

iBoxx USD Asia ex-Japan Monthly Commentary

Contributor

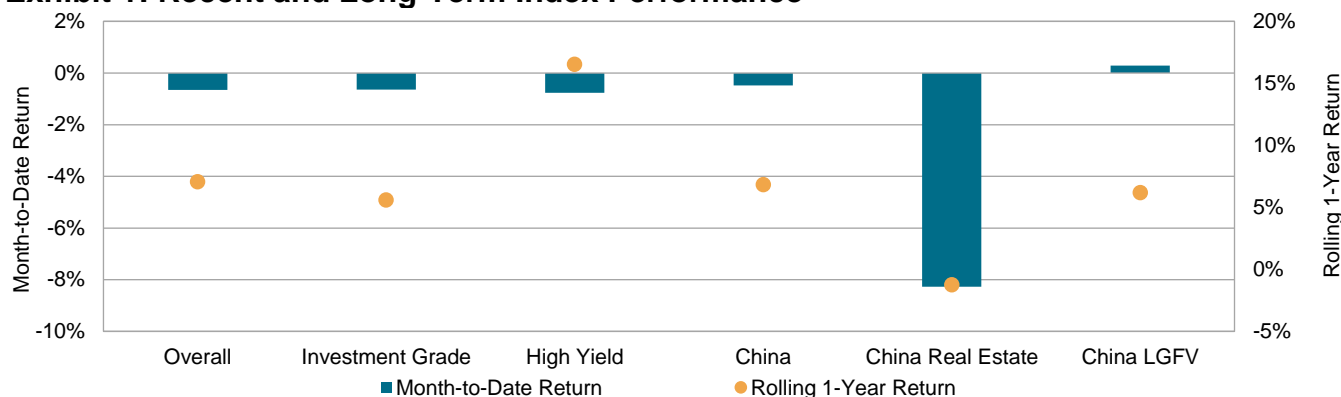
Jessica Tan
Principal
Fixed Income Indices
Asia Pacific
jessica.tan@spglobal.com

October 2023 Commentary

As global central banks have been juggling tackling inflation and supporting economic growth, most have moved to a cautious wait-and-see stance toward their policy rate decisions and kept their rates unchanged in October. The European Central Bank followed suit this month and maintained rates at 4.5% after 10 successive rate hikes since July 2022.

With higher interest costs and a growing budget deficit, the U.S. Treasury department has been increasing its debt issuance sizes, bringing additional supply into the U.S. Treasuries market. Consequently, the long end of the U.S. Treasuries yield curve, as represented by the iBoxx \$ Treasuries 10Y+, rose and its yield surpassed 5% in October. The 10Y+ index extended its loss by another 4.64%, bringing its YTD loss to 12%. Against the backdrop of higher 10-year yields coupled with the Israel-Hamas war breaking out in the Middle East, the [S&P 500®](#) experienced its third consecutive month of losses, down 2.20%.

In Asia, the strength of the U.S. dollar combined with weak demand from China made for a challenging landscape for central banks to navigate with their policy decisions. On top of that, geopolitical tensions have been rising in Asia and there is the potential of rising costs due to the Israel-Hamas conflict. To stifle inflation resurgence, central banks in Indonesia and the Philippines opted to raise rates by 25 bps in October.

Exhibit 1: Recent and Long-Term Index Performance

Source: IHS Markit, part of S&P Global. Data as of Oct. 31, 2023. Index performance based on total return in USD. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

In October, the overall index was down 0.66%, with the investment grade and high yield segments shedding -0.64% and -0.77%, respectively. In terms of rolling one-year returns, the high yield segment performed the best, at 16.54%.

The investment grade short-end maturity buckets remained in favor over the mid- to long-end maturity buckets. As the rising 10-year Treasury yields continued to weigh on the global debt market, the worst performance came from the 10Y+ segments of higher quality bonds. The high yield 10Y+ segments continued to move in the opposite direction, gaining 3.30%, largely attributed to the outperformance in the CCC rated 10Y+ segment.

