
1M		-2.6	-5.3	-5.2	-5.2	-5.2	-4.7	-4.7	-4.7	-2.2	-2.2	-2.2
2M	-0.80		-2.7	-4.0	-3.9	-3.9	-3.6	-3.4	-3.4	-2.2	-0.9	-0.9
3M	-1.18	-0.81		-1.7	-2.6	-2.6	-2.4	-2.2	-2.0	-1.2	-0.4	0.4
4M	-1.07	-0.88	-0.53		-1.3	-2.0	-1.8	-1.7	-1.5	-0.8	-0.2	0.4
5M	-1.05	-0.81	-0.58	-0.40		-1.0	-1.5	-1.3	-1.2	-0.6	0.0	0.5
6M	-0.97	-0.79	-0.53	-0.44	-0.32		-0.8	-1.1	-1.0	-0.5	0.0	0.5
7M	-0.77	-0.68	-0.49	-0.37	-0.33	-0.24		-0.7	-1.0	-0.5	-0.1	0.3
8M	-0.79	-0.56	-0.41	-0.34	-0.27	-0.25	-0.21		-0.6	-0.5	-0.2	0.2
9M	-0.77	-0.57	-0.34	-0.28	-0.25	-0.21	-0.22	-0.18		-0.2	-0.2	0.1
10M	-0.34	-0.35	-0.21	-0.13	-0.12	-0.11	-0.11	-0.12	-0.08		-0.2	-0.2
11M	-0.34	-0.14	-0.07	-0.03	0.00	0.00	-0.02	-0.03	-0.05	-0.07		-0.2
12M	-0.33	-0.14	0.06	0.07	0.08	0.08	0.06	0.04	0.03	-0.04	-0.06	

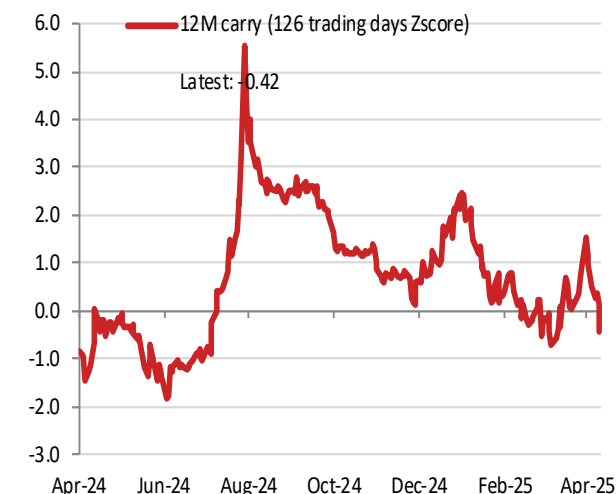
Avg mthly rolldown from selling the spread(bp) is in the top right section of the table.

Ann carry-to-vol (252d) from selling the spread is in the bottom left section of the table.

## 6M rolling Z score of 1M carry



## 6M rolling Z score of 12M carry



# USD/KRW Carry and Spread Z-Score

## Z score of carry from short USD/KRW

18-Apr-25	1W	1M	2M	3M	6M	9M	12M
Carry (Short USD/KRW)							
Act. Carry (bp)	-120	-134	-154	-171	-224	-272	-316
3M Carry (bp)	-1557	-402	-231	-171	-112	-91	-79
Ann. Carry (bp)	-6228	-1608	-923	-683	-448	-363	-316
252 trading days							
Zscore (252d)	-15.44	-14.26	-13.34	-12.24	-11.05	-9.54	-6.96
Ann. carry-to-vol (252d)	-7.32	-1.89	-1.08	-0.80	-0.53	-0.43	-0.37
Low (252D, act carry bp)	-120	-134	-154	-171	-224	-272	-316
Avg (252D, act carry bp)	-4	-16	-32	-48	-96	-143	-187
High (252D, act carry bp)	9	-3	-17	-32	-78	-115	-139
126 trading days							
Zscore (126d)	-11.02	-10.63	-10.37	-9.80	-9.90	-10.17	-9.01
Ann. carry-to-vol (126d)	-7.12	-1.83	-1.05	-0.78	-0.51	-0.41	-0.36
Low (126D, act carry bp)	-120	-134	-154	-171	-224	-272	-316
Avg (126D, act carry bp)	-4	-14	-29	-44	-91	-138	-184
High (126D, act carry bp)	9	-3	-17	-32	-78	-126	-162

## Z score of USD/KRW spread

18-Apr-25	1W	1M	2M	3M	6M	9M	12M
Spread trade (pips)							
Spot	-1707	-1909	-2189	-2426	-3179	-3849	-4464
Spot, Zscore (126d)	-11.01	-10.62	-10.37	-9.87	-9.77	-9.44	-7.87
1W	-	-202	-482	-719	-1472	-2142	-2757
1W, Zscore (126d)	-	-1.59	-2.36	-1.87	-2.63	-2.29	-1.19
1M	-	-	-280	-517	-1270	-1940	-2555
1M, Zscore (126d)	-	-	-2.29	-1.73	-2.87	-1.94	-0.82
2M	-	-	-	-237	-990	-1660	-2275
2M, Zscore (126d)	-	-	-	-0.51	-2.11	-1.11	-0.39
3M	-	-	-	-	-753	-1423	-2038
3M, Zscore (126d)	-	-	-	-	-1.78	-0.80	-0.26
6M	-	-	-	-	-	-670	-1285
6M, Zscore (126d)	-	-	-	-	-	-0.06	0.20
9M	-	-	-	-	-	-	-615
9M, Zscore (126d)	-	-	-	-	-	-	0.42

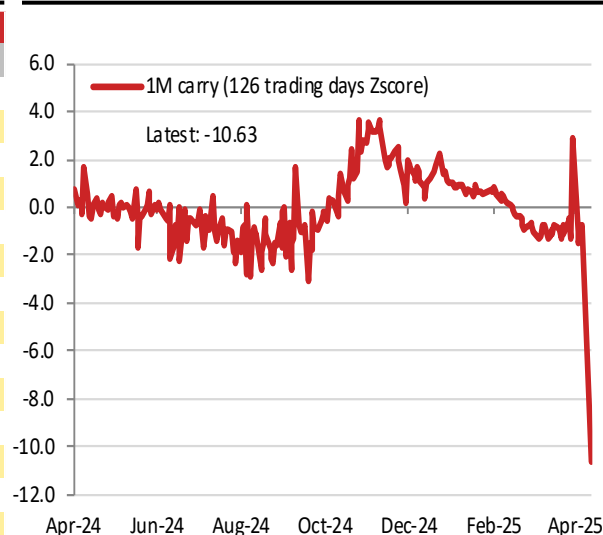
## Average monthly roll (bp) and annualized carry-to-vol from selling the spread

18-Apr-25	1M	2M	3M	4M	5M	6M	7M	8M	9M	10M	11M	12M
USD/KRW												
1M		113.6	116.6	115.6	115.6	115.6	117.6	117.6	117.6	118.8	118.8	118.8
2M	8.14		58.3	59.3	58.8	58.8	59.8	60.8	60.8	61.4	62.0	62.0
3M	8.31	4.18		38.5	39.2	38.9	39.5	40.2	40.8	41.2	41.7	42.1
4M	8.21	4.23	2.76		28.9	29.4	29.7	30.1	30.6	31.4	31.7	32.1
5M	8.25	4.18	2.80	2.07		23.1	23.9	24.1	24.5	25.1	25.8	26.0
6M	8.28	4.20	2.76	2.10	1.66		19.6	20.3	20.4	20.9	21.5	22.0
7M	8.43	4.28	2.82	2.10	1.71	1.40		16.8	17.4	17.7	18.1	18.6
8M	8.40	4.36	2.88	2.15	1.71	1.44	1.20		14.7	15.3	15.6	16.0
9M	8.36	4.34	2.93	2.19	1.75	1.45	1.24	1.05		13.2	13.8	14.0
10M	8.39	4.36	2.95	2.25	1.80	1.49	1.25	1.09	0.95		11.9	12.4
11M	8.35	4.38	2.96	2.27	1.85	1.54	1.29	1.11	0.98	0.85		10.8
12M	8.30	4.36	2.97	2.28	1.86	1.58	1.33	1.14	1.00	0.88	0.77	

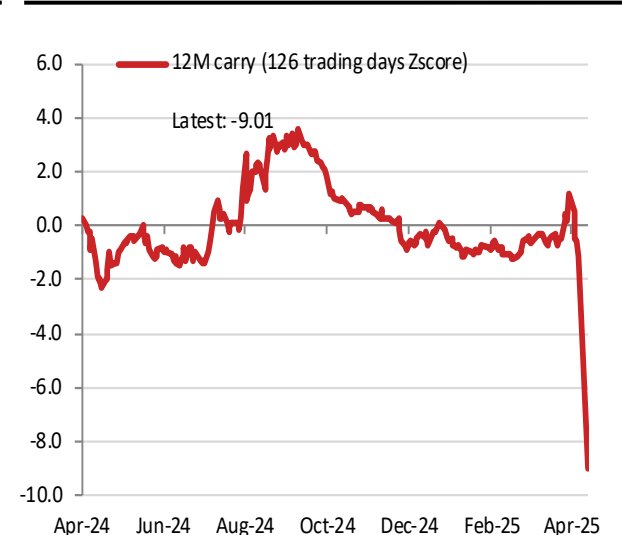
Avg mthly rolldown n from selling the spread(bp) is in the top right section of the table.

Ann carry-to-vol (252d) from selling the spread is in the bottom left section of the table.

## 6M rolling Z score of 1M carry



## 6M rolling Z score of 12M carry



# USD/IDR Carry and Spread Z-Score

## Z score of carry from short USD/IDR

18-Apr-25	1W	1M	2M	3M	6M	9M	12M
Carry (Short USD/IDR)							
Act. Carry (bp)	34	43	56	72	126	180	240
3M Carry (bp)	440	128	85	72	63	60	60
Ann. Carry (bp)	1760	513	338	287	253	240	240
252 trading days							
Zscore (252d)	1.88	2.45	2.26	2.06	2.01	1.75	1.61
Ann. carry-to-vol (252d)	2.44	0.66	0.45	0.38	0.33	0.33	0.31
Low (252D, act carry bp)	-62	-17	-18	8	14	61	102
Avg (252D, act carry bp)	3	14	24	37	79	125	177
High (252D, act carry bp)	154	120	140	153	213	296	303
126 trading days							
Zscore (126d)	1.33	1.74	1.58	1.44	1.52	1.42	1.61
Ann. carry-to-vol (126d)	2.67	0.70	0.49	0.41	0.35	0.37	0.34
Low (126D, act carry bp)	-62	-17	-18	8	14	96	169
Avg (126D, act carry bp)	5	17	30	47	94	146	205
High (126D, act carry bp)	154	120	140	153	213	296	303

## Z score of USD/IDR spread

18-Apr-25	1W	1M	2M	3M	6M	9M	12M
Spread trade (pips)							
Spot	57	72	95	121	214	305	408
Spot, Zscore (126d)	1.36	1.79	1.66	1.54	1.69	1.63	1.90
1W	-	15	38	64	157	248	351
1W, Zscore (126d)	-	-0.19	-0.14	-0.14	0.36	0.60	0.64
1M	-	-	23	49	142	233	336
1M, Zscore (126d)	-	-	0.15	0.11	0.75	0.78	1.08
2M	-	-	-	26	119	210	313
2M, Zscore (126d)	-	-	-	-0.04	0.84	0.79	0.99
3M	-	-	-	-	93	184	287
3M, Zscore (126d)	-	-	-	-	1.10	0.87	1.35
6M	-	-	-	-	-	91	194
6M, Zscore (126d)	-	-	-	-	-	0.24	0.66
9M	-	-	-	-	-	-	103
9M, Zscore (126d)	-	-	-	-	-	-	0.40

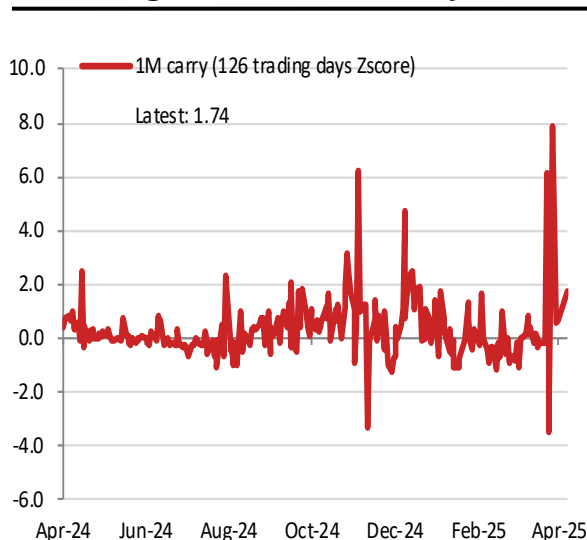
## Average monthly roll (bp) and annualized carry-to-vol from selling the spread

18-Apr-25	1M	2M	3M	4M	5M	6M	7M	8M	9M	10M	11M	12M
USD/IDR												
1M		-29.1	-27.4	-24.4	-24.4	-24.4	-24.8	-24.8	-24.8	-22.4	-22.4	-22.4
2M	-1.23		-13.7	-11.3	-9.8	-9.8	-10.0	-10.2	-10.2	-9.0	-7.8	-7.8
3M	-0.98	-0.58		-8.1	-6.5	-5.6	-5.7	-5.8	-5.9	-5.2	-4.4	-3.6
4M	-0.93	-0.40	-0.34		-6.1	-4.9	-4.3	-4.4	-4.5	-4.0	-3.4	-2.8
5M	-0.89	-0.37	-0.23	-0.26		-4.9	-4.0	-3.5	-3.6	-3.2	-2.8	-2.3
6M	-0.83	-0.36	-0.21	-0.18	-0.21		-4.1	-3.4	-3.0	-2.6	-2.3	-2.0
7M	-0.78	-0.34	-0.21	-0.16	-0.14	-0.17		-3.5	-2.9	-2.2	-1.9	-1.6
8M	-0.81	-0.32	-0.20	-0.16	-0.13	-0.12	-0.15		-3.1	-2.3	-1.6	-1.4
9M	-0.78	-0.33	-0.19	-0.15	-0.13	-0.11	-0.10	-0.13		-2.5	-1.7	-1.2
10M	-0.63	-0.28	-0.17	-0.12	-0.11	-0.10	-0.08	-0.08	-0.11		-2.2	-1.6
11M	-0.74	-0.22	-0.14	-0.11	-0.09	-0.08	-0.07	-0.06	-0.06	-0.09		-2.0
12M	-0.85	-0.26	-0.10	-0.09	-0.07	-0.06	-0.06	-0.05	-0.05	-0.06	-0.09	

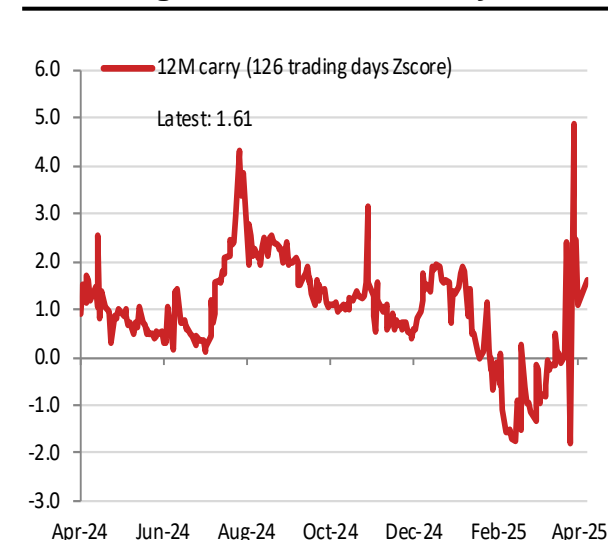
Avg mthly rolldown n from selling the spread(bp) is in the top right section of the table.

Ann carry-to-vol (252d) from selling the spread is in the bottom left section of the table.

## 6M rolling Z score of 1M carry



## 6M rolling Z score of 12M carry



# USD/PHP Carry and Spread Z-Score

## Z score of carry from short USD/PHP

18-Apr-25	1W	1M	2M	3M	6M	9M	12M
Carry (Short USD/PHP)							
Act. Carry (bp)	-28	-23	-17	-10	9	25	46
3M Carry (bp)	-366	-69	-25	-10	4	8	12
Ann. Carry (bp)	-1462	-274	-101	-41	18	34	46
252 trading days							
Zscore (252d)	-7.80	-3.84	-2.63	-1.99	-1.06	-0.69	-0.32
Ann. carry-to-vol (252d)	-1.93	-0.36	-0.13	-0.05	0.02	0.04	0.06
Low (252D, act carry bp)	-28	-23	-17	-10	-3	6	18
Avg (252D, act carry bp)	2	7	12	17	30	43	56
High (252D, act carry bp)	30	61	82	94	125	142	159
126 trading days							
Zscore (126d)	-6.18	-3.56	-2.68	-2.19	-1.48	-1.22	-0.95
Ann. carry-to-vol (126d)	-2.36	-0.44	-0.16	-0.06	0.03	0.05	0.07
Low (126D, act carry bp)	-28	-23	-17	-10	7	14	24
Avg (126D, act carry bp)	3	10	17	23	41	58	75
High (126D, act carry bp)	30	61	82	94	125	142	159

## Z score of USD/PHP spread

18-Apr-25	1W	1M	2M	3M	6M	9M	12M
Spread trade (pips)							
Spot	-160	-130	-96	-58	50	145	265
Spot, Zscore (126d)	-6.08	-3.49	-2.63	-2.16	-1.48	-1.23	-0.98
1W	-	30	64	102	210	305	425
1W, Zscore (126d)	-	-0.30	-0.31	-0.21	-0.11	-0.11	0.04
1M	-	-	34	72	180	275	395
1M, Zscore (126d)	-	-	-0.30	-0.14	-0.04	-0.06	0.11
2M	-	-	-	38	146	241	361
2M, Zscore (126d)	-	-	-	0.07	0.05	0.00	0.18
3M	-	-	-	-	108	203	323
3M, Zscore (126d)	-	-	-	-	0.04	-0.01	0.20
6M	-	-	-	-	-	95	215
6M, Zscore (126d)	-	-	-	-	-	-0.08	0.33
9M	-	-	-	-	-	-	120
9M, Zscore (126d)	-	-	-	-	-	-	0.95

## Average monthly roll (bp) and annualized carry-to-vol from selling the spread

18-Apr-25	1M	2M	3M	4M	5M	6M	7M	8M	9M	10M	11M	12M
USD/PHP												
1M		28.8	29.5	29.1	29.1	29.1	28.4	28.4	28.4	29.8	29.8	29.8
2M	3.64		14.7	14.9	14.7	14.7	14.4	14.0	14.0	14.7	15.4	15.4
3M	3.16	1.87		9.7	9.8	9.7	9.5	9.2	9.0	9.4	9.9	10.4
4M	2.98	1.60	1.23		7.3	7.4	7.1	6.9	6.7	6.9	7.3	7.6
5M	2.90	1.51	1.05	0.92		5.8	5.7	5.5	5.4	5.5	5.7	5.9
6M	2.81	1.47	0.99	0.79	0.74		4.7	4.7	4.5	4.6	4.7	4.8
7M	2.65	1.39	0.94	0.73	0.61	0.60		4.1	4.0	4.0	4.1	4.2
8M	2.57	1.31	0.89	0.69	0.57	0.50	0.51		3.5	3.7	3.7	3.8
9M	2.48	1.26	0.84	0.65	0.53	0.46	0.43	0.45		3.3	3.4	3.5
10M	2.51	1.29	0.85	0.64	0.53	0.46	0.41	0.39	0.42		3.0	3.1
11M	2.47	1.30	0.87	0.66	0.53	0.45	0.41	0.38	0.37	0.38		2.7
12M	2.42	1.28	0.88	0.67	0.54	0.45	0.41	0.38	0.36	0.33	0.34	

Avg mthly rolldown n from selling the spread(bp) is in the top right section of the table.

Ann carry-to-vol (252d) from selling the spread is in the bottom left section of the table.

