

EM WEEKLY FUND FLOWS MONITOR

Another week of large foreign outflows, led by Korea; Domestic retail continues to support the North Asia rally; EM mutual funds added China, and trimmed Korea/Taiwan in April

Foreign (FII) flows / positioning

- EM Asia ex-China markets saw FII outflows of US\$9.4bn w/w, driven by Korea (-US\$8.7bn) and India (-US\$0.4bn). Taiwan (+US\$0.1bn) saw modest inflows w/w.
- Non-Asia EMs saw selling of US\$550mn w/w, led by Brazil (-US\$360mn).

HK/China Connect, Domestic retail flows

- Southbound saw US\$1.7bn outflows w/w (Ytd: +US\$35bn).
- Korea (+US\$4.7bn) saw retail buying while Taiwan (-US\$1.1bn) saw retail selling this week. Ytd, Asian markets have seen US\$31bn retail inflows.

Global Equity mutual fund flows

- **Global flows:** Equity funds globally saw inflows of US\$2bn w/w (vs. US\$21bn inflows last week). In DM, US funds saw net buying of US\$9.5bn. Europe (-US\$2.3bn) and Japan (-US\$4.4bn) saw selling w/w.
- **EM:** GEM focused funds saw outflows of US\$0.7bn w/w. Ytd, GEM funds have seen about US\$56bn of inflows.

Focus: Retail Flows; Mutual Fund Positioning

- **Domestic Retail Supports the North Asia Equity**

Rally: North Asia's outperformance YTD has been increasingly underpinned by strong domestic retail participation, with local investors absorbing sustained foreign selling. Foreign investors have been strong net sellers in Korea and Taiwan, but outflows have been concentrated in benchmark mega caps. Domestic retail has absorbed foreign supply across cash equities, ETFs and derivatives. Our Asia Retail Favorites basket (GSSZRFV) has outperformed equal-weighted MXASJ YTD, though lagged the cap-weighted benchmark amid large-cap leadership.

- **Mutual Fund:** Based on prelim. April EPFR data (~50% of total AUM reported), EM funds are most OW Brazil/Mexico, and most UW Taiwan/India. Over the past 1 and 3 months, EM funds have raised exposure the most in China/India, and trimmed exposure in Korea/Taiwan. Sectorally, Korea and Taiwan Tech H/W & Semis saw the biggest cut over the past month.

Sunil Koul

+44(20)7051-4931 | sunil.koul@gs.com
Goldman Sachs International

Mark Hung

+852-3465-4266 | mark.hung@gs.com
Goldman Sachs (Asia) L.L.C.

Timothy Moe, CFA

+65-6889-1199 | timothy.moe@gs.com
Goldman Sachs (Singapore) Pte

Alvin So, CFA

+852-2978-1585 | alvin.so@gs.com
Goldman Sachs (Asia) L.L.C.

Si Fu, Ph.D.

+852-2978-0200 | si.fu@gs.com
Goldman Sachs (Asia) L.L.C.

Kinger Lau, CFA

+852-2978-1224 | kinger.lau@gs.com
Goldman Sachs (Asia) L.L.C.

John Kwon

+65-6654-6337 |
jongmin.kwon@gs.com
Goldman Sachs (Singapore) Pte

Amorita Goel, CFA

+65-6654-5445 | amorita.goel@gs.com
Goldman Sachs (Singapore) Pte

Tarun Lalwani, CFA

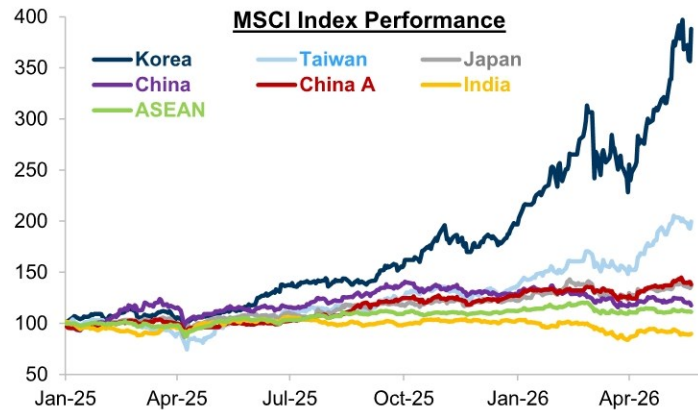
+1(212)934-5821 |
tarun.lalwani@gs.com
Goldman Sachs India SPL