Exhibit 2: Rating and Maturity Month-to-Date Index Performance

Rating	0-1 Year (%)	1-3 Year (%)	3-5 Years (%)	5-7 Years (%)	7-10 Years (%)	10+ Years (%)	Overall (%)
Investment Grade	0.37	0.29	-0.39	-1.11	-1.69	-3.61	-0.64
AAA	0.52	0.33	-0.32	0.00	-1.98	-5.02	-1.96
AA	0.49	0.42	-0.26	-1.02	-1.68	-3.77	-0.40
A	0.41	0.45	-0.10	-0.96	-1.66	-3.69	-0.41
BBB	0.33	0.10	-0.71	-1.26	-1.70	-3.48	-0.84
High Yield	-0.33	-0.75	-1.00	-1.69	-1.26	3.30	-0.77
BB	0.15	-0.46	-1.32	-1.50	-3.02	-3.29	-0.57
B	-1.15	-0.91	-0.89	-2.16	-1.36	0.00	-1.07
CCC	0.98	-0.83	3.39	1.69	3.85	6.22	1.25

Source: IHS Markit, part of S&P Global. Data as of Oct. 31, 2023. Index performance based on total return in USD. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

All of the top seven markets by market value in the index posted negative returns in October. The two markets that experienced a rate hike of 25 bps this month, Indonesia (down 1.50%) and the Philippines (down 1.19%), were the worst-performing markets. Spreads across all top seven markets widened—except for Mainland China and Indonesia—and duration across all of them shortened.

Exhibit 3: Top Seven Largest Markets Month-to-Date Performance and Changes

Market	Δ MTD (%)	Δ Yield (%)	Δ Spread (bps)	Δ Duration
Mainland China	-0.47	0.09	-11	-0.05
Hong Kong	-0.68	0.32	8	-0.09
India	-0.69	0.40	19	-0.12
Indonesia	-1.50	0.31	0	-0.18
Singapore	-0.63	0.27	4	-0.16
South Korea	-0.11	0.20	3	-0.06
Philippines	-1.19	0.31	1	-0.16

Source: IHS Markit, part of S&P Global. Data as of Oct. 31, 2023. Index performance based on total return in USD. Δ Yield refers to change in semiannual yield for the month in percent. Δ Spread refers to change in semiannual spread to benchmark curve for the month in bps. Δ Duration refers to change in semiannual modified duration for the month. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Investment grade U.S. dollar bonds from Chinese issuers outperformed the broad Asian USD investment grade market in October by a slight 0.33%. In contrast, losses from Chinese-issued high yield USD bonds more than doubled compared to the broad Asian USD high yield market, coming in at -1.98% and -0.77%, respectively.

Following its failure to pay a coupon payment within the grace period on a U.S. dollar bond, Country Garden was deemed to have defaulted on its obligations and was the worst-performing issuer in the index for the month. With multiple issuers failing to meet their debt payments in the last few months, confidence in China's Real Estate sector further crumbled, and the performance of the segment continued to deteriorate by another 8.27%, reaching a new YTD low of -36.37%. On the bright side, China's local government financing vehicles (LGFVs) climbed 0.29% and remained the best-performing Mainland China segment.

Exhibit 4: Performance of Mainland China and Its Subindices

Index	Index Level	Δ MTD (%)	Δ YTD (%)	Δ 3 Year (%)	Market Value (USD Billions)	Yield (%)	Spread (bps)	Duration (Years)	Number of Bonds
Mainland China	210.68	-0.47	-0.57	-14.13	421	7.31	228	2.80	834
Sovereigns	147.78	-0.55	0.01	-9.63	14	5.13	13	4.65	15
Non-Sovereigns	210.94	-0.47	-0.59	-14.24	407	7.43	240	2.74	819
Sub-Sovereigns	193.85	-0.03	1.92	-3.10	17	5.56	56	2.88	30
Corporates	214.05	-0.49	-0.69	-14.65	390	7.52	248	2.73	789
Financials	243.60	-0.57	-2.80	-20.84	220	9.21	417	1.84	492
Real Estate	118.28	-8.27	-36.37	-66.04	23	26.95	2190	1.95	101
Non-Financials	210.22	-0.38	2.06	-4.83	170	6.48	144	3.89	297
Investment Grade	207.89	-0.31	2.24	-4.95	379	6.58	155	2.94	722
High Yield	182.01	-1.98	-19.77	-43.90	42	19.45	1441	1.55	112
LGFV	131.65	0.29	5.43	7.20	46	7.73	262	1.39	135
Investment Grade	126.46	0.24	5.42	3.82	40	7.40	230	1.42	115
High Yield	147.71	0.59	5.42	20.43	6	10.39	513	1.19	20