## 6M rolling Z score of 1M carry



## 6M rolling Z score of 12M carry



# USD/THB Carry and Spread Z-Score

## Z score of carry from short USD/THB

18-Apr-25	1W	1M	2M	3M	6M	9M	12M
Carry (Short USD/THB)							
Act. Carry (bp)	-3	-18	-39	-58	-121	-179	-236
3M Carry (bp)	-39	-54	-58	-58	-61	-60	-59
Ann. Carry (bp)	-155	-215	-233	-233	-243	-239	-236
252 trading days							
Zscore (252d)	0.20	-0.30	-0.62	-0.65	-0.88	-0.88	-0.84
Ann. carry-to-vol (252d)	-0.18	-0.24	-0.26	-0.26	-0.27	-0.27	-0.26
Low (252D, act carry bp)	-15	-36	-60	-86	-149	-207	-273
Avg (252D, act carry bp)	-4	-16	-33	-50	-105	-157	-209
High (252D, act carry bp)	7	4	-7	-15	-52	-102	-143
126 trading days							
Zscore (126d)	-0.06	-1.11	-1.97	-2.28	-3.08	-3.65	-3.87
Ann. carry-to-vol (126d)	-0.16	-0.22	-0.24	-0.24	-0.25	-0.25	-0.24
Low (126D, act carry bp)	-14	-26	-40	-58	-121	-179	-236
Avg (126D, act carry bp)	-3	-12	-26	-41	-90	-138	-188
High (126D, act carry bp)	7	4	-7	-15	-52	-102	-143

## Z score of USD/THB spread

18-Apr-25	1W	1M	2M	3M	6M	9M	12M
Spread trade (pips)							
Spot	-10	-60	-130	-195	-405	-595	-784
Spot, Zscore (126d)	-0.05	-1.07	-1.92	-2.24	-3.01	-3.51	-3.60
1W	-	-50	-120	-185	-395	-585	-774
1W, Zscore (126d)	-	-1.97	-2.88	-2.97	-3.48	-3.93	-3.95
1M	-	-	-70	-135	-345	-535	-724
1M, Zscore (126d)	-	-	-2.59	-2.54	-3.27	-3.70	-3.68
2M	-	-	-	-65	-275	-465	-654
2M, Zscore (126d)	-	-	-	-1.70	-3.10	-3.47	-3.29
3M	-	-	-	-	-210	-400	-589
3M, Zscore (126d)	-	-	-	-	-3.38	-3.37	-2.96
6M	-	-	-	-	-	-190	-379
6M, Zscore (126d)	-	-	-	-	-	-2.05	-1.90
9M	-	-	-	-	-	-	-189
9M, Zscore (126d)	-	-	-	-	-	-	-1.42

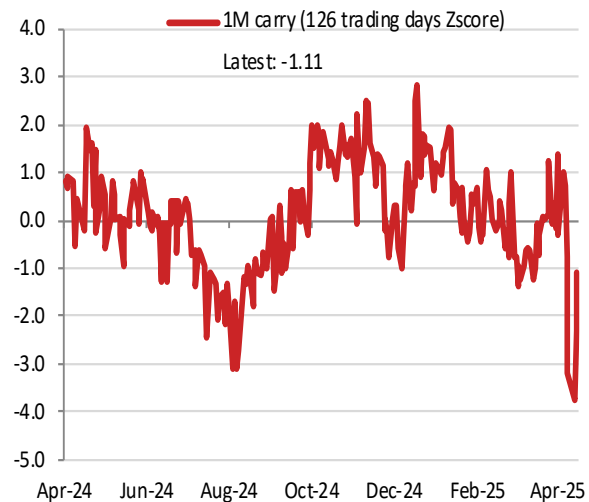
## Average monthly roll (bp) and annualized carry-to-vol from selling the spread

18-Apr-25	1M	2M	3M	4M	5M	6M	7M	8M	9M	10M	11M	12M
USD/THB												
1M		-3.0	-1.5	-3.0	-3.0	-3.0	-1.0	-1.0	-1.0	-0.9	-0.9	-0.9
2M	-0.48		-0.7	-0.7	-1.5	-1.5	-0.5	0.5	0.5	0.5	0.6	0.6
3M	-0.23	-0.12		-1.0	-1.0	-1.5	-0.8	-0.2	0.5	0.5	0.5	0.6
4M	-0.42	-0.11	-0.16		-0.7	-0.7	-0.6	-0.1	0.4	0.9	0.9	0.9
5M	-0.42	-0.21	-0.15	-0.12		-0.6	-0.2	-0.1	0.3	0.7	1.1	1.1
6M	-0.41	-0.21	-0.21	-0.11	-0.10		-0.2	0.2	0.2	0.6	0.9	1.3
7M	-0.13	-0.07	-0.12	-0.09	-0.03	-0.03		-0.1	0.1	0.2	0.5	0.8
8M	-0.14	0.07	-0.02	-0.02	-0.01	0.03	-0.02		-0.1	0.1	0.2	0.5
9M	-0.15	0.07	0.07	0.05	0.04	0.03	0.02	-0.02		-0.1	0.1	0.2
10M	-0.13	0.08	0.07	0.12	0.10	0.08	0.03	0.02	-0.02		-0.1	0.1
11M	-0.13	0.08	0.08	0.13	0.15	0.13	0.07	0.03	0.02	-0.01		-0.1
12M	-0.12	0.08	0.08	0.13	0.16	0.17	0.11	0.06	0.03	0.02	-0.01	

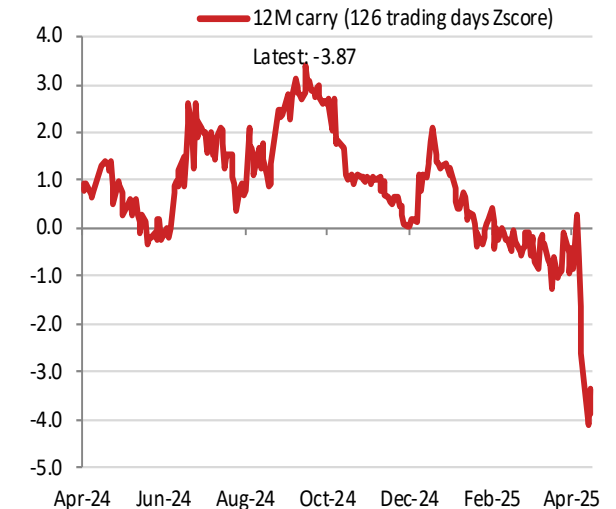
Avg mthly rolldown n from selling the spread(bp) is in the top right section of the table.

Ann carry-to-vol (252d) from selling the spread is in the bottom left section of the table.

## 6M rolling Z score of 1M carry



## 6M rolling Z score of 12M carry



# USD/TWD Carry and Spread Z-Score

## Z score of carry from short USD/TWD

18-Apr-25	1W	1M	2M	3M	6M	9M	12M
Carry (Short USD/TWD)							
Act. Carry (bp)	-14	-52	-91	-125	-220	-304	-389
3M Carry (bp)	-180	-157	-137	-125	-110	-101	-97
Ann. Carry (bp)	-721	-630	-547	-498	-439	-405	-389
252 trading days							
Zscore (252d)	-1.28	-1.73	-1.75	-1.56	-1.15	-1.05	-0.96
Ann. carry-to-vol (252d)	-1.41	-1.15	-0.94	-0.83	-0.67	-0.59	-0.55
Low (252D, act carry bp)	-34	-85	-133	-173	-301	-392	-485
Avg (252D, act carry bp)	-4	-20	-43	-69	-156	-241	-326
High (252D, act carry bp)	16	20	8	-5	-62	-146	-218
126 trading days							
Zscore (126d)	-1.78	-3.29	-2.84	-2.16	-1.68	-1.51	-1.37
Ann. carry-to-vol (126d)	-1.41	-1.14	-0.93	-0.83	-0.66	-0.59	-0.55
Low (126D, act carry bp)	-22	-52	-95	-130	-256	-347	-440
Avg (126D, act carry bp)	-3	-14	-37	-63	-145	-229	-313
High (126D, act carry bp)	15	20	8	-5	-62	-146	-224

## Z score of USD/TWD spread

18-Apr-25	1W	1M	2M	3M	6M	9M	12M
Spread trade (pips)							
Spot	-45	-170	-295	-402	-706	-973	-1240
Spot, Zscore (126d)	-1.76	-3.28	-2.86	-2.19	-1.73	-1.57	-1.42
1W	-	-125	-250	-357	-661	-928	-1195
1W, Zscore (126d)	-	-3.69	-2.71	-1.94	-1.52	-1.37	-1.23
1M	-	-	-125	-232	-536	-803	-1070
1M, Zscore (126d)	-	-	-1.52	-1.10	-0.97	-0.86	-0.77
2M	-	-	-	-107	-411	-678	-945
2M, Zscore (126d)	-	-	-	-0.54	-0.69	-0.59	-0.51
3M	-	-	-	-	-304	-571	-838
3M, Zscore (126d)	-	-	-	-	-0.76	-0.58	-0.47
6M	-	-	-	-	-	-267	-534
6M, Zscore (126d)	-	-	-	-	-	-0.03	-0.03
9M	-	-	-	-	-	-	-267
9M, Zscore (126d)	-	-	-	-	-	-	-0.03

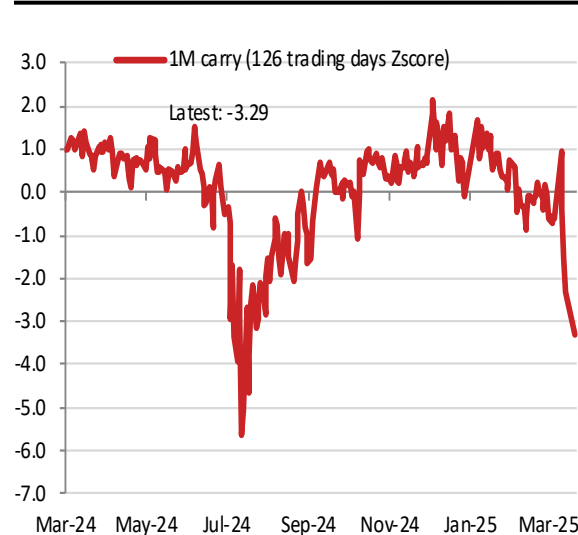
## Average monthly roll (bp) and annualized carry-to-vol from selling the spread

18-Apr-25	1M	2M	3M	4M	5M	6M	7M	8M	9M	10M	11M	12M
USD/TWD												
1M		13.9	19.4	21.1	21.1	21.1	24.9	24.9	24.9	24.9	24.9	24.9
2M	1.06		9.7	13.3	14.2	14.2	16.1	18.0	18.0	18.0	18.0	18.0
3M	1.23	0.74		7.0	9.5	10.1	11.3	12.6	13.9	13.9	13.9	13.9
4M	1.21	0.85	0.54		5.3	7.1	8.5	9.4	10.4	11.3	11.3	11.3
5M	1.13	0.82	0.60	0.41		4.2	6.4	7.6	8.3	9.1	9.8	9.8
6M	1.04	0.76	0.58	0.45	0.32		4.2	6.0	6.9	7.6	8.2	8.8
7M	1.14	0.80	0.60	0.49	0.41	0.32		3.6	5.1	5.9	6.5	7.0
8M	1.11	0.82	0.62	0.50	0.43	0.38	0.27		3.1	4.5	5.2	5.7
9M	1.08	0.80	0.63	0.51	0.44	0.40	0.33	0.24		2.8	4.0	4.6
10M	1.05	0.78	0.62	0.52	0.45	0.40	0.34	0.29	0.21		2.5	3.6
11M	1.02	0.76	0.60	0.50	0.45	0.40	0.35	0.30	0.25	0.19		2.3
12M	0.98	0.73	0.58	0.49	0.44	0.40	0.35	0.30	0.27	0.23	0.17	

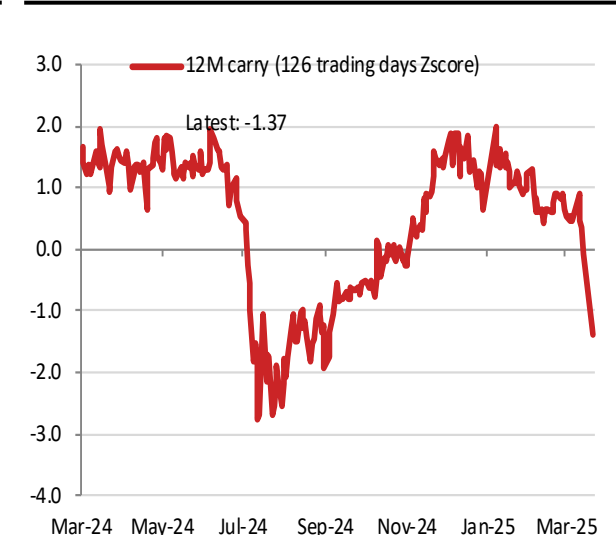
Avg mthly rolldown n from selling the spread(bp) is in the top right section of the table.

Ann carry-to-vol (252d) from selling the spread is in the bottom left section of the table.

## 6M rolling Z score of 1M carry



## 6M rolling Z score of 12M carry





# USD/MYR Carry and Spread Z-Score

## Z score of carry from short USD/MYR

18-Apr-25	1W	1M	2M	3M	6M	9M	12M
Carry (Short USD/MYR)							
Act. Carry (bp)	1	-18	-31	-37	-68	-83	-111
3M Carry (bp)	11	-53	-46	-37	-34	-28	-28
Ann. Carry (bp)	44	-211	-185	-147	-135	-110	-111
252 trading days							
Zscore (252d)	0.32	-0.66	-0.62	0.12	0.87	1.47	0.92
Ann. carry-to-vol (252d)	0.06	-0.31	-0.27	-0.21	-0.19	-0.15	-0.16
Low (252D, act carry bp)	-41	-57	-72	-86	-140	-182	-231
Avg (252D, act carry bp)	-2	-10	-24	-38	-83	-121	-144
High (252D, act carry bp)	52	86	57	48	-14	-8	-28
126 trading days							
Zscore (126d)	0.24	-0.72	-0.85	-0.37	0.16	0.88	0.07
Ann. carry-to-vol (126d)	0.06	-0.30	-0.27	-0.21	-0.19	-0.15	-0.16
Low (126D, act carry bp)	-15	-30	-45	-56	-104	-154	-151
Avg (126D, act carry bp)	-1	-8	-21	-32	-70	-101	-113
High (126D, act carry bp)	52	86	57	48	-14	-8	-28

## Z score of USD/MYR spread

18-Apr-25	1W	1M	2M	3M	6M	9M	12M
Spread trade (pips)							
Spot	4	-78	-137	-162	-298	-364	-490
Spot, Zscore (126d)	0.24	-0.72	-0.85	-0.37	0.17	0.91	0.08
1W	-	-81	-140	-166	-302	-368	-494
1W, Zscore (126d)	-	-1.20	-1.39	-0.60	0.01	0.87	-0.06
1M	-	-	-59	-84	-220	-286	-413
1M, Zscore (126d)	-	-	-0.10	0.66	1.12	1.77	0.95
2M	-	-	-	-25	-161	-228	-354
2M, Zscore (126d)	-	-	-	0.85	1.30	2.03	1.35
3M	-	-	-	-	-136	-202	-328
3M, Zscore (126d)	-	-	-	-	1.04	1.72	0.60
6M	-	-	-	-	-	-66	-192
6M, Zscore (126d)	-	-	-	-	-	1.22	-0.08
9M	-	-	-	-	-	-	-126
9M, Zscore (126d)	-	-	-	-	-	-	-1.11

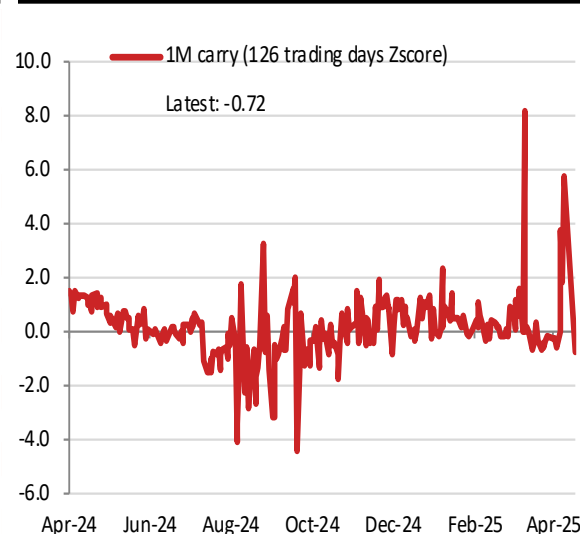
## Average monthly roll (bp) and annualized carry-to-vol from selling the spread

18-Apr-25	1M	2M	3M	4M	5M	6M	7M	8M	9M	10M	11M	12M
USD/MYR												
1M		4.3	11.8	7.3	7.3	7.3	12.6	12.6	12.6	8.1	8.1	8.1
2M	0.19		5.9	7.4	5.2	5.2	7.8	10.4	10.4	8.2	5.9	5.9
3M	0.60	0.26		2.4	3.5	2.0	3.7	5.5	7.2	5.7	4.2	2.7
4M	0.40	0.38	0.11		1.8	2.6	2.8	4.1	5.4	5.6	4.5	3.3
5M	0.43	0.28	0.18	0.08		1.5	3.1	3.3	4.3	4.5	4.6	3.7
6M	0.44	0.30	0.11	0.13	0.06		2.1	3.5	3.6	3.7	3.8	4.0
7M	0.75	0.47	0.22	0.15	0.16	0.09		1.8	3.0	2.4	2.5	2.7
8M	0.71	0.62	0.33	0.24	0.18	0.18	0.08		1.6	2.0	1.6	1.7
9M	0.61	0.59	0.43	0.33	0.25	0.20	0.15	0.07		0.9	1.3	0.9
10M	0.33	0.40	0.32	0.33	0.27	0.22	0.13	0.10	0.04		0.8	1.2
11M	0.38	0.24	0.21	0.25	0.27	0.23	0.15	0.09	0.07	0.04		0.7
12M	0.40	0.28	0.11	0.16	0.21	0.24	0.16	0.10	0.05	0.06	0.03	

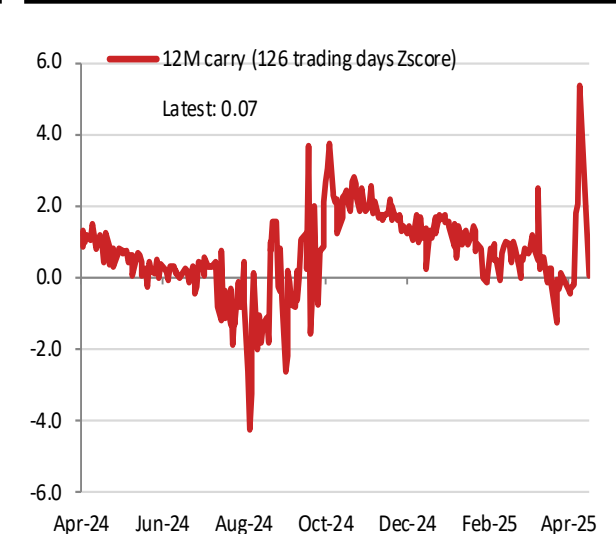
Avg mthly rolldown n from selling the spread(bp) is in the top right section of the table.

Ann carry-to-vol (252d) from selling the spread is in the bottom left section of the table.

## 6M rolling Z score of 1M carry



## 6M rolling Z score of 12M carry



## **Rates Carry and Roll & Valuation**



# Rates Carry and Roll & Valuation

## Asia levels#

Current	USD	SGD	THB	INR	KRW	TWD	CNY	HKD	AUD
<b>Fixing</b>	<b>4.31</b>	<b>2.26</b>	<b>2.00</b>	<b>5.93</b>	<b>2.71</b>	<b>1.68</b>	<b>1.72</b>	<b>3.86</b>	<b>4.01</b>
2y	3.55	1.85	1.27	5.55	2.31	1.54	1.42	3.23	3.25
5y	3.53	1.99	1.35	5.67	2.33	1.59	1.43	3.14	3.67
2s5s	-1.2	14.0	8.0	11.2	2.0	5.0	0.7	-9.0	42.6
2s10s	22.3	43.0	44.8		12.8	44.0		14.0	89.9
5s10s	23.5	29.0	36.8		10.8	39.0		23.0	47.4
1s3s5s	-41.5	-18.7	-22.0	-27.2	-15.5	-13.5	-11.7	-37.0	-55.6
2s5s10s	-24.7	-15.0	-28.8		-8.8	-34.0		-32.0	-4.8
<b>Percentile</b>									
2y	6%	2%	0%	2%	0%	6%	23%	5%	4%
5y	4%	3%	0%	2%	0%	6%	18%	4%	2%
2s5s	83%	97%	72%	97%	77%	4%	57%	77%	92%
2s10s	95%	97%	83%		92%	58%		98%	93%
5s10s	100%	99%	94%		94%	98%		98%	93%
1s3s5s	3%	9%	2%	68%	36%	4%	77%	2%	2%
2s5s10s	0%	4%	4%		29%	1%		0%	33%
<b>Carry + roll-down (3m running)</b>									
2y	-16.9	-5.7	-8.8	-6.8	-7.5	-3.0	-5.3	-13.3	-12.0
5y	-3.5	0.6	-0.7	-0.5	-1.8	0.7	-1.4	-3.3	-0.7
2s5s	13.4	6.3	8.1	6.4	5.7	3.7	3.9	10.0	11.4
2s10s	16.1	6.8	10.5		7.0	6.1		12.9	13.2
5s10s	2.7	0.5	2.4		1.3	2.4		2.9	1.8
1s3s5s	17.7	10.8	10.7	9.3	12.5	1.1	7.2	12.8	20.7
2s5s10s	10.7	5.8	5.7		4.4	1.3		7.1	9.5

## Highest carry (Asia only)

C+R Rank	Trade	C+R	Vol-adj C+R
	Receive		
1	TWD 10y	3.2	0.05
2	THB 10y	1.8	0.04
3	SGD 7y	1.3	0.02
4	AUD 10y	1.2	0.01
5	HKD 10y	-0.4	-0.01
	Flattener		
1	AUD 1s4s	28.3	0.37
2	HKD 1s4s	20.5	0.48
3	THB 1s4s	16.1	1.05
4	KRW 1s4s	15.9	0.57
5	SGD 1s4s	14.7	0.43
	Rec fly		
1	AUD 1s3s5s	20.7	0.49
2	HKD 1s3s5s	12.8	0.38
3	KRW 1s3s5s	12.5	0.55
4	SGD 1s3s5s	10.8	0.40
5	THB 1s3s5s	10.7	0.96

## Lowest carry (Asia only)

C+R rank	Trade	C+R	Vol-adj C+R
	Receive		
1	AUD 1y	-30.9	-0.54
2	HKD 1y	-25.7	-0.37
3	KRW 1y	-18.1	-0.45
4	THB 1y	-18.0	-0.57
5	SGD 1y	-14.7	-0.30
	Flattener		
1	SGD 5s10s	0.5	0.03
2	KRW 5s10s	1.3	0.12
3	TWD 1s2s	1.4	0.10
4	AUD 5s10s	1.8	0.05
5	THB 5s10s	2.4	0.28
	Rec fly		
1	TWD 1s2s5s	-2.3	-0.10
2	INR 1s2s5s	0.8	0.03
3	THB 1s2s5s	1.1	0.10
4	CNY 1s2s5s	2.1	0.13
5	HKD 1s2s5s	2.3	0.06

Source: Bloomberg, Nomura. Note: z-scores and percentiles based on 6m window; carry is for 3m (bp running). Flattener and butterflies are DV01-neutral; butterflies are received the belly.

# Spread trades are flatteners; butterflies are received the belly, all DV01-neutral.

US rates are based on OIS (SOFR). Singapore rates are based on OIS (SORA). China rates are based on offshore NDIRS (7D Repo). Thailand rates are based on OIS (THOR). India rates are based on NDOIS (Overnight MIBOR). Korea rates are based on NDIRS (3M CD). Taiwan rates are based on NDIRS (3M TAIBOR). Hong Kong rates are based on IRS (3M HIBOR). Australia rates are based on IRS (3M and 6M Bank Bills). Vol is calculated as the annualized standard deviation of the respective rates over the past 6m, in terms of bp.