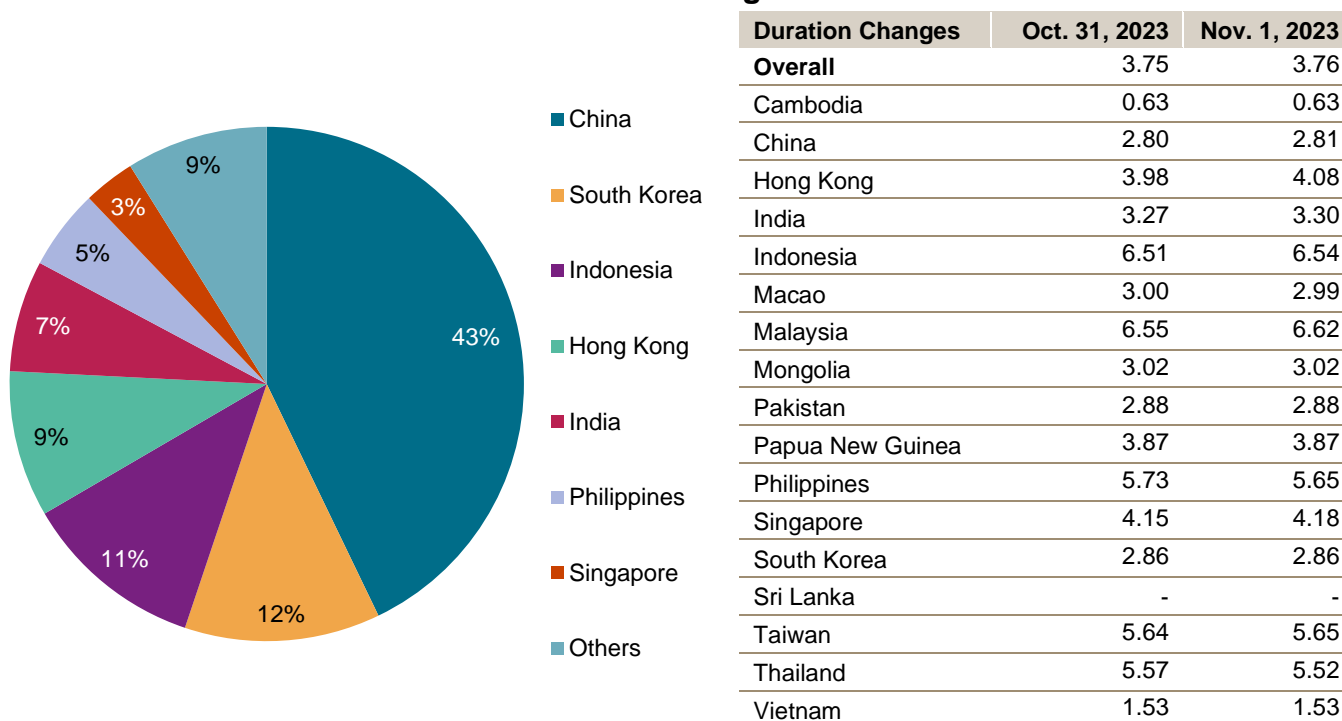
Source: IHS Markit, part of S&P Global. Data as of Oct. 31, 2023. Index performance based on total return in USD. Yield refers to semiannual yield in percent. Spread refers to semiannual spread to benchmark curve in bps. Duration refers to semiannual modified duration. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

October Month-End Rebalance

This rebalance, the iBoxx USD Asia ex-Japan Index added 46 eligible bonds, with USD 30.98 billion of new notional. With an aggregate notional of more than USD 25.22 billion, 43 bonds were removed from the index this month.