# Asia forwards

## Forwards and roll-down

	USD			SGD			THB			INR			KRW			TWD			CNY			HKD			AUD		
Forwards/Tenors	1y	2y	5y	1y	2y	5y	1y	2y	5y	1y	2y	5y	1y	2y	5y	1y	2y	5y	1y	2y	5y	1y	2y	5y	1y	2y	5y
0d	3.86	3.55	3.53	1.93	1.85	1.99	1.40	1.27	1.35	5.74	5.55	5.67	2.42	2.31	2.33	1.60	1.54	1.59	1.51	1.42	1.43	3.51	3.23	3.14	3.41	3.25	3.67
3m	3.58	3.40	3.50	1.84	1.81	2.00	1.26	1.20	1.35	5.61	5.50	5.66	2.29	2.24	2.31	1.56	1.51	1.60	1.42	1.38	1.42	3.29	3.11	3.11	3.17	3.15	3.67
6m	3.39	3.32	3.49	1.78	1.79	2.02	1.20	1.18	1.37	5.54	5.48	5.67	2.22	2.21	2.31	1.52	1.50	1.61	1.37	1.36	1.41	3.10	3.02	3.09	3.07	3.12	3.70
1y	3.22	3.30	3.52	1.77	1.84	2.08	1.15	1.20	1.42	5.51	5.51		2.19	2.23	2.34	1.47	1.49	1.66	1.34	1.36		2.94	2.95	3.10	3.08	3.19	3.81
2y	3.38	3.43	3.68	1.90	2.01	2.23	1.25	1.33	1.59	5.67	5.69		2.27	2.33	2.40	1.50	1.56	1.81	1.38	1.43		2.96	3.01	3.20	3.30	3.48	4.08
5y	3.87	3.93	4.05	2.40	2.46	2.61	1.77	1.87	2.12				2.48	2.51	2.55	2.01	2.12	2.41				3.32	3.40	3.63	4.32	4.43	4.72
Jun IMM	3.69	3.45	3.51	1.87	1.82	1.99	1.30	1.22	1.35	5.65	5.51	5.66	2.33	2.27	2.32	1.57	1.52	1.59	1.44	1.39	1.42	3.37	3.16	3.12	3.23	3.17	3.66
Sep IMM	3.46	3.35	3.49	1.79	1.79	2.01	1.22	1.19	1.36	5.56	5.48	5.66	2.23	2.22	2.31	1.53	1.50	1.61	1.39	1.37	1.41	3.17	3.05	3.09	3.08	3.12	3.68
Dec IMM	3.31	3.30	3.50	1.76	1.79	2.03	1.18	1.18	1.38	5.53	5.49	5.68	2.19	2.21	2.31	1.50	1.49	1.63	1.35	1.36	1.41	3.02	2.98	3.08	3.05	3.13	3.73
Mar IMM	3.23	3.29	3.51	1.76	1.82	2.07	1.15	1.19	1.41	5.52	5.50	5.70	2.19	2.22	2.33	1.48	1.49	1.65	1.34	1.36	1.42	2.95	2.95	3.09	3.06	3.16	3.79
<b>Fwd rolldown</b>																											
3m	-28.0	-14.2	-3.3	-9.7	-4.2	0.8	-13.9	-6.9	-0.4	-12.8	-5.6	-0.6	-12.8	-6.1	-1.5	-4.4	-2.4	1.1	-9.2	-4.5	-1.3	-22.0	-11.7	-3.1	-23.9	-9.9	-0.6
6m	-19.5	-8.1	-0.9	-5.7	-1.7	1.8	-5.9	-2.1	1.7	-6.4	-1.4	1.1	-7.2	-3.1	-0.2	-3.6	-1.4	1.8	-4.3	-1.6	-0.2	-18.7	-9.5	-2.1	-10.5	-2.8	3.0
1y	-5.4	0.4	2.2	1.2	3.3	3.6	-1.8	1.4	3.2	-1.2	2.0		0.7	1.9	1.8	-1.9	-0.1	2.5	-0.7	0.6		-3.8	-1.2	1.3	2.6	4.5	6.2
2y	6.4	3.8	4.0	5.5	5.1	3.9	4.6	4.3	4.5	5.6	5.0		3.1	2.5	1.8	1.7	2.3	4.1	1.9	1.7		1.4	2.4	3.1	6.5	8.1	6.7
5y	2.3	2.5	2.2	3.9	3.1	1.7	5.0	4.7	4.2				3.0	1.9	0.9	6.5	5.8	5.7				2.4	3.7	2.8	7.1	6.1	3.5
<b>IMM rolls</b>																											
Sep-25/Jun-25	-23.4	-10.6	-1.9	-7.5	-2.9	1.3	-8.4	-3.7	1.0	-8.4	-2.8	0.5	-10.6	-5.0	-1.0	-3.9	-1.8	1.5	-5.7	-2.5	-0.5	-20.3	-10.4	-2.6	-14.9	-5.1	1.8
Dec-25/Sep-25	-15.0	-5.1	0.2	-3.5	0.1	2.5	-4.0	-0.5	2.3	-3.2	0.3	1.7	-3.2	-0.6	0.8	-3.3	-1.1	2.1	-3.3	-1.0	0.0	-15.0	-7.3	-1.2	-3.4	0.9	4.7
Mar-26/Dec-25	-7.6	-0.8	1.8	-0.1	2.7	3.4	-2.6	1.0	3.0	-1.5	1.8	2.1	-0.6	1.3	1.5	-2.5	-0.4	2.5	-1.6	0.1	0.4	-6.7	-2.8	0.7	1.5	3.9	6.1

Source: Bloomberg, Nomura. Note: z-scores and percentiles based on 6m window; carry is for 3m (bp running). Flatteners and butterflies are DV01-neutral; butterflies are received the belly. IMM rolls are the spread between the far date and near date (i.e. Sep-IMM start minus Jun-IMM start).

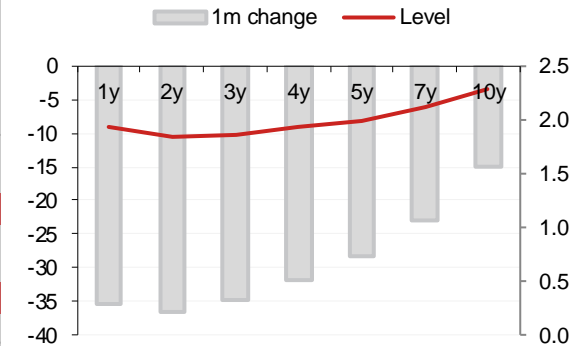
US rates are based on OIS (SOFR). Singapore rates are based on OIS (SORA). China rates are based on offshore NDIRS (7D Repo). Thailand rates are based on OIS (THOR). India rates are based on NDOIS (Overnight MIBOR). Korea rates are based on NDIRS (3M CD). Taiwan rates are based on NDIRS (3M TAIBOR). Hong Kong rates are based on IRS (3M HIBOR). Australia rates are based on IRS (3M and 6M Bank Bills). Vol is calculated as the annualized standard deviation of the respective rates over the past 6m, in terms of bp.

# SGD – Carry and Roll

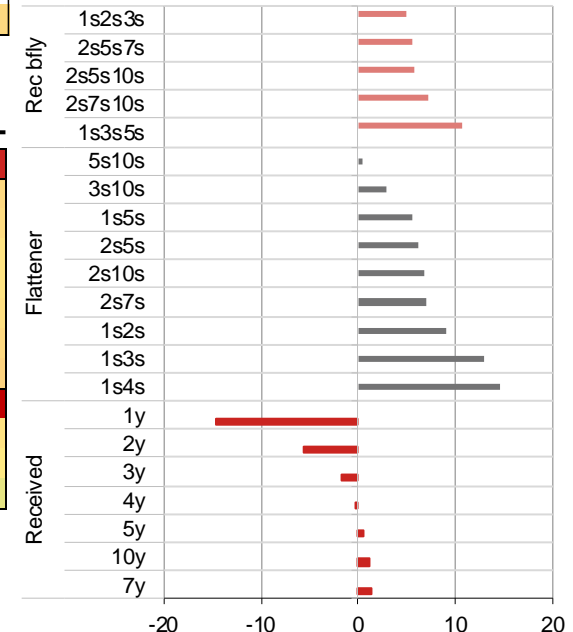
## Current levels, change and carry

	Received							Flattener (bp)									Rec butterfly (bp)				
	1y	2y	3y	4y	5y	7y	10y	1s2s	1s3s	1s4s	1s5s	2s5s	2s7s	2s10s	3s10s	5s10s	1s2s3s	1s3s5s	2s5s7s	2s7s10s	2s5s10s
Level	1.93	1.85	1.87	1.93	1.99	2.12	2.28	-8.2	-6.4	-0.4	5.8	14.0	26.8	43.0	41.2	29.0	-10.0	-18.7	1.2	10.6	-15.0
1m change	-35.4	-36.6	-34.9	-31.8	-28.5	-22.9	-14.9	-1.2	0.5	3.6	7.0	8.2	13.8	21.7	20.0	13.5	-2.9	-6.0	2.6	5.8	-5.3
z-sc	-2.5	-2.5	-2.4	-2.3	-2.2	-2.1	-1.8	-0.4	0.2	0.8	1.2	2.0	2.5	2.8	3.0	3.1	-1.4	-1.6	0.6	1.6	-2.1
High	2.81	2.80	2.82	2.85	2.90	2.93	2.98	-0.6	2.0	5.7	10.0	19.9	31.9	46.9	44.2	29.0	-2.0	-5.7	7.9	16.9	1.9
Low	1.93	1.84	1.86	1.92	1.98	2.07	2.18	-14.6	-18.0	-18.5	-17.9	-6.3	-3.8	-1.1	3.6	3.8	-12.6	-24.3	-8.9	-6.5	-17.0
%ile	0%	2%	2%	1%	3%	4%	5%	35%	55%	73%	91%	97%	98%	97%	98%	99%	12%	9%	71%	97%	4%
Carry	-7.2	-4.6	-2.8	-1.6	-1.0	-0.2	0.3	2.7	4.5	5.6	2.9	3.6	4.4	4.9	3.1	1.3	0.9	2.7	2.8	3.9	2.3
Roll	-7.5	-1.1	1.1	1.6	1.6	1.5	0.8	6.4	8.6	9.1	2.7	2.7	2.6	2.0	-0.2	-0.7	4.2	8.1	2.8	3.3	3.4
C+R	-14.7	-5.7	-1.7	0.0	0.6	1.3	1.1	9.0	13.1	14.7	5.7	6.3	7.0	6.8	2.8	0.5	5.0	10.8	5.6	7.2	5.8
Vol	49.6	59.1	61.5	62.4	67.1	65.4	65.9	24.0	29.4	34.4	42.5	26.1	30.4	36.0	30.1	16.3	21.4	27.1	24.3	26.5	24.6
C+R/vol	-0.3	-0.1	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.1	0.2	0.2	0.2	0.1	0.0	0.2	0.4	0.2	0.3	0.2

## Yield curve and 1m change



## Trades ranked by carry + roll



## Forward-starting swaps

Level	1y	2y	3y	4y	5y	7y	10y
0d	1.93	1.85	1.87	1.93	1.99	2.12	2.28
3m	1.84	1.81	1.86	1.93	2.00	2.13	2.29
6m	1.78	1.79	1.86	1.94	2.02	2.15	2.30
1y	1.77	1.84	1.93	2.01	2.08	2.22	2.34
2y	1.90	2.01	2.09	2.16	2.23	2.36	2.43
3y	2.12	2.18	2.26	2.32	2.39	2.48	2.50
4y	2.25	2.33	2.39	2.46	2.51	2.55	2.56
5y	2.40	2.46	2.53	2.58	2.61	2.59	2.59
IMM dates							
Jun-25	1.87	1.82	1.86	1.93	1.99	2.13	2.29
Sep-25	1.79	1.79	1.86	1.94	2.01	2.14	2.30
Dec-25	1.76	1.79	1.88	1.96	2.03	2.17	2.32
Mar-26	1.76	1.82	1.91	1.99	2.07	2.21	2.34

## Forward roll-down

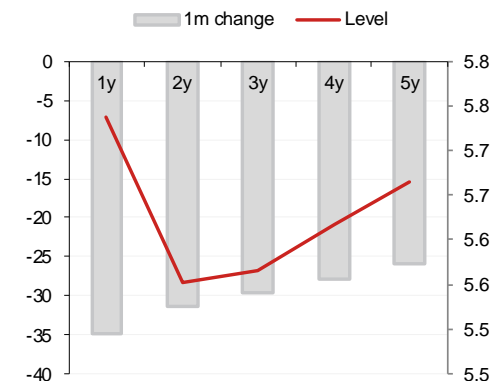
Fwd	1y	2y	3y	4y	5y	7y	10y
3m	-9.7	-4.2	-1.1	0.1	0.8	1.4	1.0
6m	-5.7	-1.7	0.7	1.3	1.8	2.2	1.4
1y	1.2	3.3	3.8	3.6	3.6	3.5	2.1
2y	5.5	5.1	4.4	4.3	3.9	3.6	2.1
3y	4.8	4.0	3.9	3.6	3.7	2.4	1.7
4y	3.2	3.5	3.2	3.4	2.9	1.4	1.2
5y	3.9	3.1	3.4	2.9	1.7	1.0	0.6
IMM rolls							
Sep-25/Jun-25	-7.5	-2.9	-0.1	0.7	1.3	1.8	1.2
Dec-25/Sep-25	-3.5	0.1	1.9	2.1	2.5	2.7	1.7
Mar-26/Dec-25	-0.1	2.7	3.4	3.3	3.4	3.4	2.1

# INR – Carry and Roll

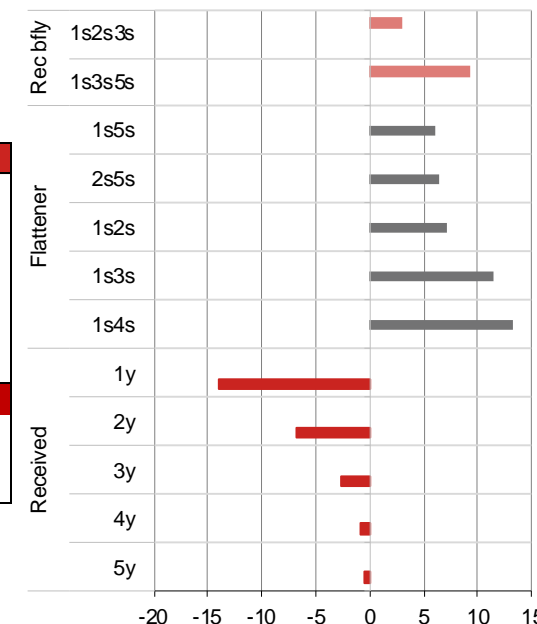
## Current levels, change and carry

	Received							Flattener (bp)								Rec butterfly (bp)					
	1y	2y	3y	4y	5y	7y	10y	1s2s	1s3s	1s4s	1s5s	2s5s	2s7s	2s10s	3s10s	5s10s	1s2s3s	1s3s5s	2s5s7s	2s7s10s	2s5s10s
Level	5.74	5.55	5.57	5.62	5.67			-18.5	-17.2	-12.0	-7.2	11.2					-19.7	-27.2			
1m change	-34.9	-31.4	-29.7	-28.0	-26.0			3.5	5.1	6.9	8.9	5.4					1.9	1.4			
z-sc	-2.6	-2.5	-2.5	-2.5	-2.4			1.8	2.0	2.1	2.3	2.4					1.2	0.6			
High	6.60	6.37	6.34	6.35	6.35			-17.8	-16.8	-10.9	-6.5	12.0					-18.0	-23.8			
Low	5.74	5.55	5.57	5.62	5.67			-31.8	-37.1	-38.3	-38.3	-6.9					-29.0	-35.8			
%ile	2%	2%	2%	2%	2%			95%	97%	98%	96%	97%					89%	68%			
Carry	-13.4	-6.4	-4.1	-2.7	-1.9			7.0	9.4	10.7	3.7	4.5					4.7	7.2			
Roll	-0.6	-0.5	1.4	1.8	1.4			0.2	2.1	2.4	2.3	1.9					-1.8	2.1			
C+R	-14.0	-6.8	-2.6	-0.9	-0.5			7.2	11.4	13.2	6.0	6.4					3.0	9.3			
Vol	45.9	55.0	52.6	52.6	52.0			16.8	17.7	20.9	23.2	16.4					19.6	17.4			
C+R/vol	-0.3	-0.1	0.0	0.0	0.0			0.4	0.6	0.6	0.3	0.4					0.2	0.5			

## Yield curve and 1m change



## Trades ranked by carry + roll



## Forward-starting swaps

Level	1y	2y	3y	4y	5y	7y	10y
0d	5.74	5.55	5.57	5.62	5.67		
3m	5.61	5.50	5.54	5.61	5.66		
6m	5.54	5.48	5.55	5.62	5.67		
1y	5.51	5.51	5.60	5.67			
2y	5.67	5.69	5.75				
3y	5.88	5.84					
4y	5.98						
5y							
IMM dates							
Jun-25	5.65	5.51	5.55	5.61	5.66		
Sep-25	5.56	5.48	5.54	5.61	5.66		
Dec-25	5.53	5.49	5.56	5.63	5.68		
Mar-26	5.52	5.50	5.59	5.66	5.70		

## Forward roll-down

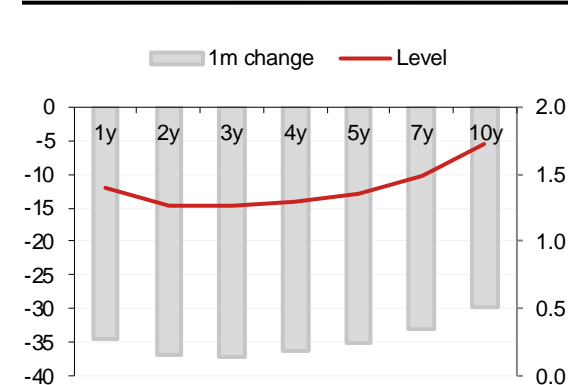
Fwd	1y	2y	3y	4y	5y	7y	10y
3m	-12.8	-5.6	-2.2	-1.0	-0.6		
6m	-6.4	-1.4	0.7	1.1	1.1		
1y	-1.2	2.0	2.8	2.5			
2y	5.6	5.0	3.8				
3y	4.7	3.0					
4y	1.6						
5y							
IMM rolls							
Sep-25/Jun-25	-8.4	-2.8	-0.2	0.5	0.5		
Dec-25/Sep-25	-3.2	0.3	1.9	2.0	1.7		
Mar-26/Dec-25	-1.5	1.8	2.6	2.4	2.1		

# THB – Carry and Roll

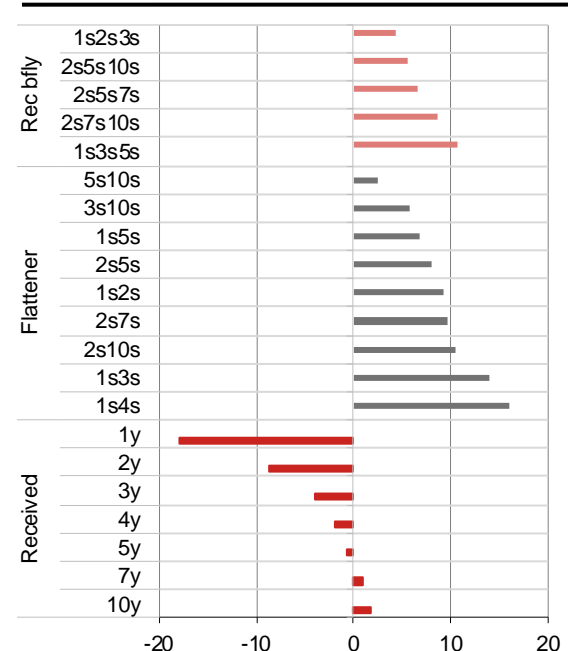
## Current levels, change and carry

	Received							Flattener (bp)									Rec butterfly (bp)				
	1y	2y	3y	4y	5y	7y	10y	1s2s	1s3s	1s4s	1s5s	2s5s	2s7s	2s10s	3s10s	5s10s	1s2s3s	1s3s5s	2s5s7s	2s7s10s	2s5s10s
Level	1.40	1.27	1.27	1.30	1.35	1.49	1.72	-12.5	-13.3	-9.8	-4.5	8.0	22.0	44.8	45.5	36.8	-11.8	-22.0	-6.0	-0.8	-28.8
1m change	-34.6	-37.0	-37.2	-36.2	-35.1	-33.1	-29.8	-2.3	-2.6	-1.6	-0.4	1.9	3.9	7.2	7.4	5.3	-2.1	-4.7	-0.1	0.6	-3.4
z-sc	-2.6	-2.7	-2.7	-2.6	-2.6	-2.5	-2.5	-1.7	-1.3	-0.8	-0.6	0.1	0.5	1.2	1.5	2.2	-1.8	-2.0	-0.6	-0.5	-1.9
High	2.10	2.02	2.01	2.04	2.10	2.23	2.43	-7.2	-5.1	0.5	8.3	16.1	30.5	50.1	48.0	37.8	-6.8	-14.4	2.0	10.9	-17.9
Low	1.40	1.27	1.27	1.30	1.35	1.49	1.71	-13.3	-14.0	-12.3	-8.3	3.8	14.8	32.3	33.9	28.2	-12.5	-22.4	-7.5	-2.8	-29.4
%ile	0%	0%	0%	0%	0%	2%	2%	3%	5%	21%	27%	72%	78%	83%	87%	94%	4%	2%	30%	33%	4%
Carry	-11.0	-6.7	-4.4	-3.0	-2.1	-1.0	0.0	4.3	6.6	8.0	3.7	4.6	5.7	6.7	4.3	2.1	1.9	4.3	3.4	4.8	2.5
Roll	-7.0	-2.1	0.4	1.1	1.4	1.8	1.8	4.9	7.4	8.1	3.1	3.5	3.9	3.9	1.4	0.4	2.5	6.4	3.1	3.9	3.1
C+R	-18.0	-8.8	-4.0	-1.9	-0.7	0.9	1.8	9.2	14.0	16.1	6.8	8.1	9.6	10.5	5.7	2.4	4.4	10.7	6.6	8.7	5.7
Vol	31.7	37.3	38.2	40.2	42.0	43.5	44.4	10.4	12.2	15.3	18.6	11.2	13.8	16.7	14.7	8.6	10.3	11.2	10.3	13.2	10.9
C+R/vol	-0.6	-0.2	-0.1	0.0	0.0	0.0	0.0	0.9	1.1	1.1	0.4	0.7	0.7	0.6	0.4	0.3	0.4	1.0	0.6	0.7	0.5

## Yield curve and 1m change



## Trades ranked by carry + roll



## Forward-starting swaps

Level	1y	2y	3y	4y	5y	7y	10y
0d	1.40	1.27	1.27	1.30	1.35	1.49	1.72
3m	1.26	1.20	1.23	1.28	1.35	1.50	1.74
6m	1.20	1.18	1.23	1.29	1.37	1.53	1.77
1y	1.15	1.20	1.27	1.34	1.42	1.59	1.84
2y	1.25	1.33	1.41	1.50	1.59	1.76	1.99
3y	1.41	1.49	1.58	1.68	1.77	1.94	2.13
4y	1.57	1.67	1.77	1.86	1.95	2.11	2.25
5y	1.77	1.87	1.96	2.04	2.12	2.26	2.36
IMM dates							
Jun-25	1.30	1.22	1.24	1.29	1.35	1.50	1.73
Sep-25	1.22	1.19	1.23	1.29	1.36	1.52	1.76
Dec-25	1.18	1.18	1.24	1.30	1.38	1.55	1.79
Mar-26	1.15	1.19	1.26	1.33	1.41	1.58	1.82

## Forward roll-down

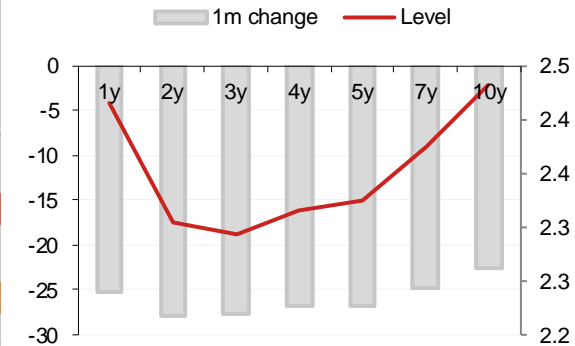
Fwd	1y	2y	3y	4y	5y	7y	10y
3m	-13.9	-6.9	-3.3	-1.6	-0.4	1.0	1.8
6m	-5.9	-2.1	-0.1	0.9	1.7	2.5	2.9
1y	-1.8	1.4	2.2	2.7	3.2	3.5	3.6
2y	4.6	4.3	4.3	4.5	4.5	4.4	3.8
3y	4.0	4.1	4.4	4.4	4.5	4.2	3.3
4y	4.3	4.7	4.6	4.6	4.5	4.3	2.9
5y	5.0	4.7	4.6	4.5	4.2	3.6	2.3
IMM rolls							
Sep-25/Jun-25	-8.4	-3.7	-1.2	0.1	1.0	2.0	2.5
Dec-25/Sep-25	-4.0	-0.5	0.9	1.7	2.3	3.0	3.2
Mar-26/Dec-25	-2.6	1.0	2.0	2.5	3.0	3.4	3.6

# KRW – Carry and Roll

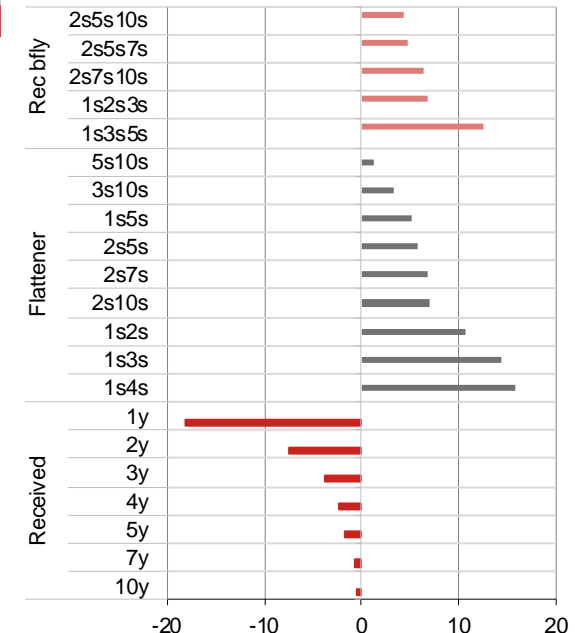
## Current levels, change and carry

	Received							Flattener (bp)									Rec butterfly (bp)				
	1y	2y	3y	4y	5y	7y	10y	1s2s	1s3s	1s4s	1s5s	2s5s	2s7s	2s10s	3s10s	5s10s	1s2s3s	1s3s5s	2s5s7s	2s7s10s	2s5s10s
Level	2.42	2.31	2.29	2.32	2.33	2.38	2.43	-11.0	-12.3	-10.0	-9.0	2.0	7.0	12.8	14.0	10.8	-9.7	-15.5	-3.0	1.3	-8.8
1m change	-25.1	-28.0	-27.8	-26.9	-26.7	-24.7	-22.5	-2.9	-2.6	-1.8	-1.6	1.2	3.3	5.5	5.3	4.3	-3.1	-3.6	-0.8	1.0	-3.0
z-sc	-1.9	-2.1	-2.1	-2.1	-2.2	-2.1	-2.0	-0.1	0.2	0.4	0.4	0.8	1.1	1.3	1.5	2.0	-0.8	-0.2	0.2	0.9	-0.6
High	3.17	3.05	3.02	3.02	3.02	3.03	3.06	-5.0	-5.5	-2.5	-0.2	6.3	9.8	17.0	17.8	14.5	-4.0	-8.8	3.3	5.0	-1.0
Low	2.40	2.31	2.29	2.32	2.33	2.38	2.43	-19.8	-25.3	-26.0	-27.6	-8.7	-8.3	-6.3	-0.8	2.3	-14.3	-25.0	-9.5	-10.3	-12.0
%ile	2%	0%	0%	0%	0%	0%	0%	39%	43%	50%	51%	77%	86%	92%	93%	94%	20%	36%	44%	82%	29%
Carry	-9.9	-5.9	-3.9	-2.7	-2.1	-1.3	-0.8	4.0	6.0	7.2	3.2	3.8	4.6	5.1	3.1	1.3	2.0	4.2	3.0	4.0	2.4
Roll	-8.2	-1.6	0.2	0.5	0.3	0.6	0.3	6.6	8.4	8.7	2.1	2.0	2.2	1.9	0.1	0.0	4.8	8.2	1.7	2.5	2.0
C+R	-18.1	-7.5	-3.7	-2.2	-1.8	-0.7	-0.5	10.6	14.4	15.9	5.3	5.7	6.8	7.0	3.2	1.3	6.9	12.5	4.7	6.5	4.4
Vol	40.1	49.8	52.4	54.5	56.3	55.8	56.4	19.8	24.5	27.8	31.0	16.7	19.9	23.7	19.6	10.6	18.3	22.6	15.4	17.1	14.8
C+R/vol	-0.5	-0.2	-0.1	0.0	0.0	0.0	0.0	0.5	0.6	0.6	0.2	0.3	0.3	0.3	0.2	0.1	0.4	0.6	0.3	0.4	0.3

## Yield curve and 1m change



## Trades ranked by carry + roll



## Forward-starting swaps

Level	1y	2y	3y	4y	5y	7y	10y
0d	2.42	2.31	2.29	2.32	2.33	2.38	2.43
3m	2.29	2.24	2.26	2.29	2.31	2.37	2.43
6m	2.22	2.21	2.25	2.28	2.31	2.37	2.43
1y	2.19	2.23	2.28	2.30	2.34	2.39	2.45
2y	2.27	2.33	2.34	2.37	2.40	2.45	2.48
3y	2.38	2.38	2.41	2.44	2.47	2.50	2.49
4y	2.37	2.42	2.46	2.49	2.51	2.52	2.49
5y	2.48	2.51	2.53	2.55	2.55	2.55	2.47
IMM dates							
Jun-25	2.33	2.27	2.27	2.30	2.32	2.37	2.43
Sep-25	2.23	2.22	2.25	2.28	2.31	2.37	2.43
Dec-25	2.19	2.21	2.26	2.28	2.31	2.38	2.43
Mar-26	2.19	2.22	2.27	2.30	2.33	2.39	2.44

## Forward roll-down

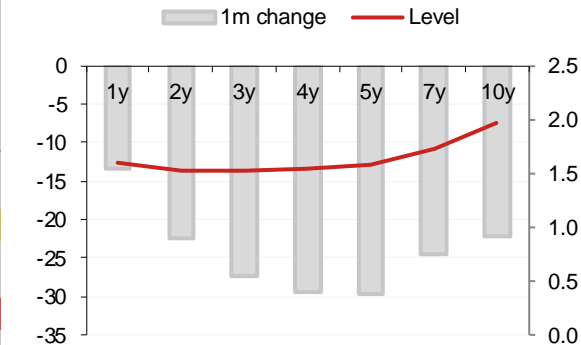
Fwd	1y	2y	3y	4y	5y	7y	10y
3m	-12.8	-6.1	-3.1	-2.3	-1.5	-0.7	-0.5
6m	-7.2	-3.1	-0.9	-0.9	-0.2	0.2	0.1
1y	0.7	1.9	1.9	1.4	1.8	1.5	1.0
2y	3.1	2.5	1.7	2.0	1.8	1.5	0.7
3y	2.0	1.0	1.7	1.4	1.4	0.9	0.1
4y	0.0	1.5	1.3	1.2	1.0	0.6	-0.3
5y	3.0	1.9	1.6	1.3	0.9	0.3	-0.5
IMM rolls							
Sep-25/Jun-25	-10.6	-5.0	-2.2	-1.8	-1.0	-0.4	-0.3
Dec-25/Sep-25	-3.2	-0.6	0.7	0.2	0.8	0.9	0.6
Mar-26/Dec-25	-0.6	1.3	1.6	1.1	1.5	1.4	0.9

# TWD – Carry and Roll

## Current levels, change and carry

	Received							Flattener (bp)									Rec butterfly (bp)				
	1y	2y	3y	4y	5y	7y	10y	1s2s	1s3s	1s4s	1s5s	2s5s	2s7s	2s10s	3s10s	5s10s	1s2s3s	1s3s5s	2s5s7s	2s7s10s	2s5s10s
Level	1.60	1.54	1.53	1.55	1.59	1.73	1.98	-6.5	-7.5	-5.5	-1.5	5.0	19.5	44.0	45.0	39.0	-5.5	-13.5	-9.5	-5.0	-34.0
1m change	-13.4	-22.5	-27.3	-29.5	-29.8	-24.6	-22.3	-9.1	-14.0	-16.2	-16.4	-7.3	-2.1	0.2	5.1	7.5	-4.3	-11.6	-12.4	-4.4	-14.8
z-sc	-2.4	-2.6	-2.8	-2.8	-2.7	-2.4	-1.7	-2.9	-3.1	-3.1	-2.8	-2.3	-0.5	0.4	1.1	1.6	-2.3	-3.0	-3.3	-1.6	-2.7
High	1.77	1.82	1.87	1.92	1.96	2.10	2.32	6.0	11.5	17.0	23.0	17.0	30.8	56.2	55.0	43.5	1.0	1.0	9.1	8.5	-3.9
Low	1.52	1.42	1.42	1.43	1.47	1.61	1.77	-11.3	-12.3	-11.5	-7.5	-0.5	6.8	23.0	24.0	18.8	-11.2	-20.3	-10.3	-9.3	-34.0
%ile	8%	6%	5%	5%	6%	7%	6%	5%	4%	2%	4%	4%	29%	58%	90%	98%	6%	4%	2%	5%	1%
Carry	-2.6	-2.1	-1.4	-0.9	-0.5	0.2	0.8	0.6	1.2	1.7	1.1	1.5	2.3	2.9	2.2	1.3	-0.1	0.3	0.8	1.6	0.2
Roll	-1.8	-0.9	0.1	0.7	1.2	1.9	2.3	0.9	1.9	2.5	1.7	2.2	2.9	3.3	2.2	1.1	-0.2	0.8	1.5	2.5	1.1
C+R	-4.4	-3.0	-1.3	-0.2	0.7	2.1	3.2	1.4	3.1	4.2	2.8	3.7	5.1	6.1	4.4	2.4	-0.3	1.1	2.3	4.1	1.3
Vol	24.3	35.2	41.6	47.9	52.1	56.6	66.5	14.0	20.8	29.6	34.3	25.4	33.3	47.0	41.1	25.9	11.8	19.7	21.0	26.6	20.7
C+R/vol	-0.2	-0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.0	0.1	0.1	0.2	0.1

## Yield curve and 1m change



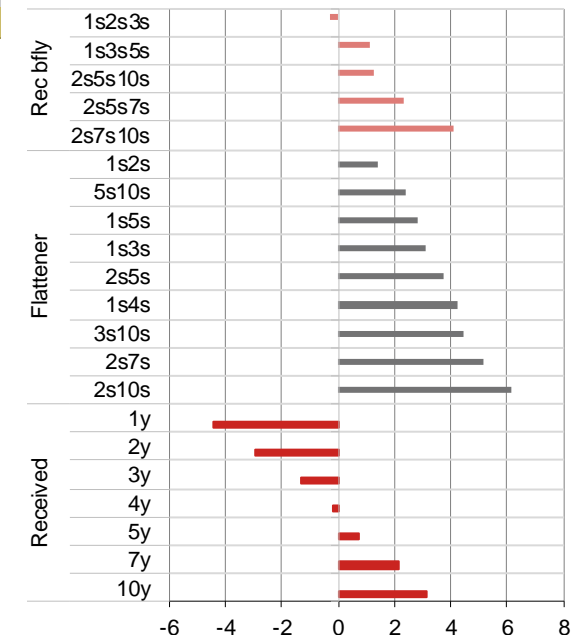
## Forward-starting swaps

Level	1y	2y	3y	4y	5y	7y	10y
0d	1.60	1.54	1.53	1.55	1.59	1.73	1.98
3m	1.56	1.51	1.52	1.55	1.60	1.75	2.01
6m	1.52	1.50	1.51	1.55	1.61	1.78	2.05
1y	1.47	1.49	1.53	1.58	1.66	1.84	2.13
2y	1.50	1.56	1.62	1.71	1.81	2.00	2.32
3y	1.61	1.68	1.79	1.90	1.99	2.19	2.51
4y	1.76	1.88	2.00	2.10	2.19	2.43	2.70
5y	2.01	2.12	2.21	2.31	2.41	2.66	2.84
IMM dates							
Jun-25	1.57	1.52	1.52	1.54	1.59	1.74	1.99
Sep-25	1.53	1.50	1.51	1.55	1.61	1.77	2.03
Dec-25	1.50	1.49	1.52	1.56	1.63	1.80	2.07
Mar-26	1.48	1.49	1.52	1.57	1.65	1.83	2.11

## Forward roll-down

Fwd	1y	2y	3y	4y	5y	7y	10y
3m	-4.4	-2.4	-1.0	0.0	1.1	2.2	3.3
6m	-3.6	-1.4	-0.1	0.7	1.8	2.6	3.8
1y	-1.9	-0.1	0.9	1.7	2.5	3.1	4.3
2y	1.7	2.3	3.0	3.7	4.1	4.3	4.6
3y	2.8	3.5	4.4	4.5	4.4	4.8	4.5
4y	4.5	5.4	5.4	5.0	5.1	6.1	4.2
5y	6.5	5.8	5.1	5.3	5.7	5.4	3.1
IMM rolls							
Sep-25/Jun-25	-3.9	-1.8	-0.4	0.4	1.5	2.5	3.7
Dec-25/Sep-25	-3.3	-1.1	0.2	1.0	2.1	2.8	4.0
Mar-26/Dec-25	-2.5	-0.4	0.7	1.5	2.5	3.0	4.3

## Trades ranked by carry + roll

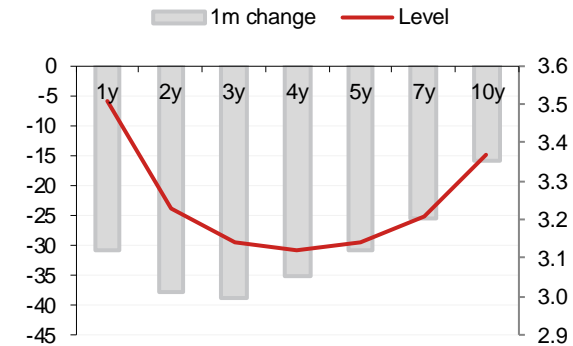


# HKD – Carry and Roll

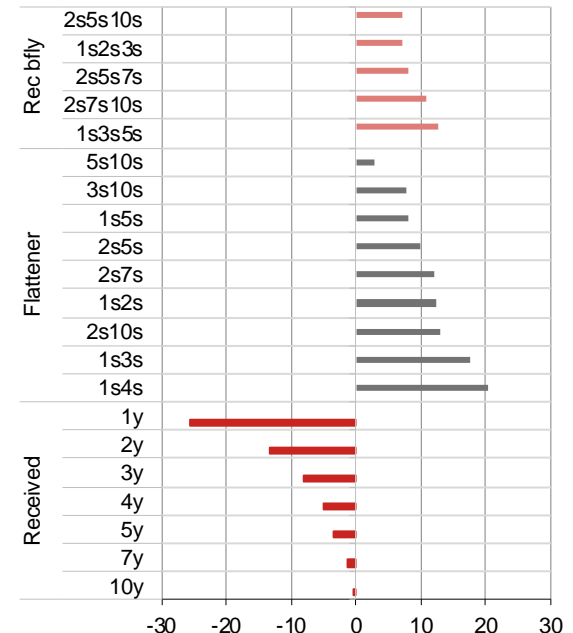
## Current levels, change and carry

	Received							Flattener (bp)								Rec butterfly (bp)					
	1y	2y	3y	4y	5y	7y	10y	1s2s	1s3s	1s4s	1s5s	2s5s	2s7s	2s10s	3s10s	5s10s	1s2s3s	1s3s5s	2s5s7s	2s7s10s	2s5s10s
Level	3.51	3.23	3.14	3.12	3.14	3.21	3.37	-28.0	-37.0	-39.0	-37.0	-9.0	-2.0	14.0	23.0	23.0	-19.0	-37.0	-16.0	-18.0	-32.0
1m change	-31.0	-38.0	-39.0	-35.3	-31.0	-25.5	-16.0	-7.0	-8.0	-4.3	0.0	7.0	12.5	22.0	23.0	15.0	-6.0	-16.0	1.5	3.0	-8.0
z-sc	-2.2	-2.3	-2.3	-2.2	-2.0	-1.8	-1.2	-1.4	-1.1	-0.7	-0.3	0.8	1.3	1.9	2.5	2.9	-1.7	-2.1	-0.1	0.1	-2.3
High	4.03	3.90	3.85	3.83	3.83	3.84	3.89	-4.0	-5.0	-6.7	-5.0	1.0	10.3	25.0	27.7	24.0	-2.6	-4.4	-2.0	-4.4	-7.0
Low	3.32	3.02	2.95	2.94	2.93	3.00	3.12	-30.4	-41.3	-50.0	-54.0	-29.0	-32.8	-32.0	-18.0	-4.0	-23.7	-37.1	-27.0	-34.0	-32.0
%ile	3%	5%	4%	4%	4%	4%	11%	9%	16%	25%	39%	77%	92%	98%	98%	98%	7%	2%	44%	43%	0%
Carry	-11.7	-9.2	-6.7	-5.1	-4.0	-2.6	-1.4	2.5	4.9	6.5	4.0	5.2	6.6	7.7	5.3	2.6	0.1	2.2	3.8	5.4	2.6
Roll	-14.0	-4.2	-1.4	0.0	0.6	1.2	1.0	9.8	12.6	14.0	4.2	4.8	5.4	5.2	2.4	0.4	7.0	10.6	4.3	5.6	4.5
C+R	-25.7	-13.3	-8.1	-5.1	-3.3	-1.4	-0.4	12.3	17.5	20.5	8.2	10.0	11.9	12.9	7.7	2.9	7.1	12.8	8.1	10.9	7.1
Vol	68.9	81.9	81.5	79.9	82.2	78.7	78.6	27.3	36.0	43.1	49.3	34.2	43.9	55.0	43.8	27.1	27.2	33.4	29.3	36.5	27.9
C+R/vol	-0.4	-0.2	-0.1	-0.1	0.0	0.0	0.0	0.5	0.5	0.5	0.2	0.3	0.3	0.2	0.2	0.1	0.3	0.4	0.3	0.3	0.3

## Yield curve and 1m change



## Trades ranked by carry + roll



## Forward-starting swaps

Level	1y	2y	3y	4y	5y	7y	10y
0d	3.51	3.23	3.14	3.12	3.14	3.21	3.37
3m	3.29	3.11	3.07	3.07	3.11	3.20	3.37
6m	3.10	3.02	3.01	3.04	3.09	3.20	3.37
1y	2.94	2.95	2.98	3.04	3.10	3.23	3.39
2y	2.96	3.01	3.08	3.14	3.20	3.35	3.48
3y	3.06	3.14	3.20	3.27	3.35	3.48	3.58
4y	3.23	3.27	3.34	3.43	3.51	3.59	3.67
5y	3.32	3.40	3.50	3.58	3.63	3.67	3.74
IMM dates							
Jun-25	3.37	3.16	3.09	3.09	3.12	3.20	3.37
Sep-25	3.17	3.05	3.03	3.05	3.09	3.20	3.36
Dec-25	3.02	2.98	2.99	3.03	3.08	3.20	3.37
Mar-26	2.95	2.95	2.98	3.04	3.09	3.22	3.38