Please refer to the Appendix for a breakdown of this month's insertions and deletions and a list of fallen angels and rising stars recognized in 2023.

Exhibit 5: Market Breakdown and Duration Changes of Overall Index Post Rebalance



Source: IHS Markit, part of S&P Global. Data as of Oct. 31, 2023, for the chart (left) and Nov. 1, 2023, for the table (right). Index performance based on total return in USD. Duration refers to semiannual modified duration. Past performance is no guarantee of future results. Chart and table are provided for illustrative purposes.

Post-rebalance, the overall index duration increased slightly from 3.75 to 3.76 years. Since the end of the first quarter of the year, the duration of the overall index has shortened for each of the past seven months, bringing the duration profile of the index from 4.16 to 3.76 years. As of Oct. 31, 2023, China, Indonesia and South Korea remained the top three USD bond markets in the index by market value, each holding a weight greater than 10%.

Appendix

Exhibit 6: Key Analytics of Overall Index and Credit Rating and Maturity Subindices

Index	Index Level	Δ MTD (%)	Market Value (USD Billions)	Yield (%)	Spread (bps)	Duration (Years)	Number of Bonds
Overall	201.41	-0.66	982	6.95	193	3.75	1801
Credit Rating							
AAA	171.68	-1.96	10	5.38	35	7.49	17
AA	179.00	-0.40	117	5.62	64	3.83	203
A	197.18	-0.41	311	6.11	109	3.80	553
BBB	216.20	-0.84	421	6.81	177	4.10	753
BB	236.77	-0.57	80	10.84	585	2.03	154
B	165.19	-1.07	34	15.55	1060	2.08	77
CCC	52.08	1.25	8	40.08	3509	2.11	33
Maturity							
Year 0-1	165.66	0.27	150	13.66	832	0.48	315
Year 1-3	177.20	0.10	366	7.95	285	1.77	705
Year 3-5	204.12	-0.47	186	6.79	194	3.40	315
Year 5-7	216.62	-1.16	92	6.71	182	5.18	165
Year 7-10	212.82	-1.68	77	6.37	145	6.63	130
Year 10+	229.53	-3.56	111	6.50	136	12.10	171

Source: IHS Markit, part of S&P Global. Data as of Oct. 31, 2023. Index performance based on total return in USD. Yield refers to semiannual yield in percent. Spread refers to semiannual spread to benchmark curve in bps. Duration refers to semiannual modified duration. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Exhibit 7: iBoxx USD Asia ex-Japan Overall Index – Insertions

Issue	Market	iBoxx Rating	Notional (USD Millions)
CKHH 4.88% 2033-04-21	HK	A	1,250
CKHH 1.5% 2026-04-15	HK	A	500
CKHH 2.5% 2031-04-15	HK	A	850
CKHH 3.13% 2041-04-15	HK	A	650
CNXC 6.65% 2026-08-02	PH	BBB	800
CNXC 6.6% 2028-08-02	PH	BBB	800
CNXC 6.85% 2033-08-02	PH	BBB	550
DAHSIN 3% 2031-11-02	HK	BBB	300
HYNMTR 4.3% 2024-02-01	KR	BBB	350
HYNMTR 3.4% 2024-06-20	KR	BBB	400
HYNMTR 3.5% 2026-11-02	KR	BBB	700
HYNMTR 2.65% 2025-02-10	KR	BBB	500
HYNMTR 3% 2027-02-10	KR	BBB	500
HYNMTR 5.88% 2025-04-07	KR	BBB	600

Source: IHS Markit, part of S&P Global. Data as of Oct. 31, 2023. Index performance based on total return in USD. Unrated bonds with ratings based on iBoxx implied credit rating methodology are denoted with (*) in the Rating column. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Exhibit 7: iBoxx USD Asia ex-Japan Overall Index – Insertions (cont.)

Issue	Market	iBoxx Rating	Notional (USD Millions)
HYNMTR 6.38% 2030-04-08	KR	BBB	650
HYNMTR 1.8% 2025-10-15	KR	BBB	750
HYNMTR 2.38% 2027-10-15	KR	BBB	650
HYNMTR 0.8% 2024-01-08	KR	BBB	1,200
HYNMTR 1.3% 2026-01-08	KR	BBB	850
HYNMTR 1.8% 2028-01-10	KR	BBB	650
HYNMTR 0.88% 2024-06-14	KR	BBB	1,000
HYNMTR 1.5% 2026-06-15	KR	BBB	850
HYNMTR 2% 2028-06-15	KR	BBB	850
HYNMTR 1% 2024-09-17	KR	BBB	1,200
HYNMTR 1.65% 2026-09-17	KR	BBB	1,000
HYNMTR 2.1% 2028-09-15	KR	BBB	800
HYNMTR 5.6% 2028-03-30	KR	BBB	800
HYNMTR 5.8% 2030-04-01	KR	BBB	500
HYNMTR 5.8% 2025-06-26	KR	BBB	750
HYNMTR 5.65% 2026-06-26	KR	BBB	750
HYNMTR 5.68% 2028-06-26	KR	BBB	1,000
HYNMTR 5.7% 2030-06-26	KR	BBB	500
HYNMTR 6% 2025-07-11	KR	BBB	400
HYNMTR 5.95% 2026-09-21	KR	BBB	700
HYNMTR 6.1% 2028-09-21	KR	BBB	800
HYNMTR 6.2% 2030-09-21	KR	BBB	500
ICBCAS 5.38% 2026-10-25	CN	A	500
INDKOR 5.38% 2028-10-04	KR	AA	600
JINLIX 7.3% 2026-10-26	CN	A*	300
JNHITE 7.4% 2026-10-27	CN	BBB	280
KDB 5.38% 2026-10-23	KR	AA	700
KDB 5.38% 2028-10-23	KR	AA	500
KDB 5.63% 2033-10-23	KR	AA	500
KEBHNB 5.75% 2028-10-24	KR	A	500
KOLAHO 5.75% 2025-10-06	KR	AA	700
MEDCIJ 8.96% 2029-04-27	ID	B	500

Source: IHS Markit, part of S&P Global. Data as of Oct. 31, 2023. Index performance based on total return in USD. Unrated bonds with ratings based on iBoxx implied credit rating methodology are denoted with (*) in the Rating column. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Exhibit 8: iBoxx USD Asia ex-Japan Overall Index – Deletions

Issue	Market	iBoxx Rating	Notional (USD Millions)
AACTEC 2.63% 2026-06-02	CN	BBB	253
AGRBK 1% 2023-10-22	CN	A	500
BBLTB 5% 2023-10-03	TH	BBB	500
CHGRAU 9.12% 1900-01-00	CN	CC	261
CHINA 0.4% 2023-10-21	CN	A	1,250
CHINA 3.25% 2023-10-19	CN	A	1,500
CHINEV 3.8% 1900-01-00	CN	BBB	300
CHINSC 7.38% 2024-04-09	CN	CCC	500
CHINSC 7% 2025-05-02	CN	CCC	500
CHINSC 6% 2026-02-04	CN	CCC	350
CHIOLI 5.38% 2023-10-29	CN	BBB	500
CHLEAS 3.75% 2023-10-22	TW	BBB	300
CMHI 3.5% 1900-01-00	CN	BBB	600
CNOOC 4.5% 2023-10-03	CN	A	1,300
COGARD 5.63% 2026-12-15	CN	C	324
COGARD 5.13% 2025-01-17	CN	CCC	750
COGARD 6.5% 2024-04-08	CN	BB	550
COGARD 7.25% 2026-04-08	CN	BB	1,345
COGARD 5.13% 2027-01-14	CN	BB	550
COGARD 5.63% 2030-01-14	CN	BB	450
COGARD 5.4% 2025-05-27	CN	BB	544
COGARD 4.2% 2026-02-06	CN	CC	500
COGARD 4.8% 2030-08-06	CN	CC	500
COGARD 3.13% 2025-10-22	CN	C	1,000
COGARD 3.88% 2030-10-22	CN	C	500
COGARD 2.7% 2026-07-12	CN	C	700
COGARD 3.3% 2031-01-12	CN	C	700
CTIH 6% 2023-10-18	CN	BBB	400
DBMMN 7.25% 2023-10-23	MN	B	351
HRINTH 3.63% 2030-09-30	CN	BBB	277
INDON 5.38% 2023-10-17	ID	BBB	746
JXCCMZ 2.6% 2023-10-29	CN	BBB	300