## Forward roll-down

Fwd	1y	2y	3y	4y	5y	7y	10y
3m	-22.0	-11.7	-7.3	-4.5	-3.1	-1.2	-0.4
6m	-18.7	-9.5	-5.7	-3.2	-2.1	-0.3	0.0
1y	-3.8	-1.2	0.3	1.1	1.3	2.3	1.7
2y	1.4	2.4	2.8	2.7	3.1	3.3	2.3
3y	3.4	3.6	3.2	3.6	3.9	3.0	2.5
4y	3.8	3.1	3.7	4.1	3.7	2.4	2.1
5y	2.4	3.7	4.2	3.7	2.8	2.1	1.5
IMM rolls							
Sep-25/Jun-25	-20.3	-10.4	-6.4	-3.8	-2.6	-0.7	-0.2
Dec-25/Sep-25	-15.0	-7.3	-4.1	-2.0	-1.2	0.4	0.4
Mar-26/Dec-25	-6.7	-2.8	-0.9	0.3	0.7	1.9	1.4

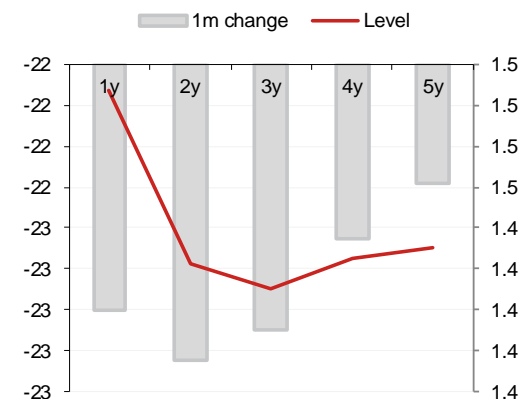


# CNY – Carry and Roll

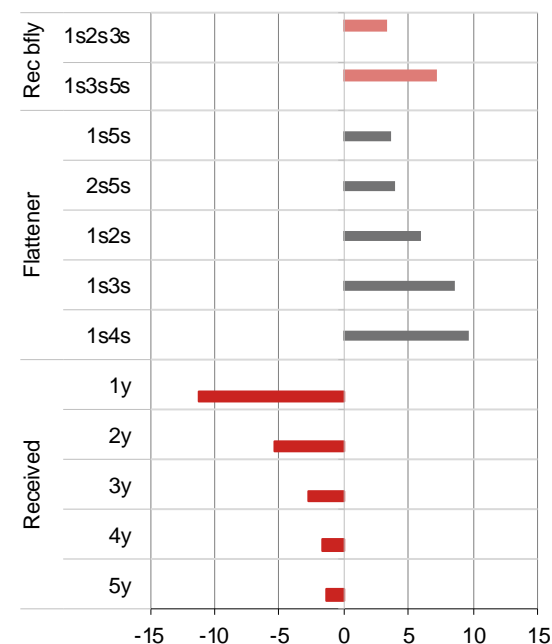
## Current levels, change and carry

	Received							Flattener (bp)									Rec butterfly (bp)				
	1y	2y	3y	4y	5y	7y	10y	1s2s	1s3s	1s4s	1s5s	2s5s	2s7s	2s10s	3s10s	5s10s	1s2s3s	1s3s5s	2s5s7s	2s7s10s	2s5s10s
Level	1.51	1.42	1.41	1.43	1.43			-8.5	-9.7	-8.2	-7.8	0.7					-7.2	-11.7			
1m change	-23.0	-23.3	-23.1	-22.6	-22.4			-0.2	-0.1	0.4	0.6	0.9					-0.4	-0.8			
z-sc	-1.1	-1.1	-1.0	-1.0	-1.0			-0.1	0.0	0.0	-0.1	-0.1					-0.7	0.8			
High	1.82	1.71	1.71	1.74	1.79			-3.5	-1.5	4.3	9.3	13.4					-4.3	-8.8			
Low	1.42	1.34	1.32	1.35	1.36			-11.0	-15.3	-16.5	-17.0	-6.2					-9.0	-15.6			
%ile	20%	23%	21%	21%	18%			52%	55%	54%	54%	57%					25%	77%			
Carry	-6.8	-4.2	-2.8	-2.0	-1.5			2.6	4.0	4.8	2.2	2.6					1.2	2.7			
Roll	-4.5	-1.1	0.0	0.3	0.1			3.4	4.5	4.8	1.5	1.3					2.2	4.5			
C+R	-11.3	-5.3	-2.8	-1.7	-1.4			6.0	8.5	9.6	3.7	3.9					3.4	7.2			
Vol	44.1	44.0	45.0	45.0	46.5			11.6	17.6	22.2	25.1	17.2					12.3	16.1			
C+R/vol	-0.3	-0.1	-0.1	0.0	0.0			0.5	0.5	0.4	0.1	0.2					0.3	0.4			

## Yield curve and 1m change



## Trades ranked by carry + roll



## Forward-starting swaps

Level	1y	2y	3y	4y	5y	7y	10y
0d	1.51	1.42	1.41	1.43	1.43		
3m	1.42	1.38	1.39	1.41	1.42		
6m	1.37	1.36	1.39	1.40	1.41		
1y	1.34	1.36	1.40	1.41			
2y	1.38	1.43	1.44				
3y	1.47	1.46					
4y	1.45						
5y							
IMM dates							
Jun-25	1.44	1.39	1.39	1.41	1.42		
Sep-25	1.39	1.37	1.38	1.41	1.41		
Dec-25	1.35	1.36	1.39	1.40	1.41		
Mar-26	1.34	1.36	1.39	1.41	1.42		

## Forward roll-down

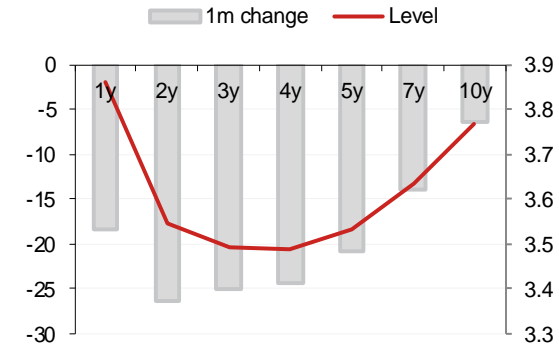
Fwd	1y	2y	3y	4y	5y	7y	10y
3m	-9.2	-4.5	-2.3	-1.7	-1.3		
6m	-4.3	-1.6	-0.2	-0.4	-0.2		
1y	-0.7	0.6	0.9	0.5			
2y	1.9	1.7	1.0				
3y	1.5	0.5					
4y	-0.5						
5y							
IMM rolls							
Sep-25/Jun-25	-5.7	-2.5	-0.8	-0.8	-0.5		
Dec-25/Sep-25	-3.3	-1.0	0.1	-0.1	0.0		
Mar-26/Dec-25	-1.6	0.1	0.7	0.3	0.4		

# USD – Carry and Roll

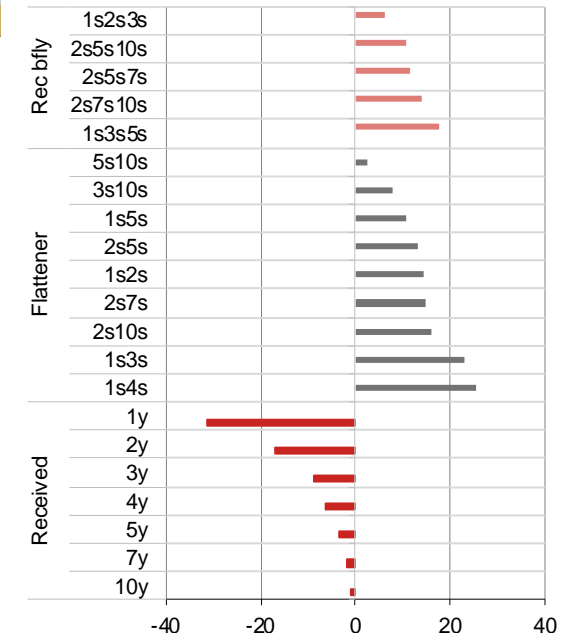
## Current levels, change and carry

	Received							Flattener (bp)									Rec butterfly (bp)				
	1y	2y	3y	4y	5y	7y	10y	1s2s	1s3s	1s4s	1s5s	2s5s	2s7s	2s10s	3s10s	5s10s	1s2s3s	1s3s5s	2s5s7s	2s7s10s	2s5s10s
Level	3.86	3.55	3.49	3.49	3.53	3.64	3.77	-31.7	-37.2	-37.5	-32.9	-1.2	9.1	22.3	27.8	23.5	-26.3	-41.5	-11.5	-4.2	-24.7
1m change	-18.5	-26.4	-25.0	-24.4	-20.7	-13.9	-6.3	-8.0	-6.6	-5.9	-2.3	5.7	12.5	20.1	18.7	14.4	-9.3	-10.9	-1.2	5.0	-8.7
z-sc	-2.1	-2.3	-2.1	-2.1	-1.9	-1.5	-1.0	-2.0	-1.5	-1.1	-0.6	0.9	1.6	2.0	2.4	2.9	-2.6	-2.2	-0.4	0.7	-2.1
High	4.34	4.24	4.25	4.27	4.29	4.30	4.32	-3.2	-1.1	0.7	2.2	5.4	13.8	25.4	29.9	23.5	-3.9	-3.6	3.7	5.3	2.2
Low	3.72	3.44	3.36	3.35	3.37	3.42	3.51	-32.9	-42.0	-44.0	-49.3	-25.8	-29.5	-29.5	-17.3	-4.6	-27.2	-43.0	-22.1	-29.5	-24.7
%ile	6%	6%	5%	4%	4%	5%	16%	2%	2%	13%	29%	83%	94%	95%	95%	100%	2%	3%	36%	77%	0%
Carry	-19.4	-13.1	-9.0	-6.7	-5.1	-3.3	-2.0	6.3	10.4	12.7	6.4	7.9	9.8	11.0	6.9	3.1	2.2	6.6	6.1	8.5	4.8
Roll	-12.2	-3.8	0.3	0.5	1.6	1.4	1.2	8.3	12.4	12.7	4.3	5.5	5.3	5.0	0.9	-0.4	4.2	11.1	5.6	5.5	5.9
C+R	-31.6	-16.9	-8.7	-6.2	-3.5	-1.9	-0.8	14.7	22.9	25.4	10.7	13.4	15.0	16.1	7.8	2.7	6.4	17.7	11.8	14.0	10.7
Vol	67.3	86.7	91.9	93.7	94.4	92.6	89.7	27.8	39.2	46.7	52.6	33.6	44.4	54.9	45.1	27.9	20.5	34.8	26.2	36.4	28.3
C+R/vol	-0.5	-0.2	-0.1	-0.1	0.0	0.0	0.0	0.5	0.6	0.5	0.2	0.4	0.3	0.3	0.2	0.1	0.3	0.5	0.4	0.4	0.4

## Yield curve and 1m change



## Trades ranked by carry + roll



## Forward-starting swaps

Level	1y	2y	3y	4y	5y	7y	10y
0d	3.86	3.55	3.49	3.49	3.53	3.64	3.77
3m	3.58	3.40	3.41	3.44	3.50	3.62	3.76
6m	3.39	3.32	3.37	3.42	3.49	3.62	3.77
1y	3.22	3.30	3.35	3.44	3.52	3.65	3.80
2y	3.38	3.43	3.52	3.61	3.68	3.79	3.92
3y	3.48	3.60	3.69	3.76	3.82	3.91	4.03
4y	3.73	3.80	3.86	3.91	3.95	4.04	4.13
5y	3.87	3.93	3.97	4.01	4.05	4.13	4.19
IMM dates							
Jun-25	3.69	3.45	3.44	3.45	3.51	3.62	3.76
Sep-25	3.46	3.35	3.38	3.42	3.49	3.62	3.76
Dec-25	3.31	3.30	3.35	3.42	3.50	3.62	3.77
Mar-26	3.23	3.29	3.35	3.43	3.51	3.64	3.79

## Forward roll-down

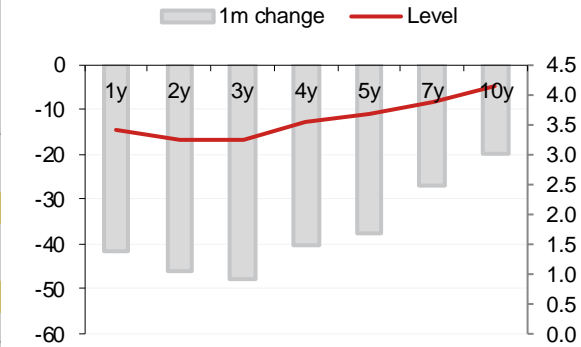
Fwd	1y	2y	3y	4y	5y	7y	10y
3m	-28.0	-14.2	-7.8	-5.3	-3.3	-1.8	-0.8
6m	-19.5	-8.1	-4.6	-2.0	-0.9	-0.1	0.5
1y	-5.4	0.4	0.6	2.2	2.2	2.2	2.2
2y	6.4	3.8	5.0	4.3	4.0	3.5	3.0
3y	1.1	4.3	3.6	3.4	3.1	2.9	2.4
4y	7.6	5.0	4.3	3.7	3.4	3.1	2.4
5y	2.3	2.5	2.2	2.2	2.2	2.0	1.5
IMM rolls							
Sep-25/Jun-25	-23.4	-10.6	-6.0	-3.3	-1.9	-0.8	-0.1
Dec-25/Sep-25	-15.0	-5.1	-3.0	-0.4	0.2	0.7	1.1
Mar-26/Dec-25	-7.6	-0.8	-0.2	1.7	1.8	1.9	2.0

# AUD – Carry and Roll

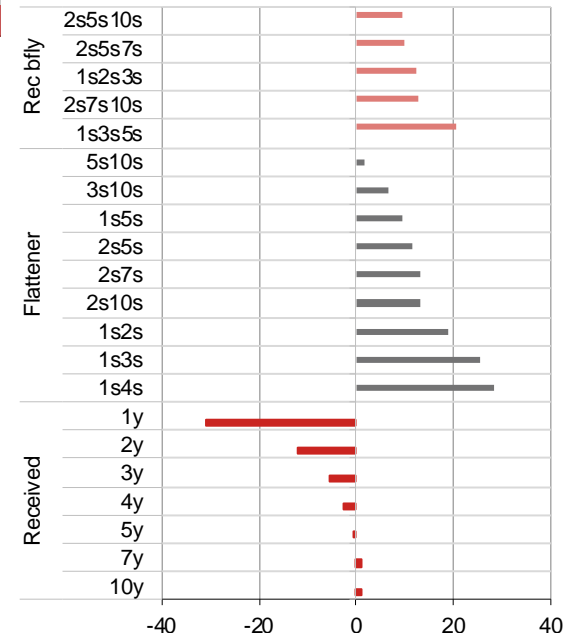
## Current levels, change and carry

	Received							Flattener (bp)									Rec butterfly (bp)				
	1y	2y	3y	4y	5y	7y	10y	1s2s	1s3s	1s4s	1s5s	2s5s	2s7s	2s10s	3s10s	5s10s	1s2s3s	1s3s5s	2s5s7s	2s7s10s	2s5s10s
Level	3.41	3.25	3.26	3.56	3.67	3.90	4.15	-16.4	-14.7	15.3	26.1	42.6	65.1	89.9	88.2	47.4	-18.1	-55.6	20.1	40.2	-4.8
1m change	-41.6	-46.2	-47.8	-40.4	-37.4	-26.8	-20.0	-4.6	-6.1	1.2	4.2	8.8	19.3	26.2	27.7	17.4	-3.0	-16.5	-1.8	12.5	-8.7
z-sc	-2.4	-2.5	-2.7	-2.7	-2.6	-2.4	-2.2	-0.5	0.1	0.7	1.2	1.8	2.0	2.1	2.4	2.4	-1.5	-2.2	1.2	1.9	-0.4
High	4.31	4.17	4.14	4.36	4.40	4.51	4.66	-6.0	-0.7	50.4	43.2	56.4	85.9	117.7	103.1	61.3	-5.3	-33.6	32.6	54.1	4.7
Low	3.30	3.15	3.26	3.56	3.66	3.83	4.05	-24.9	-32.3	-11.2	-8.2	12.6	20.8	33.4	41.3	20.8	-29.9	-56.4	4.4	8.1	-10.1
%ile	5%	4%	0%	0%	2%	2%	2%	27%	43%	81%	92%	92%	93%	93%	94%	93%	9%	2%	91%	93%	33%
Carry	-19.2	-10.8	-6.8	-7.6	-5.5	-3.1	-1.5	8.5	12.4	11.7	3.2	5.3	7.7	9.3	5.3	4.0	4.5	11.1	2.9	6.2	1.4
Roll	-11.7	-1.3	1.3	4.9	4.8	4.0	2.7	10.4	13.1	16.6	6.2	6.1	5.3	4.0	1.3	-2.1	7.8	9.6	6.8	6.7	8.2
C+R	-30.9	-12.0	-5.4	-2.6	-0.7	1.0	1.2	18.9	25.5	28.3	9.4	11.4	13.0	13.2	6.6	1.8	12.3	20.7	9.8	12.8	9.5
Vol	56.8	72.1	80.6	93.1	84.7	84.7	86.6	23.6	44.2	76.6	53.4	37.3	49.0	60.5	42.4	34.2	27.2	42.3	36.5	41.1	38.2
C+R/vol	-0.5	-0.2	-0.1	0.0	0.0	0.0	0.0	0.8	0.6	0.4	0.2	0.3	0.3	0.2	0.2	0.1	0.5	0.5	0.3	0.3	0.2

## Yield curve and 1m change



## Trades ranked by carry + roll



## Forward-starting swaps

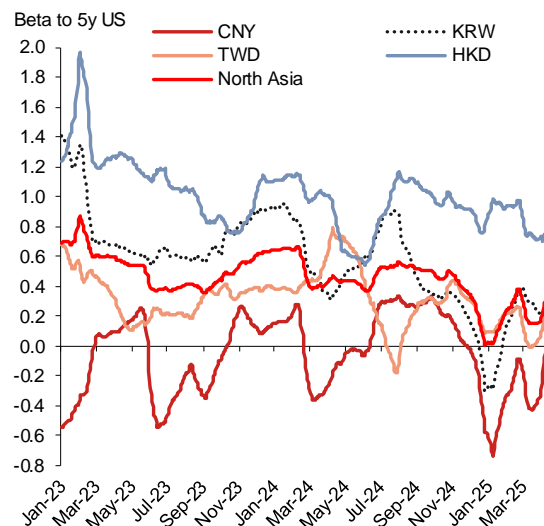
Level	1y	2y	3y	4y	5y	7y	10y
0d	3.41	3.25	3.26	3.56	3.67	3.90	4.15
3m	3.17	3.15	3.22	3.54	3.67	3.90	4.16
6m	3.07	3.12	3.23	3.56	3.70	3.94	4.18
1y	3.08	3.19	3.34	3.67	3.81	4.04	4.27
2y	3.30	3.48	3.65	3.96	4.08	4.28	4.45
3y	3.68	3.84	3.99	4.25	4.35	4.49	4.62
4y	4.01	4.16	4.28	4.49	4.56	4.66	4.74
5y	4.32	4.43	4.51	4.68	4.72	4.79	4.84
IMM dates							
Jun-25	3.23	3.17	3.22	3.54	3.66	3.90	4.15
Sep-25	3.08	3.12	3.22	3.54	3.68	3.92	4.17
Dec-25	3.05	3.13	3.26	3.58	3.73	3.97	4.21
Mar-26	3.06	3.16	3.32	3.64	3.79	4.02	4.25

## Forward roll-down

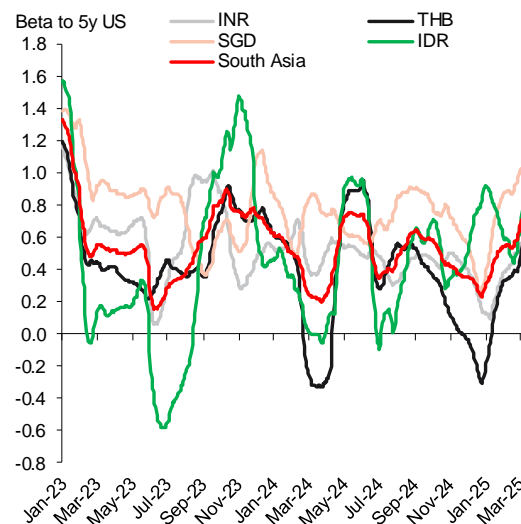
Fwd	1y	2y	3y	4y	5y	7y	10y
3m	-23.9	-9.9	-4.1	-2.4	-0.6	0.8	1.1
6m	-10.5	-2.8	1.3	1.9	3.0	3.3	2.9
1y	2.6	4.5	6.2	6.2	6.2	5.5	4.4
2y	6.5	8.1	8.0	7.2	6.7	5.6	4.3
3y	9.7	8.8	8.2	7.0	6.3	5.0	3.9
4y	7.9	7.5	6.7	5.5	4.8	3.9	2.8
5y	7.1	6.1	5.2	4.1	3.5	2.8	1.9
IMM rolls							
Sep-25/Jun-25	-14.9	-5.1	-0.5	0.5	1.8	2.5	2.3
Dec-25/Sep-25	-3.4	0.9	3.9	4.2	4.7	4.6	3.8
Mar-26/Dec-25	1.5	3.9	5.8	5.9	6.1	5.5	4.4

# Asia rates – Beta and valuation

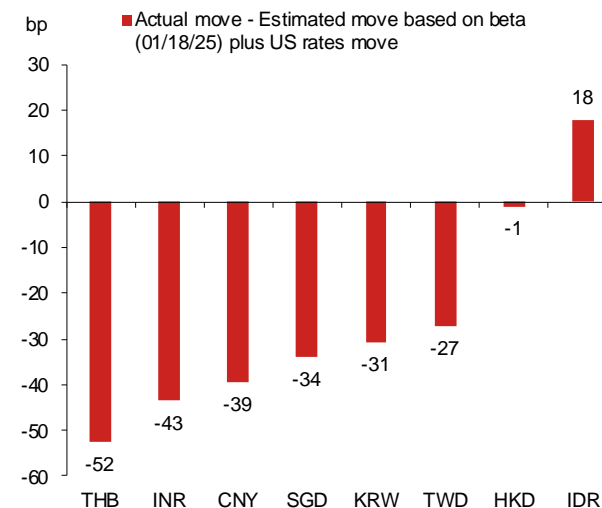
## North Asia rates' beta to US



## South Asia rates' beta to US



## Asia rates' out/underperformance vs. US



## Asia rates - Actual move over the past 3 months vs. Estimated move based on beta and US rates move

5y Asia rates' out/underperformance vs. 5y US								
As of 04/18/25	CNY	INR	THB	SGD	KRW	TWD	HKD	IDR
Beta on 01/18/25	-0.56	0.23	0.16	0.73	-0.13	0.14	0.96	0.77
Estimated move based on beta	Move in 5y US IRS since 01/18/25				Move in 5y UST yield since 01/18/25			
	27	-11	-8	-36	6	-7	-47	-25
Actual move	-12	-55	-60	-70	-24	-34	-48	-7
Outperform /Underperform	-39	-43	-52	-34	-31	-27	-1	18
	Outperform	Outperform	Outperform	Outperform	Outperform	Outperform	Outperform	Underperform

Source: Bloomberg, Nomura.