Source: IHS Markit, part of S&P Global. Data as of Oct. 31, 2023. Index performance based on total return in USD. Unrated bonds with ratings that are based on iBoxx implied credit rating methodology are denoted with (*) in the Rating column. Bonds that were either called, exchanged, redeemed or repurchased (either partially or as a whole) are denoted with (^) in the Issue column. Bonds that were traded flat of accrued interest or are given a rating of D by rating agencies are denoted with (†) in the Issue column. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Exhibit 8: iBoxx USD Asia ex-Japan Overall Index – Deletions (cont.)

Issue	Market	iBoxx Rating	Notional (USD Millions)
KDB 0.5% 2023-10-27	KR	AA	500
PTTGC 5.2% 2052-03-30	TH	BBB	270
SHARAO 4.38% 2023-10-21	CN	BB	300
SINOCH 3% 1900-01-00	CN	BBB	500
SINOPE 4.38% 2023-10-17	CN	A	1,500
SPICLE 4.65% 2023-10-30	CN	A	500
SWIRE 4.5% 2023-10-09	HK	A	700
TZCONS 2.65% 2023-10-22	CN	BBB	500
UMQHTH 4.75% 2023-10-23	CN	BB	300
UOBSP 3.88% 1900-01-00	SG	BBB	650
YUEXIU 5.38% 2023-10-19	CN	BBB	400

Source: IHS Markit, part of S&P Global. Data as of Oct. 31, 2023. Index performance based on total return in USD. Unrated bonds with ratings that are based on iBoxx implied credit rating methodology are denoted with (*) in the Rating column. Bonds that were either called, exchanged, redeemed or repurchased (either partially or as a whole) are denoted with (^) in the Issue column. Bonds that were traded flat of accrued interest or are given a rating of D by rating agencies are denoted with (†) in the Issue column. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Exhibit 9a: Fallen Angels in the iBoxx USD Asia ex-Japan Overall Index in 2023

Rebalance	Issue	Market	Past iBoxx Rating	Current iBoxx Rating
Oct. 31, 2023	DFINVH 7% 2025-09-28	CN	BBB*	BB*
Oct. 31, 2023	GLPSP 3.875% 2025-06-04	CN	BBB	BB
Oct. 31, 2023	PINGRE 3.25% 2025-06-23	CN	BBB	BB
Oct. 31, 2023	PINGRE 2.75% 2024-07-29	CN	BBB	BB
Oct. 31, 2023	PINGRE 3.45% 2026-07-29	CN	BBB	BB
Sept. 30, 2023	SUNHKC 5.75% 2024-11-15	HK	BBB*	BB*
Sept. 30, 2023	SUNHKC 5% 2026-09-07	HK	BBB*	BB*
Aug. 31, 2023	FAEACO 7.375%	HK	BBB*	BB*
Aug. 31, 2023	FWDGHD 5.75% 2024-07-09	HK	BBB*	BB
Aug. 31, 2023	JMUDIV 4.9% 2025-07-29	CN	BBB	BB
Aug. 31, 2023	KMRLGP 8.5% 2025-12-07	CN	BBB	BB
Aug. 31, 2023	NWDEVL 6.25%	HK	BBB*	BB*
Aug. 31, 2023	NWDEVL 4.125% 2029-07-18	HK	BBB*	BB*
June 30, 2023	SMCPM 5.5%	PH	BBB*	BB*
May 31, 2023	YXREIT 2.65% 2026-02-02	CN	BBB	BB
April 30, 2023	QDJZWD 3.2 2025-3-3	CN	BBB	BB
April 30, 2023	QDJZWD 4.9 2025-6-16	CN	BBB	BB
April 30, 2023	WFURCD 2.6 2024-9-27	CN	BBB	BB
March 31, 2023	MINMET 4.95 2026-7-22	CN	BBB*	BB*
Feb. 28, 2023	TSIVMG 1.55% 2029-12-17	CN	BBB*	BB*
Jan. 31, 2023	CFGSP 10% 2032-11-07	HK	BBB*	BB*
Jan. 31, 2023	FWDGRP 6.375%	HK	BBB*	BB*
Jan. 31, 2023	ACNRGY 4.75% 2024-01-29	PH	A*	BB*
Jan. 31, 2023	ACNRGY 5.1%	PH	BBB*	BB*
Jan. 31, 2023	ACPM 5.125%	PH	BBB*	BB*
Jan. 31, 2023	ACPM 4.85%	PH	BBB*	BB*
Jan. 31, 2023	ACPM 3.9%	PH	BBB*	BB*