Note: We use 5y swap rates for all markets except Indonesia (where 5y IndoGB yield is used). Beta is calculated with 60-day trailing data. When comparing actual move in Asia rates over the past 3 months to the estimated move based on beta and US rates move, a negative value means Asia rates' outperformance vs. US, while a positive value means Asia rates' underperformance vs. US.

## Asia Central Bank Pricing

# Asia – rates expectations

## PBOC

CNY Dates	Hike bps	Rate 1.914	Total bps	1 Day Chg	1 Week Chg	1 Month Chg	3 Month Chg
15-May-25	-20	1.714	-20	1	-10	-15	-17
16-Jun-25	-8	1.635	-28	-0	-1	-4	-3
15-Jul-25	-8	1.559	-36	-0	1	-4	-2
15-Aug-25	-7	1.487	-43	-1	-1	-3	-2
15-Sep-25	-16	1.327	-59	-0	-2	4	-1
15-Oct-25	14	1.468	-45	0	0	1	-0
17-Nov-25	-2	1.449	-47	0	-0	1	-1
15-Dec-25	-2	1.425	-49	0	-0	0	-2
15-Jan-26	-4	1.389	-53	-0	-0	-1	-3
16-Feb-26	-3	1.359	-56	-0	-1	-3	-2
16-Mar-26	-0	1.354	-56	-0	-0	-1	0
15-Apr-26	-0	1.351	-56	0	1	0	0
15-May-26	-1	1.340	-57	0	0	-1	-1
15-Jun-26	-1	1.332	-58	0	-0	-1	-1
15-Jul-26	-0	1.328	-59	0	-0	-1	-0
17-Aug-26	-0	1.327	-59	0	-0	-0	0

## BNM

MYR Dates	Hike bps	Rate 3.650	Total bps	1 Day Chg	1 Week Chg	1 Month Chg	3 Month Chg
08-May-25	-4	3.609	-4	0	-1	2	1
09-Jul-25	-12	3.493	-16	0	-4	-7	-9
04-Sep-25	-15	3.345	-30	-3	-1	-14	-12
06-Nov-25	-13	3.211	-44	-3	-3	-9	-12
22-Jan-26*	-9	3.119	-53	-1	-5	-4	-8
06-Mar-26*	-4	3.083	-57	0	-0	-0	-3
08-May-26*	-6	3.024	-63	1	0	-1	-5
09-Jul-26*	-4	2.984	-67	0	-0	-2	-4

## CBC

TWD Dates	Hike bps	Rate 1.679	Total bps	1 Day Chg	1 Week Chg	1 Month Chg	3 Month Chg
19-Jun-25	-5	1.624	-5	-0	1	-8	-8
18-Sep-25	-4	1.582	-10	1	10	-11	-6
18-Dec-25	-3	1.556	-12	1	7	-5	-4
20-Mar-26*	-4	1.518	-16	2	-1	-3	-5
19-Jun-26*	-5	1.470	-21	3	-3	-4	-6
18-Sep-26*	-2	1.450	-23	1	-2	-3	-4
18-Dec-26*	1	1.459	-22	-1	-2	-2	-2
22-Mar-27*	2	1.483	-20	-2	-0	0	-0

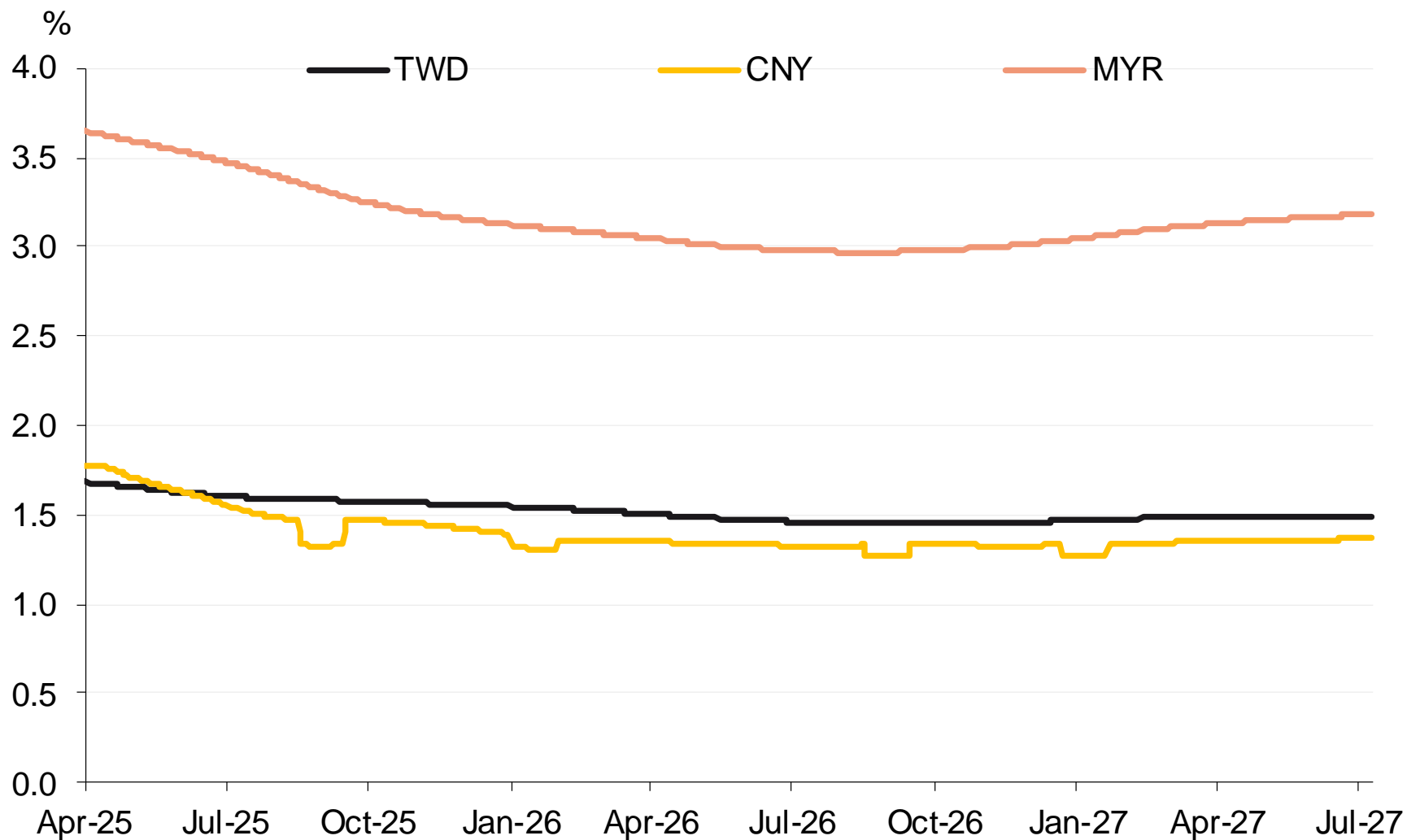
Source: Bloomberg, Nomura

Note: Hikes priced in based off: 3M TAIBOR Fix, China 7d repo fix, KLIBOR 3M Fix

\*:Denotes meeting dates that are not confirmed.

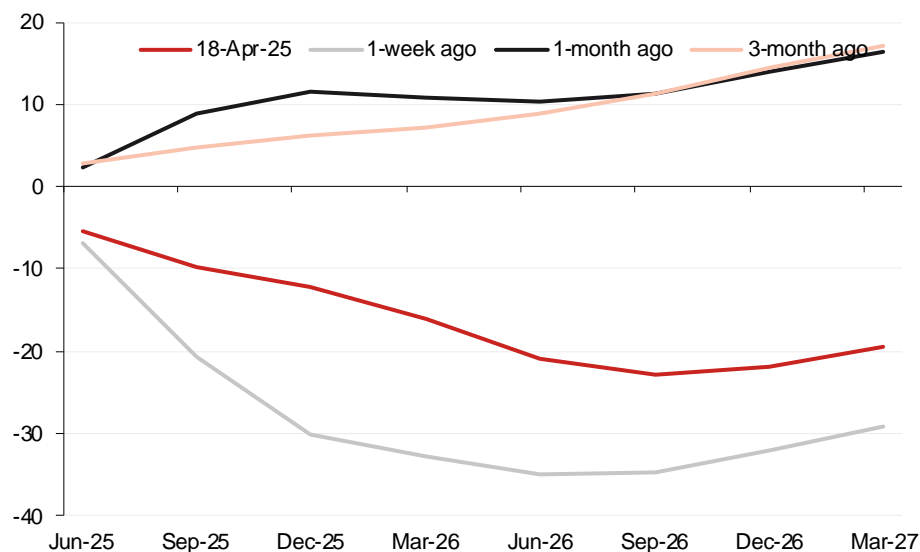
For PBOC, we are using MLF release dates which are assumed to be on the 15<sup>th</sup> of every month, unless the 15<sup>th</sup> falls on a weekend, which we then use the next Monday's date.

# Asia – rates expectations

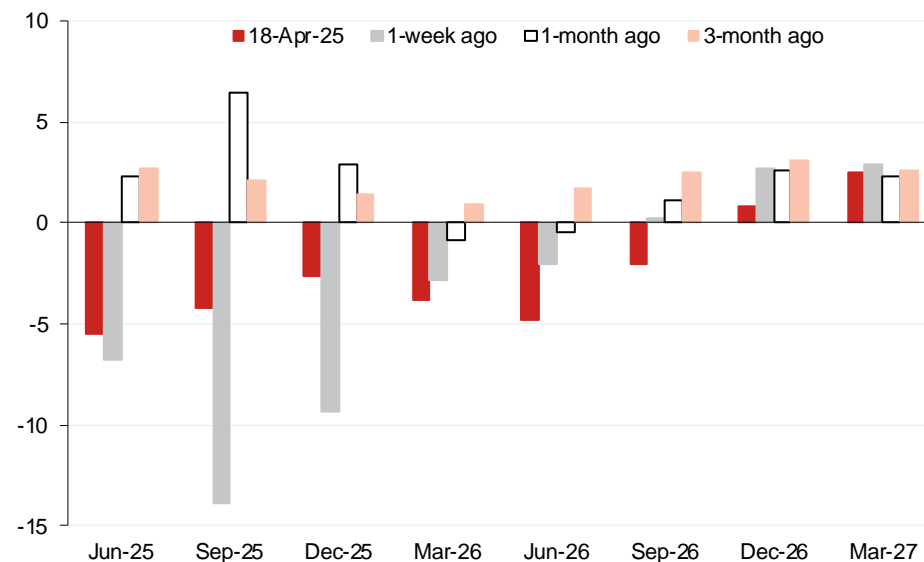


# TWD – rates expectations

## Expected rate change (accumulated)



## Change in expectations at each date



## Expected rate change (accumulated)

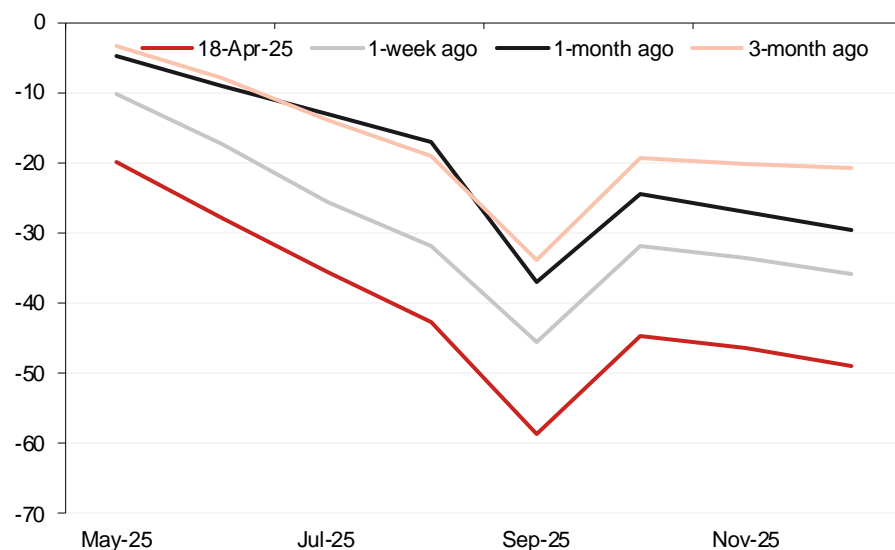
TWD	Expected Rate Change, bp	19-Jun-25	18-Sep-25	18-Dec-25	20-Mar-26	19-Jun-26	18-Sep-26	18-Dec-26	22-Mar-27
18-Apr-25	Accumulated change by the N date	-5	-10	-12	-16	-21	-23	-22	-20
	(Latest) Change between N-1 and N date	-5	-4	-3	-4	-5	-2	1	2
1-week ago	Accumulated change by the N date	-7	-21	-30	-33	-35	-35	-32	-29
	Change between N-1 and N date	-7	-14	-9	-3	-2	0	3	3
1-month ago	Accumulated change by the N date	2	9	12	11	10	11	14	16
	Change between N-1 and N date	2	6	3	-1	0	1	3	2
3-month ago	Accumulated change by the N date	3	5	6	7	9	11	14	17
	Change between N-1 and N date	3	2	1	1	2	2	3	3



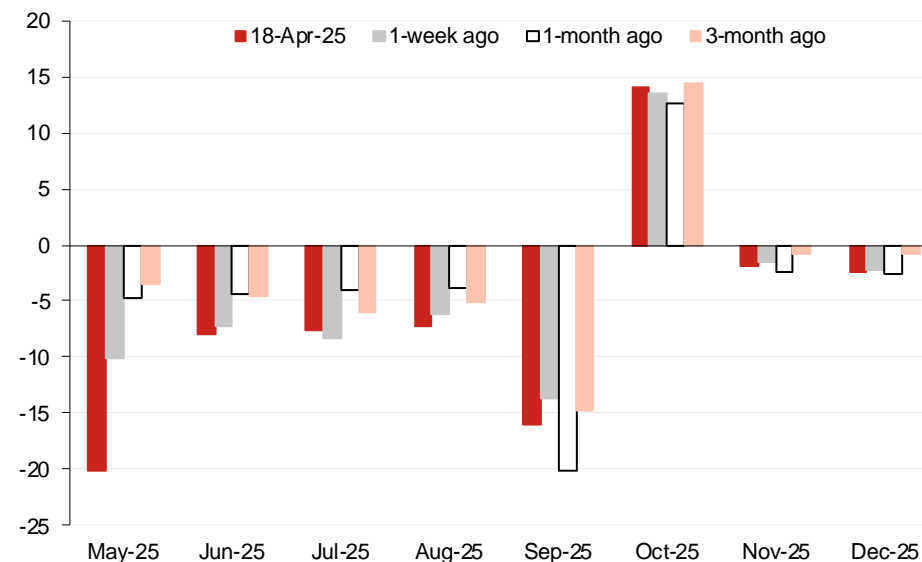
# CNY – rates expectations

NOMURA

## Expected rate change (accumulated)



## Change in expectations at each date

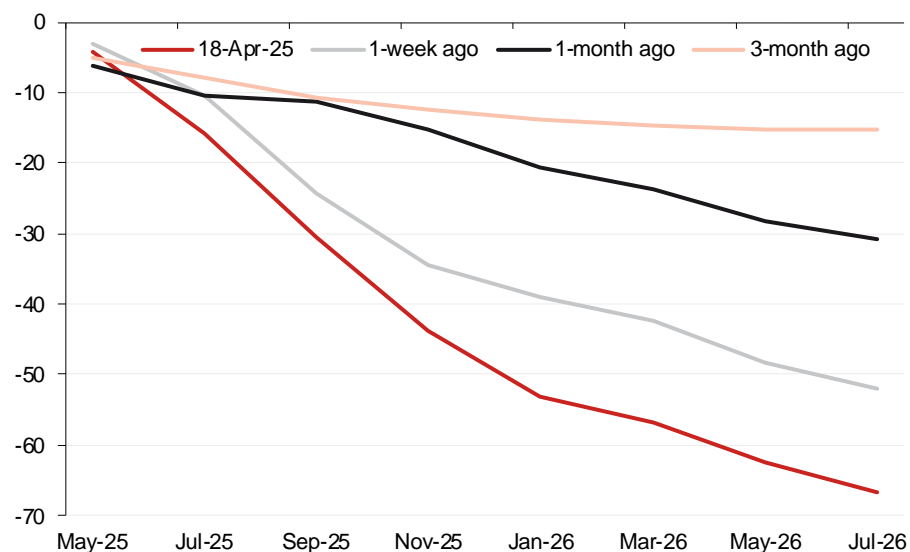


## Expected rate change (accumulated)

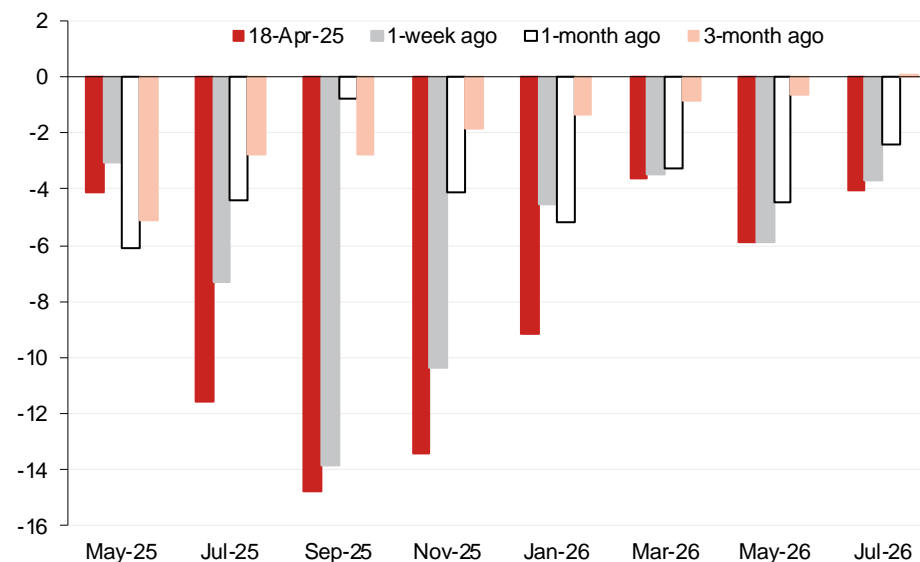
CNY	Expected Rate Change, bp	15-May-25	16-Jun-25	15-Jul-25	15-Aug-25	15-Sep-25	15-Oct-25	17-Nov-25	15-Dec-25
18-Apr-25 (Latest)	Accumulated change by the N date	-20	-28	-36	-43	-59	-45	-47	-49
	Change between N-1 and N date	-20	-8	-8	-7	-16	14	-2	-2
1-week ago	Accumulated change by the N date	-10	-17	-26	-32	-45	-32	-33	-36
	Change between N-1 and N date	-10	-7	-8	-6	-14	14	-2	-2
1-month ago	Accumulated change by the N date	-5	-9	-13	-17	-37	-25	-27	-30
	Change between N-1 and N date	-5	-4	-4	-4	-20	13	-2	-3
3-month ago	Accumulated change by the N date	-3	-8	-14	-19	-34	-19	-20	-21
	Change between N-1 and N date	-3	-4	-6	-5	-15	14	-1	-1

# MYR – rates expectations

## Expected rate change (accumulated)



## Change in expectations at each date



## Expected rate change (accumulated)

MYR	Expected Rate Change, bp	8-May-25	9-Jul-25	4-Sep-25	6-Nov-25	22-Jan-26	6-Mar-26	8-May-26	9-Jul-26
18-Apr-25 (Latest)	Accumulated change by the N date	-4	-16	-30	-44	-53	-57	-63	-67
	Change between N-1 and N date	-4	-12	-15	-13	-9	-4	-6	-4
1-week ago	Accumulated change by the N date	-3	-10	-24	-35	-39	-43	-48	-52
	Change between N-1 and N date	-3	-7	-14	-10	-5	-3	-6	-4
1-month ago	Accumulated change by the N date	-6	-10	-11	-15	-21	-24	-28	-31
	Change between N-1 and N date	-6	-4	-1	-4	-5	-3	-4	-2
3-month ago	Accumulated change by the N date	-5	-8	-11	-12	-14	-15	-15	-15
	Change between N-1 and N date	-5	-3	-3	-2	-1	-1	-1	0

## **G10 Central Bank Pricing**

# G10 – rates expectations

## FOMC

USD Date	Hike bps	Rate 4.330	Total bps	1 Day Chg	1 Week Chg	1 Month Chg	3 Month Chg
07-May-25	-3	4.301	-3	1	7	3	3
18-Jun-25	-1	4.292	-4	14	18	14	9
30-Jul-25	-42	3.874	-46	-21	-23	-33	-38
17-Sep-25	-5	3.822	-51	14	9	10	0
29-Oct-25	-19	3.628	-70	-4	-10	-12	-16
10-Dec-25	-15	3.474	-86	1	-4	-3	-14
28-Jan-26	-7	3.406	-92	2	-3	-3	-6
18-Mar-26	-10	3.306	-102	0	-4	-6	-9