Source: IHS Markit, part of S&P Global. Data as of Oct. 31, 2023. Index performance based on total return in USD. Unrated bonds with ratings based on iBoxx implied credit rating methodology are denoted with (*) in the Rating column. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Exhibit 9b: Rising Stars in the iBoxx USD Asia ex-Japan Overall Index in 2023

Rebalance	Issue	Market	Past iBoxx Rating	Current iBoxx Rating
Oct. 31, 2023	TATAIN 5.95% 2024-07-31	IN	BB	BBB
Aug. 31, 2023	FWDGHD 6.375%	HK	BB*	BBB
July 31, 2023	NWDEVL 6.15%	HK	BB*	BBB*
April 30, 2023	XIANGY 5.7 2025-9-23	CN	BB*	BBB*
Jan. 31, 2023	HACOMM 5.5% 2025-07-15	CN	BB*	BBB*
Jan. 31, 2023	BOBIN 3.875% 2024-04-04	IN	BB	BBB
Jan. 31, 2023	CBKIN 3.875% 2024-03-28	IN	BB	BBB

Source: IHS Markit, part of S&P Global. Data as of Oct. 31, 2023. Index performance based on total return in USD. Unrated bonds with ratings based on iBoxx implied credit rating methodology are denoted with (*) in the Rating column. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Exhibit 9c: Bonds Excluded from the iBoxx USD Asia ex-Japan Overall Index Due to U.S. Executive Order 13959

Rebalance	Issuer	Market	ISIN	Notional (USD Millions)
Jan. 31, 2021	Semiconductor Manufacturing International Corp	CN	XS2101828452	600
July 31, 2021	Proven Glory Capital Ltd	CN	XS1567423766	500
July 31, 2021	Proven Honour Capital Limited	CN	XS1233275194	1,000
July 31, 2021	Proven Honour Capital Limited	CN	XS1401816761	2,000

Source: IHS Markit, part of S&P Global. Data as of Oct. 31, 2023. Index performance based on total return in USD. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

General Disclaimer

© 2023 S&P Dow Jones Indices. All rights reserved. S&P, S&P 500, SPX, SPY, The 500, US500, US 30, S&P 100, S&P COMPOSITE 1500, S&P 400, S&P MIDCAP 400, S&P 600, S&P SMALLCAP 600, S&P GIVI, GLOBAL TITANS, DIVIDEND ARISTOCRATS, Select Sector, S&P MAESTRO, S&P PRISM, S&P STRIDE, GICS, SPIVA, SPDR, INDEXOLOGY, iTraxx, iBoxx, ABX, ADBI, CDX, CMBX, LCDX, MBX, MCDX, PRIMEX, TABX, HHPI, IRXX, I-SYND, SOVX, CRITS, CRITR are registered trademarks of S&P Global, Inc. ("S&P Global") or its affiliates. DOW JONES, DJIA, THE DOW and DOW JONES INDUSTRIAL AVERAGE are trademarks of Dow Jones Trademark Holdings LLC ("Dow Jones"). These trademarks together with others have been licensed to S&P Dow Jones Indices LLC. Redistribution or reproduction in whole or in part are prohibited without written permission of S&P Dow Jones Indices LLC. This document does not constitute an offer of services or jurisdictions where S&P Dow Jones Indices LLC, S&P Global, Dow Jones or their respective affiliates (collectively "S&P Dow Jones Indices") do not have the necessary licenses. Except for certain custom index calculation services, all information provided by S&P Dow Jones Indices is impersonal and not tailored to the needs of any person, entity or group of persons. S&P Dow Jones Indices receives compensation in connection with licensing its indices to third parties and providing custom calculation services. Past performance of an index is not an indication or guarantee of future results.