## ECB

EUR Date	Hike bps	Rate 2.418	Total bps	1 Day Chg	1 Week Chg	1 Month Chg	3 Month Chg
23-Apr-25	-19	2.226	-19	6	5	-5	-2
11-Jun-25	-29	1.936	-48	-5	-9	-11	-13
30-Jul-25	-14	1.793	-63	0	-2	-10	-9
17-Sep-25	-16	1.632	-79	1	-2	-9	-9
05-Nov-25	-6	1.571	-85	0	-1	-5	-4
24-Dec-25	-6	1.508	-91	0	-1	-4	-3
11-Feb-26	-1	1.495	-92	0	-1	-1	-1
25-Mar-26	-0	1.492	-93	0	-0	-1	-2

## BoE

GBP Date	Hike bps	Rate 4.459	Total bps	1 Day Chg	1 Week Chg	1 Month Chg	3 Month Chg
08-May-25	-26	4.194	-26	0	-2	-8	-14
19-Jun-25	-11	4.086	-37	1	-2	-6	-5
07-Aug-25	-19	3.892	-57	0	-2	-6	-11
18-Sep-25	-11	3.782	-68	0	-2	-6	-8
06-Nov-25	-14	3.644	-81	-0	-1	-5	-9
18-Dec-25	-5	3.590	-87	-0	-2	-2	-4
05-Feb-26	-7	3.518	-94	-1	-1	-2	-4
19-Mar-26	-1	3.503	-96	1	-2	-1	-1

## BOJ

JPY Date	Hike bps	Rate 0.476	Total bps	1 Day Chg	1 Week Chg	1 Month Chg	3 Month Chg
28-Apr-25*	0	0.477	0	0	0	-2	-3
16-Jun-25*	1	0.489	1	-0	-0	-4	-3
31-Jul-25*	4	0.526	5	-1	1	-5	-4
22-Sep-25*	4	0.562	9	-0	3	0	-3
31-Oct-25*	2	0.580	10	-0	1	-2	-2
19-Dec-25*	1	0.594	12	-0	0	-3	-2
23-Jan-26*	1	0.599	12	-1	-1	-3	-1
19-Mar-26*	1	0.610	13	-1	0	-4	-3

## RBA

AUD Date	Hike bps	Rate 4.090	Total bps	1 Day Chg	1 Week Chg	1 Month Chg	3 Month Chg
20-May-25	-31	3.783	-31	0	7	-15	-15
08-Jul-25	-25	3.535	-55	-0	-1	-18	-19
12-Aug-25	-29	3.250	-84	0	-1	-10	-19
30-Sep-25	-16	3.091	-100	0	-0	-8	-11
04-Nov-25	-14	2.950	-114	-0	-1	-4	-11
09-Dec-25	-3	2.923	-117	0	-2	-1	-0
03-Feb-26	-1	2.908	-118	0	-1	2	-1
17-Mar-26	-3	2.877	-121	0	-1	-2	-2

## RBNZ

NZD Date	Hike bps	Rate 3.500	Total bps	1 Day Chg	1 Week Chg	1 Month Chg	3 Month Chg
28-May-25	-29	3.214	-29	0	5	-10	-16
09-Jul-25	-18	3.035	-47	-0	2	-8	-10
20-Aug-25	-19	2.850	-65	0	-0	-8	-10
08-Oct-25	-13	2.720	-78	-0	-3	-12	-7
26-Nov-25	-1	2.712	-79	-0	1	-1	-3
18-Feb-26	2	2.735	-76	0	1	-6	-2
08-Apr-26	2	2.756	-74	6	-1	-5	-2
27-May-26	5	2.809	-69	-3	-0	0	2

## SNB

CHF Date	Hike bps	Rate 0.180	Total bps	1 Day Chg	1 Week Chg	1 Month Chg	3 Month Chg
19-Jun-25	-14	0.035	-14	2	7	-12	10
25-Sep-25	-18	-0.145	-33	-0	-6	-14	-9
11-Dec-25	-2	-0.165	-35	0	0	-2	-0
19-Mar-26	0	-0.165	-35	-0	-1	-3	-1
18-Jun-26	2	-0.141	-32	0	-0	-2	-0
24-Sep-26	3	-0.112	-29	-0	-1	-4	0
10-Dec-26	-1	-0.122	-30	-4	-5	-6	-5
19-Mar-27*	6	-0.066	-25	-0	-1	-1	-2

## BoC

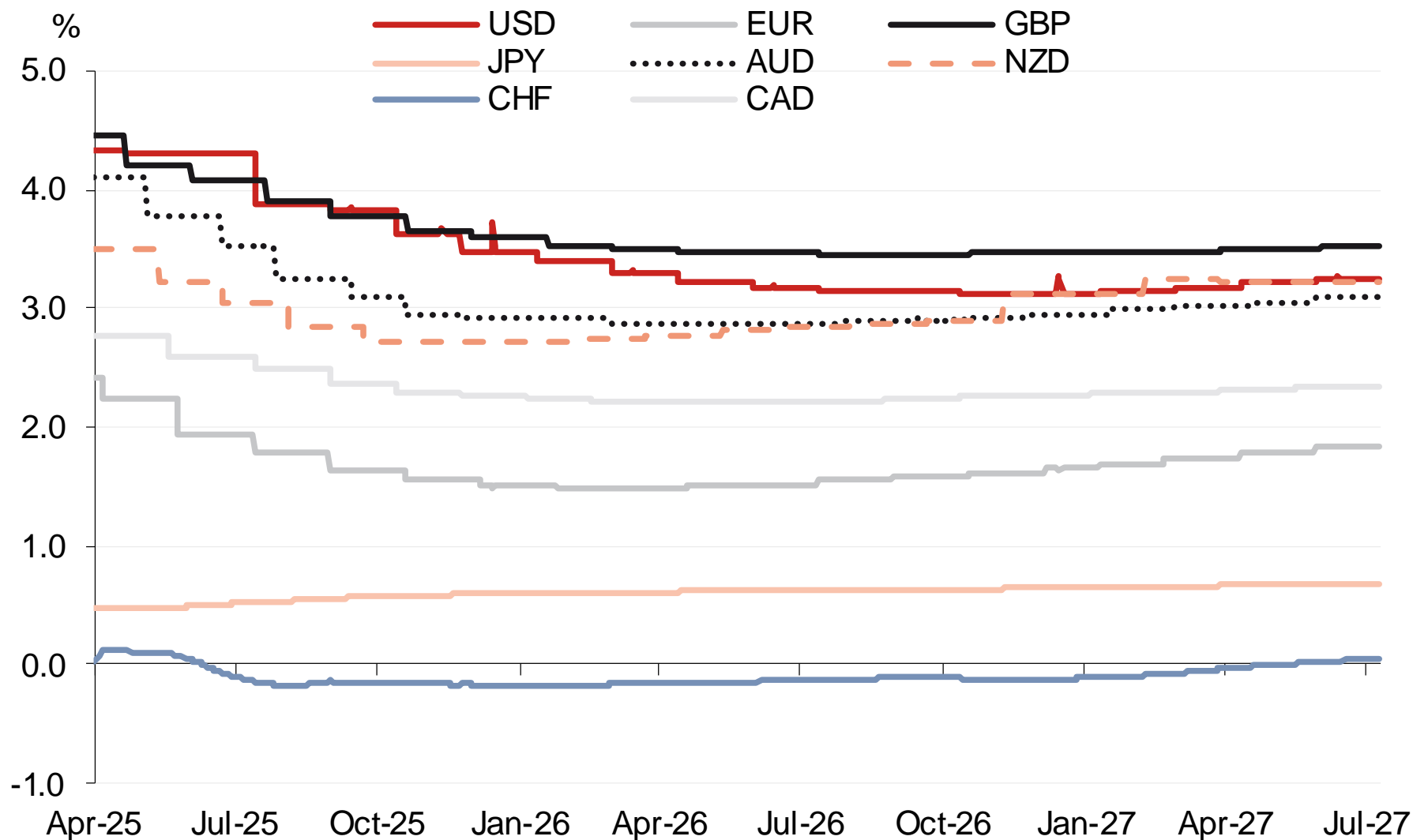
CAD Date	Hike bps	Rate 2.760	Total bps	1 Day Chg	1 Week Chg	1 Month Chg	3 Month Chg
04-Jun-25	-16	2.599	-16	1	-9	-6	-10
30-Jul-25	-12	2.479	-28	0	-4	-3	-8
17-Sep-25	-11	2.366	-39	-0	-5	-4	-8
29-Oct-25	-9	2.279	-48	-0	-4	-2	-7
10-Dec-25	-3	2.252	-51	-0	1	1	-2
29-Jan-26*	-2	2.232	-53	-0	-0	0	-1
12-Mar-26*	-1	2.221	-54	0	-1	-0	-2
16-Apr-26*	-1	2.210	-55	0	-0	-0	-1

Source: Bloomberg, Nomura

Note: Hikes priced in based off: US Fed Funds Effective Rate, ESTR, SONIA, TONAR, RBA overnight cash rate, RBNZ official daily cash rate, Swiss average overnight rate, CORRA

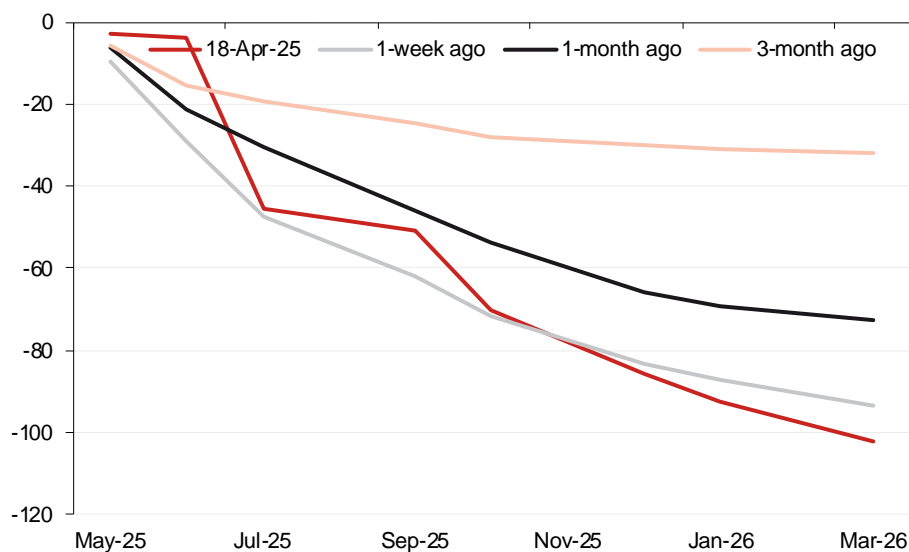
ECB dates refer to the effective dates the decision takes effect. \*: Denotes meeting dates that are not confirmed.

# G10 – rates expectations

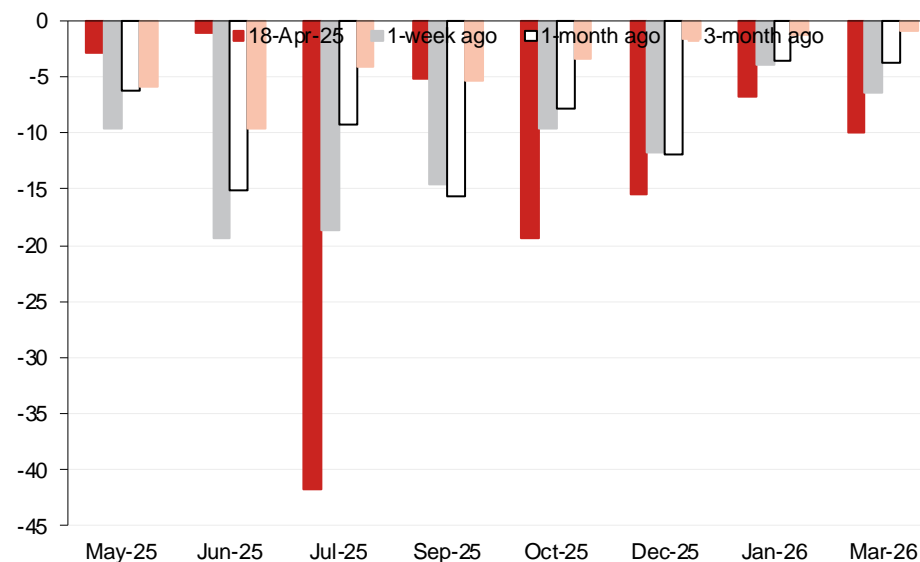


# USD – rates expectations

## Expected rate change (accumulated)



## Change in expectations at each date

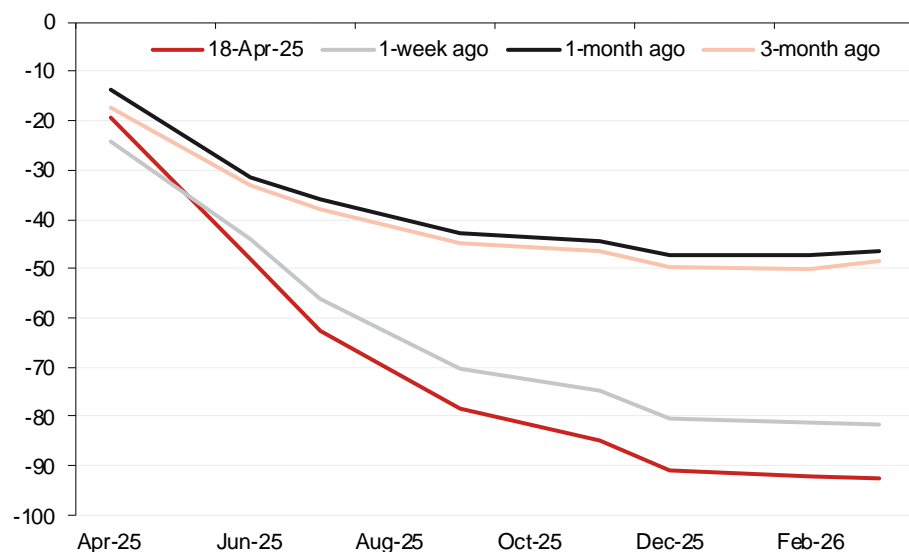


## Expected rate change (accumulated)

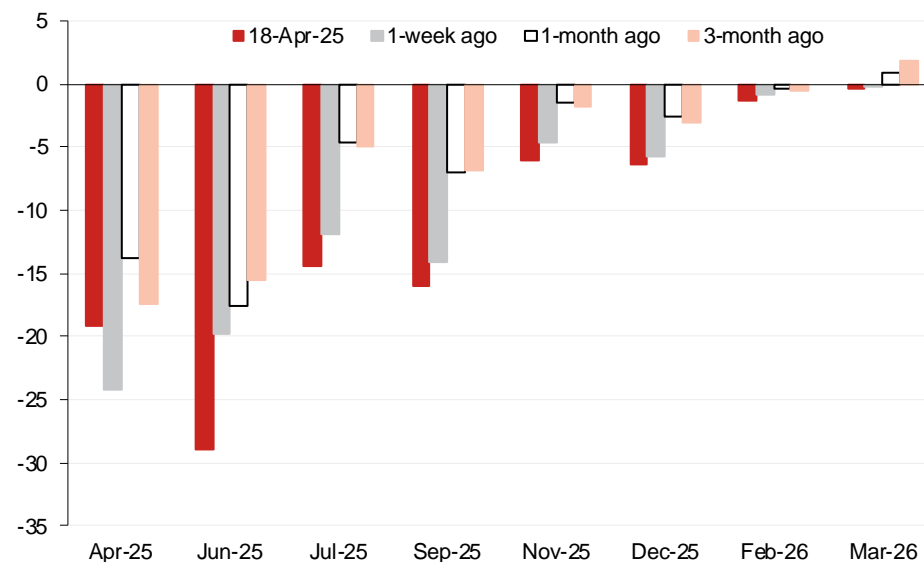
USD	Expected Rate Change, bp	7-May-25	18-Jun-25	30-Jul-25	17-Sep-25	29-Oct-25	10-Dec-25	28-Jan-26	18-Mar-26
18-Apr-25	Accumulated change by the N date	-3	-4	-46	-51	-70	-86	-92	-102
	(Latest) Change between N-1 and N date	-3	-1	-42	-5	-19	-15	-7	-10
1-week ago	Accumulated change by the N date	-10	-29	-47	-62	-72	-83	-87	-94
	Change between N-1 and N date	-10	-19	-19	-15	-10	-12	-4	-6
1-month ago	Accumulated change by the N date	-6	-21	-30	-46	-54	-66	-69	-73
	Change between N-1 and N date	-6	-15	-9	-16	-8	-12	-3	-4
3-month ago	Accumulated change by the N date	-6	-15	-20	-25	-28	-30	-31	-32
	Change between N-1 and N date	-6	-10	-4	-5	-3	-2	-1	-1

# EUR – rates expectations

## Expected rate change (accumulated)



## Change in expectations at each date



## Expected rate change (accumulated)

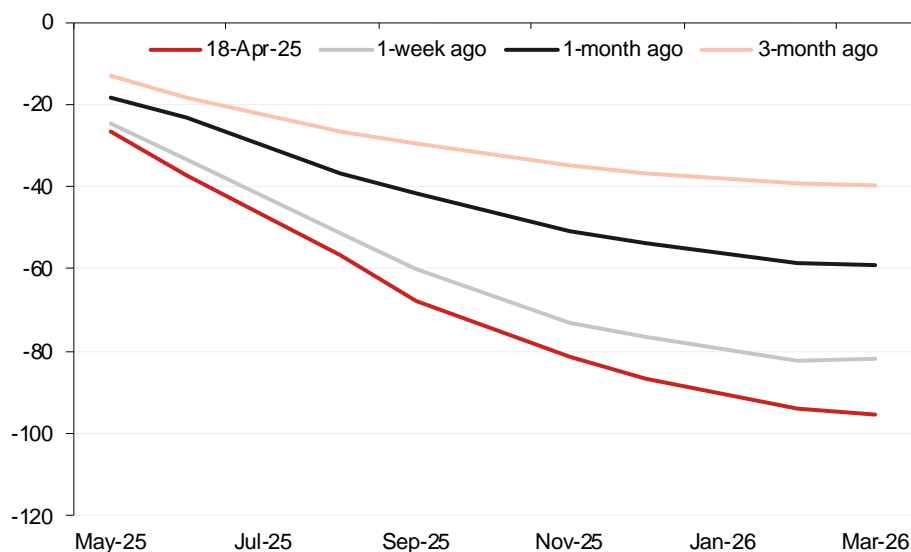
EUR	Expected Rate Change, bp	23-Apr-25	11-Jun-25	30-Jul-25	17-Sep-25	5-Nov-25	24-Dec-25	11-Feb-26	25-Mar-26
18-Apr-25	Accumulated change by the N date	-19	-48	-63	-79	-85	-91	-92	-93
	(Latest) Change between N-1 and N date	-19	-29	-14	-16	-6	-6	-1	0
1-week ago	Accumulated change by the N date	-24	-44	-56	-70	-75	-81	-81	-81
	Change between N-1 and N date	-24	-20	-12	-14	-5	-6	-1	0
1-month ago	Accumulated change by the N date	-14	-31	-36	-43	-44	-47	-47	-46
	Change between N-1 and N date	-14	-18	-5	-7	-1	-3	0	1
3-month ago	Accumulated change by the N date	-17	-33	-38	-45	-47	-50	-50	-48
	Change between N-1 and N date	-17	-16	-5	-7	-2	-3	-1	2

Source: Bloomberg, Nomura

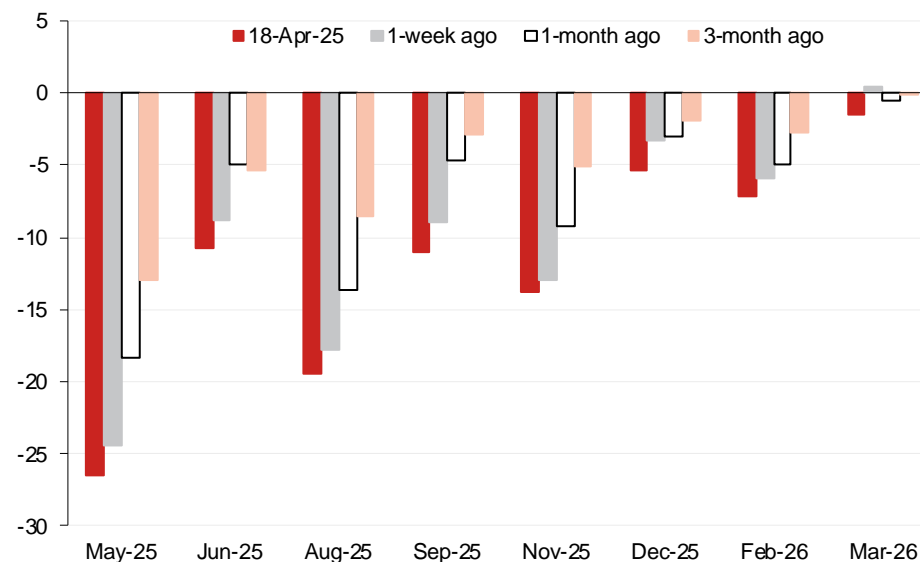
Note: ECB dates refer to the effective dates the decision takes effect. Hikes priced in based off: US Fed Funds Effective Rate, ESTR, SONIA, TONAR, RBA overnight cash rate, RBNZ official daily cash rate, Swiss average overnight rate, CORRA

# GBP – rates expectations

## Expected rate change (accumulated)



## Change in expectations at each date



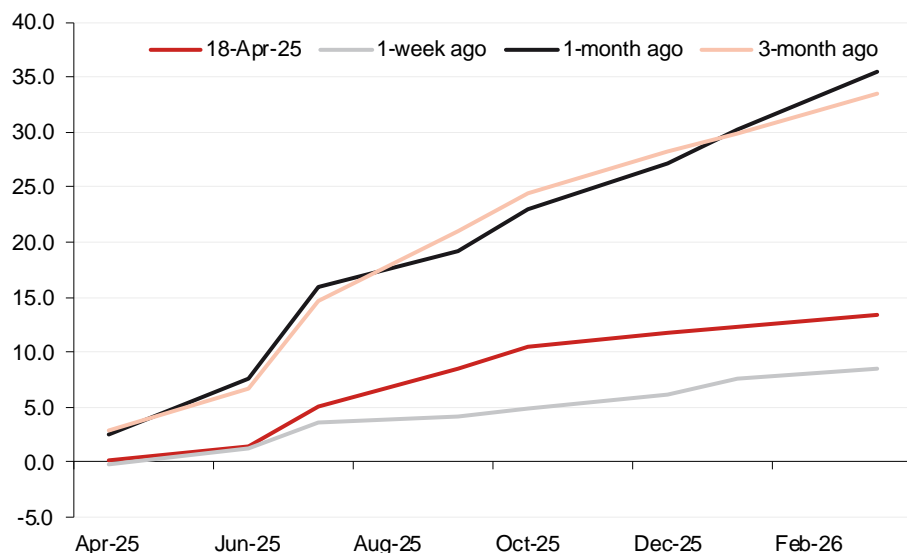
## Expected rate change (accumulated)

GBP	Expected Rate Change, bp	8-May-25	19-Jun-25	7-Aug-25	18-Sep-25	6-Nov-25	18-Dec-25	5-Feb-26	19-Mar-26
18-Apr-25	Accumulated change by the N date	-26	-37	-57	-68	-81	-87	-94	-96
	(Latest) Change between N-1 and N date	-26	-11	-19	-11	-14	-5	-7	-1
1-week ago	Accumulated change by the N date	-24	-33	-51	-60	-73	-76	-82	-82
	Change between N-1 and N date	-24	-9	-18	-9	-13	-3	-6	0
1-month ago	Accumulated change by the N date	-18	-23	-37	-42	-51	-54	-59	-59
	Change between N-1 and N date	-18	-5	-14	-5	-9	-3	-5	-1
3-month ago	Accumulated change by the N date	-13	-18	-27	-30	-35	-37	-39	-39
	Change between N-1 and N date	-13	-5	-9	-3	-5	-2	-3	0

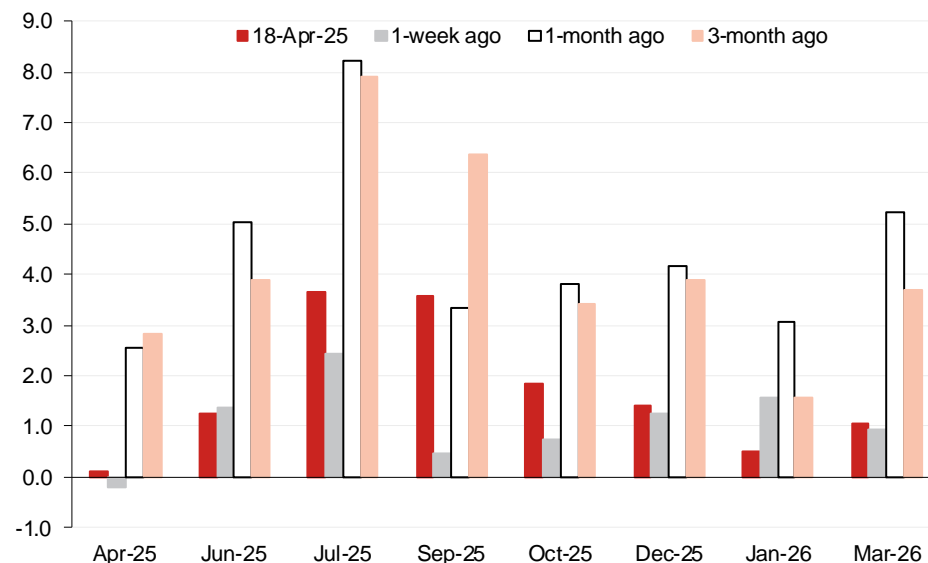


# JPY – rates expectations

## Expected rate change (accumulated)



## Change in expectations at each date

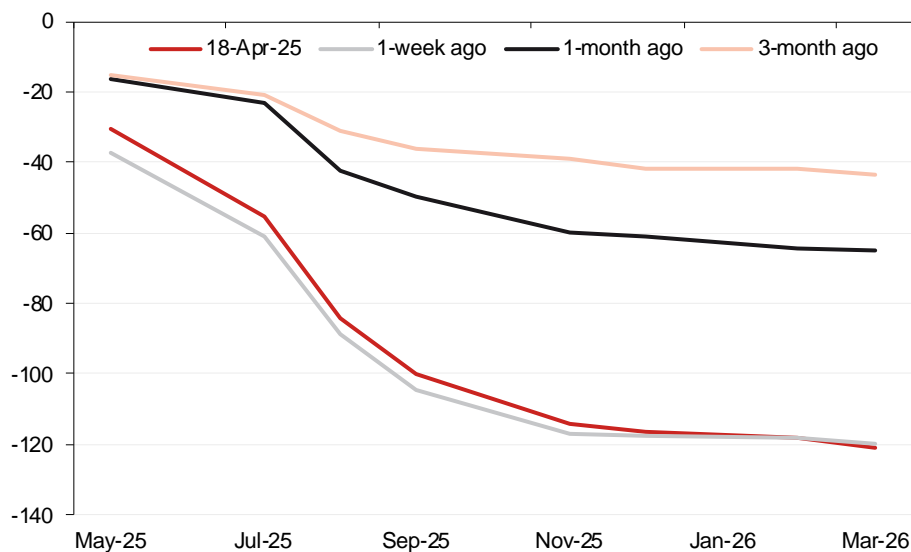


## Expected rate change (accumulated)

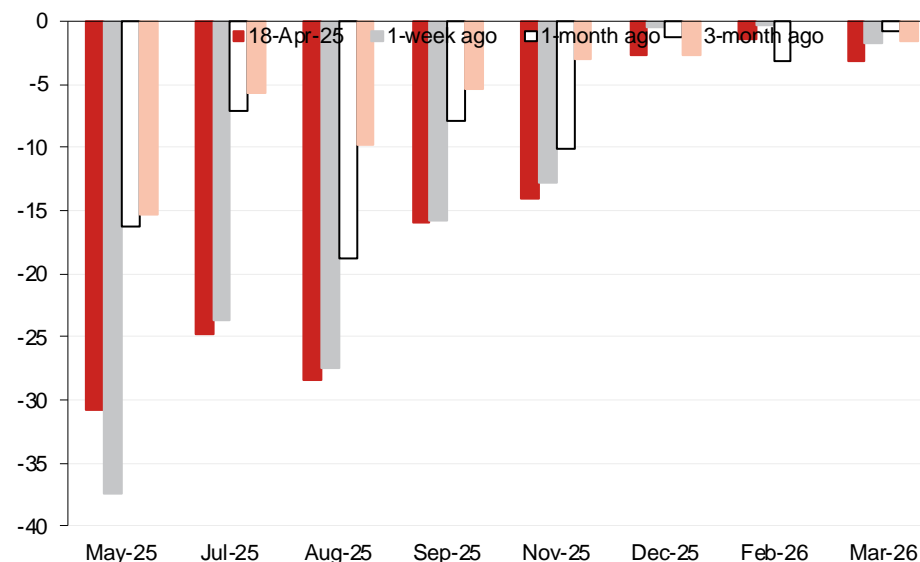
JPY	Expected Rate Change, bp	28-Apr-25	16-Jun-25	31-Jul-25	22-Sep-25	31-Oct-25	19-Dec-25	23-Jan-26	19-Mar-26
18-Apr-25 (Latest)	Accumulated change by the N date	0	1	5	9	10	12	12	13
	Change between N-1 and N date	0	1	4	4	2	1	1	1
1-week ago	Accumulated change by the N date	0	1	4	4	5	6	8	9
	Change between N-1 and N date	0	1	2	0	1	1	2	1
1-month ago	Accumulated change by the N date	3	8	16	19	23	27	30	35
	Change between N-1 and N date	3	5	8	3	4	4	3	5
3-month ago	Accumulated change by the N date	3	7	15	21	24	28	30	34
	Change between N-1 and N date	3	4	8	6	3	4	2	4

# AUD – rates expectations

## Expected rate change (accumulated)



## Change in expectations at each date

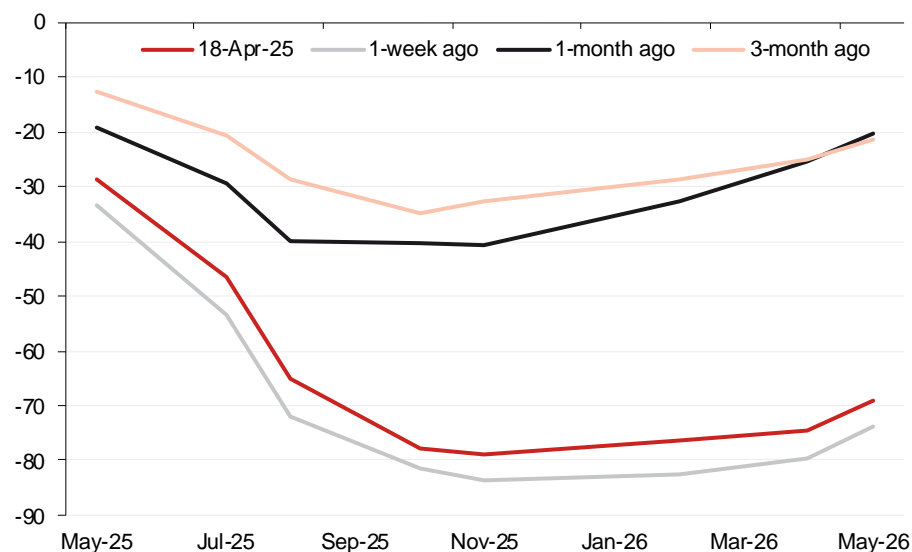


## Expected rate change (accumulated)

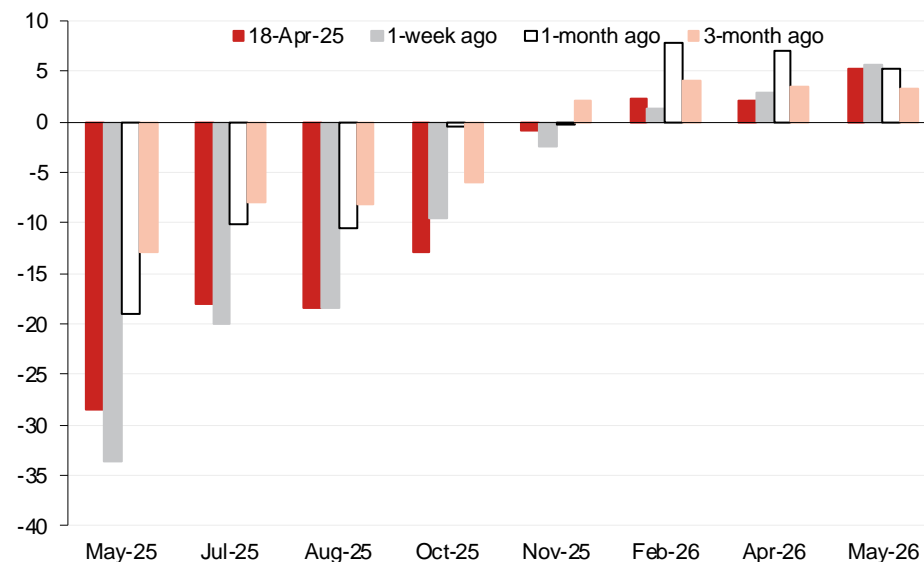
AUD	Expected Rate Change, bp	20-May-25	8-Jul-25	12-Aug-25	30-Sep-25	4-Nov-25	9-Dec-25	3-Feb-26	17-Mar-26
18-Apr-25 (Latest)	Accumulated change by the N date	-31	-55	-84	-100	-114	-117	-118	-121
	Change between N-1 and N date	-31	-25	-29	-16	-14	-3	-1	-3
1-week ago	Accumulated change by the N date	-37	-61	-89	-104	-117	-118	-118	-120
	Change between N-1 and N date	-37	-24	-27	-16	-13	0	0	-2
1-month ago	Accumulated change by the N date	-16	-23	-42	-50	-60	-61	-64	-65
	Change between N-1 and N date	-16	-7	-19	-8	-10	-1	-3	-1
3-month ago	Accumulated change by the N date	-15	-21	-31	-36	-39	-42	-42	-43
	Change between N-1 and N date	-15	-6	-10	-5	-3	-3	0	-2

# NZD – rates expectations

## Expected rate change (accumulated)



## Change in expectations at each date

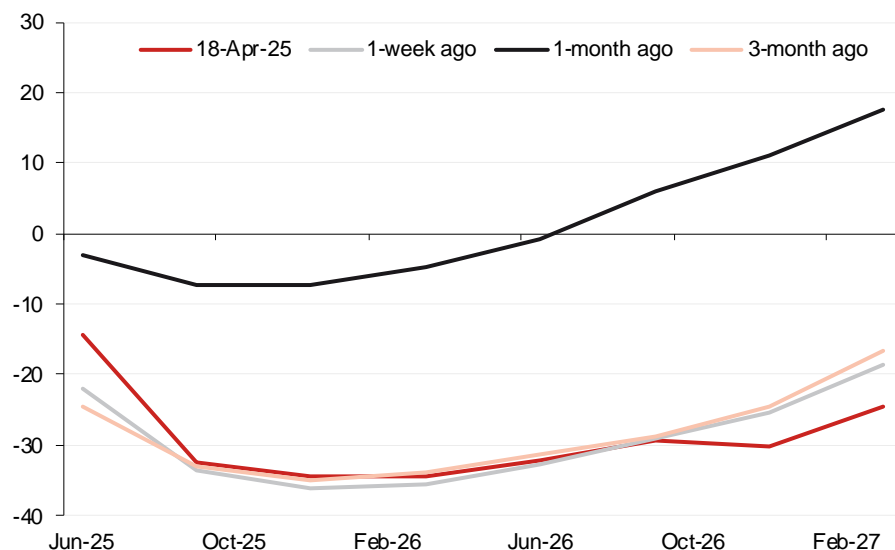


## Expected rate change (accumulated)

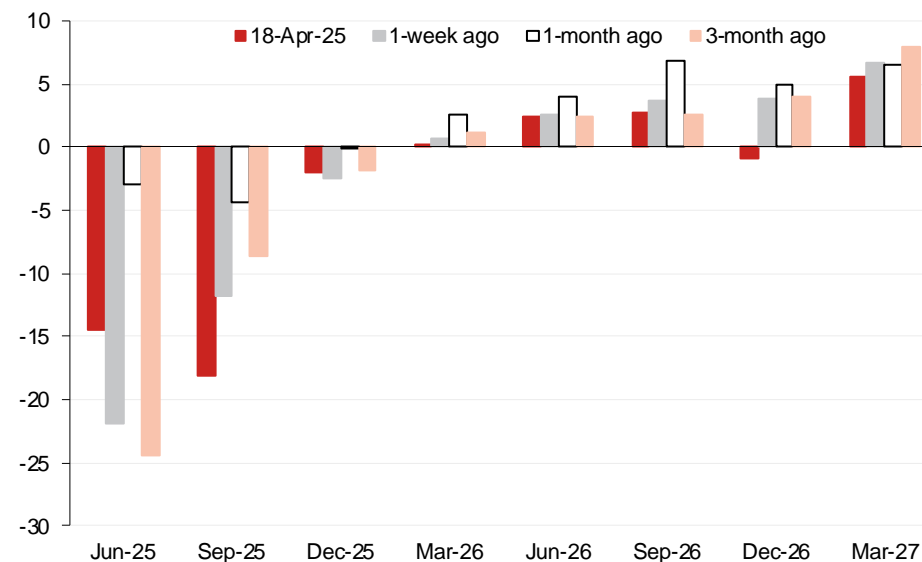
NZD	Expected Rate Change, bp	28-May-25	9-Jul-25	20-Aug-25	8-Oct-25	26-Nov-25	18-Feb-26	8-Apr-26	27-May-26
18-Apr-25 (Latest)	Accumulated change by the N date	-29	-47	-65	-78	-79	-76	-74	-69
	Change between N-1 and N date	-29	-18	-19	-13	-1	2	2	5
1-week ago	Accumulated change by the N date	-34	-53	-72	-81	-84	-82	-79	-74
	Change between N-1 and N date	-34	-20	-19	-9	-2	1	3	6
1-month ago	Accumulated change by the N date	-19	-29	-40	-40	-41	-33	-26	-20
	Change between N-1 and N date	-19	-10	-11	0	0	8	7	5
3-month ago	Accumulated change by the N date	-13	-21	-29	-35	-33	-29	-25	-22
	Change between N-1 and N date	-13	-8	-8	-6	2	4	4	3

# CHF – rates expectations

## Expected rate change (accumulated)



## Change in expectations at each date

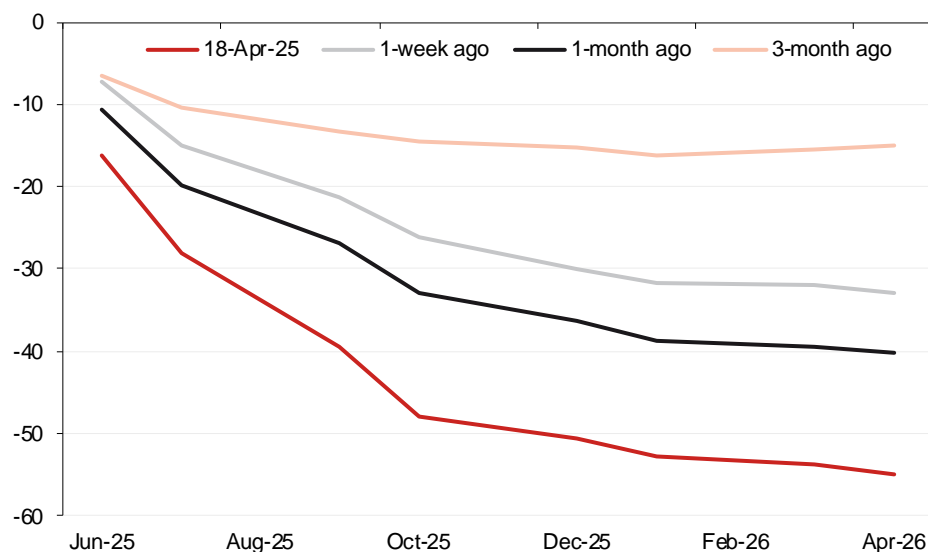


## Expected rate change (accumulated)

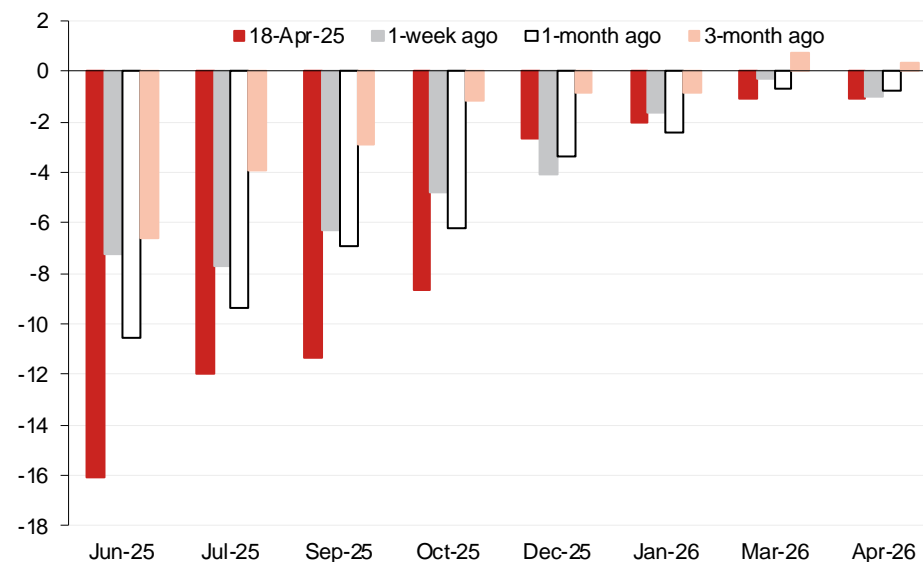
CHF	Expected Rate Change, bp	19-Jun-25	25-Sep-25	11-Dec-25	19-Mar-26	18-Jun-26	24-Sep-26	10-Dec-26	19-Mar-27
18-Apr-25 (Latest)	Accumulated change by the N date	-14	-33	-35	-35	-32	-29	-30	-25
	Change between N-1 and N date	-14	-18	-2	0	2	3	-1	6
1-week ago	Accumulated change by the N date	-22	-34	-36	-36	-33	-29	-25	-19
	Change between N-1 and N date	-22	-12	-2	1	3	4	4	7
1-month ago	Accumulated change by the N date	-3	-7	-7	-5	-1	6	11	18
	Change between N-1 and N date	-3	-4	0	3	4	7	5	7
3-month ago	Accumulated change by the N date	-24	-33	-35	-34	-31	-29	-25	-17
	Change between N-1 and N date	-24	-9	-2	1	3	3	4	8

# CAD – rates expectations

## Expected rate change (accumulated)



## Change in expectations at each date



## Expected rate change (accumulated)

CAD	Expected Rate Change, bp	4-Jun-25	30-Jul-25	17-Sep-25	29-Oct-25	10-Dec-25	29-Jan-26	12-Mar-26	16-Apr-26
18-Apr-25 (Latest)	Accumulated change by the N date	-16	-28	-39	-48	-51	-53	-54	-55
	Change between N-1 and N date	-16	-12	-11	-9	-3	-2	-1	-1
1-week ago	Accumulated change by the N date	-7	-15	-21	-26	-30	-32	-32	-33
	Change between N-1 and N date	-7	-8	-6	-5	-4	-2	0	-1
1-month ago	Accumulated change by the N date	-11	-20	-27	-33	-36	-39	-40	-40
	Change between N-1 and N date	-11	-9	-7	-6	-3	-2	-1	-1
3-month ago	Accumulated change by the N date	-7	-10	-13	-15	-15	-16	-15	-15
	Change between N-1 and N date	-7	-4	-3	-1	-1	-1	1	0

## Appendix A-1

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- Fundamental analysis regarding whether a security's price deviates from its underlying macro- or micro-economic fundamentals.
- Quantitative analysis of price variations.
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