It is not possible to invest directly in an index. Exposure to an asset class represented by an index may be available through investable instruments based on that index. S&P Dow Jones Indices does not sponsor, endorse, sell, promote or manage any investment fund or other investment vehicle that is offered by third parties and that seeks to provide an investment return based on the performance of any index. S&P Dow Jones Indices makes no assurance that investment products based on the index will accurately track index performance or provide positive investment returns. S&P Dow Jones Indices LLC is not an investment advisor, and S&P Dow Jones Indices makes no representation regarding the advisability of investing in any such investment fund or other investment vehicle. A decision to invest in any such investment fund or other investment vehicle should not be made in reliance on any of the statements set forth in this document. S&P Dow Jones Indices is not an investment adviser, commodity trading advisor, commodity pool operator, broker dealer, fiduciary, promoter" (as defined in the Investment Company Act of 1940, as amended), "expert" as enumerated within 15 U.S.C. § 77k(a) or tax advisor. Inclusion of a security, commodity, crypto currency or other asset within an index is not a recommendation by S&P Dow Jones Indices to buy, sell, or hold such security, commodity, crypto currency or other asset, nor is it considered to be investment advice or commodity trading advice.

These materials have been prepared solely for informational purposes based upon information generally available to the public and from sources believed to be reliable. No content contained in these materials (including index data, ratings, credit-related analyses and data, research, valuations, model, software or other application or output therefrom) or any part thereof ("Content") may be modified, reverse-engineered, reproduced or distributed in any form or by any means, or stored in a database or retrieval system, without the prior written permission of S&P Dow Jones Indices. The Content shall not be used for any unlawful or unauthorized purposes. S&P Dow Jones Indices and its third-party data providers and licensors (collectively "S&P Dow Jones Indices Parties") do not guarantee the accuracy, completeness, timeliness or availability of the Content. S&P Dow Jones Indices Parties are not responsible for any errors or omissions, regardless of the cause, for the results obtained from the use of the Content. THE CONTENT IS PROVIDED ON AN "AS IS" BASIS. S&P DOW JONES INDICES PARTIES DISCLAIM ANY AND ALL EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE, FREEDOM FROM BUGS, SOFTWARE ERRORS OR DEFECTS, THAT THE CONTENT'S FUNCTIONING WILL BE UNINTERRUPTED OR THAT THE CONTENT WILL OPERATE WITH ANY SOFTWARE OR HARDWARE CONFIGURATION. In no event shall S&P Dow Jones Indices Parties be liable to any party for any direct, indirect, incidental, exemplary, compensatory, punitive, special or consequential damages, costs, expenses, legal fees, or losses (including, without limitation, lost income or lost profits and opportunity costs) in connection with any use of the Content even if advised of the possibility of such damages.

S&P Global keeps certain activities of its various divisions and business units separate from each other in order to preserve the independence and objectivity of their respective activities. As a result, certain divisions and business units of S&P Global may have information that is not available to other business units. S&P Global has established policies and procedures to maintain the confidentiality of certain non-public information received in connection with each analytical process.

In addition, S&P Dow Jones Indices provides a wide range of services to, or relating to, many organizations, including issuers of securities, investment advisers, broker-dealers, investment banks, other financial institutions and financial intermediaries, and accordingly may receive fees or other economic benefits from those organizations, including organizations whose securities or services they may recommend, rate, include in model portfolios, evaluate or otherwise address.