Mambuna Njie

+44(20)7051-7705 |
mambuna.njie@gs.com
Goldman Sachs International

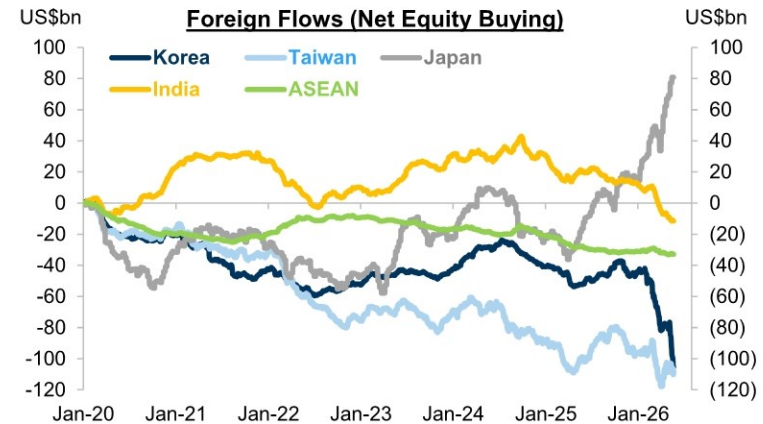
Focus: Domestic Retail Supports the North Asia Equity Rally

Exhibit 1: North Asian markets have rallied strongly YTD, particularly Korea (+97%) and Taiwan (+47%), versus declines in India (-13%) and ASEAN (-1%)



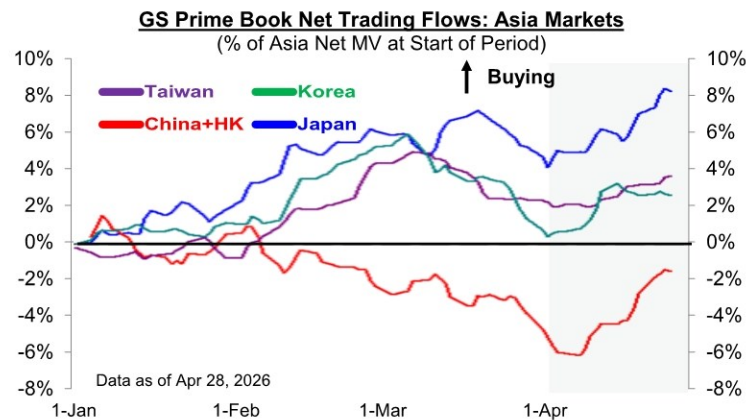
Source: FactSet, MSCI, Goldman Sachs Global Investment Research

Exhibit 2: Despite the rally, most Asian markets have seen foreign outflows YTD (Korea -US\$62bn, Taiwan -US\$9bn, India -US\$23bn, ASEAN -US\$2bn), with Japan the notable exception (+US\$65bn)



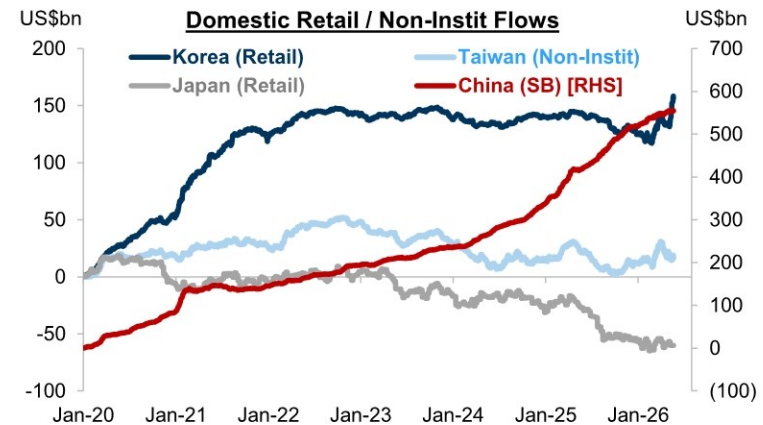
Source: Bloomberg, Goldman Sachs Global Investment Research

Exhibit 3: GS Prime Services data show hedge funds have increased net exposure notably in Japan, and moderately in Taiwan and Korea, suggesting recent foreign selling has been driven primarily by long-only investors



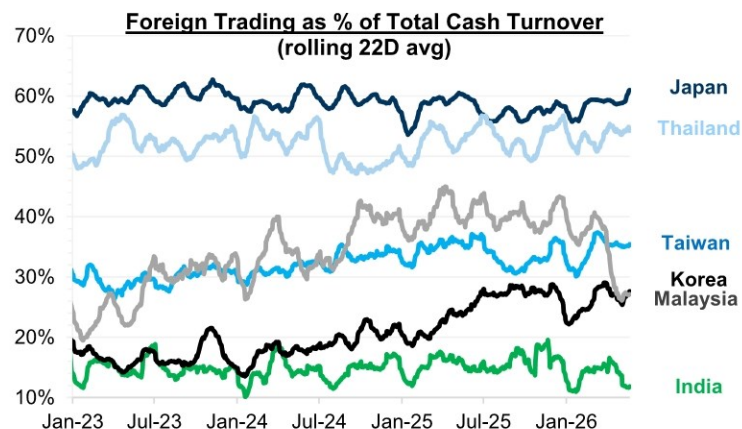
Source: Goldman Sachs FICC and Equities and Prime Services

Exhibit 4: Domestic retail investors have increasingly supported markets amid foreign outflows, with net buying in Korea (+US\$35bn since late February) and Taiwan (+US\$14bn since early October)



Source: Bloomberg, Wind, Goldman Sachs Global Investment Research

Exhibit 5: Foreign investors have become increasingly active in trading across North Asian markets, particularly in Korea...



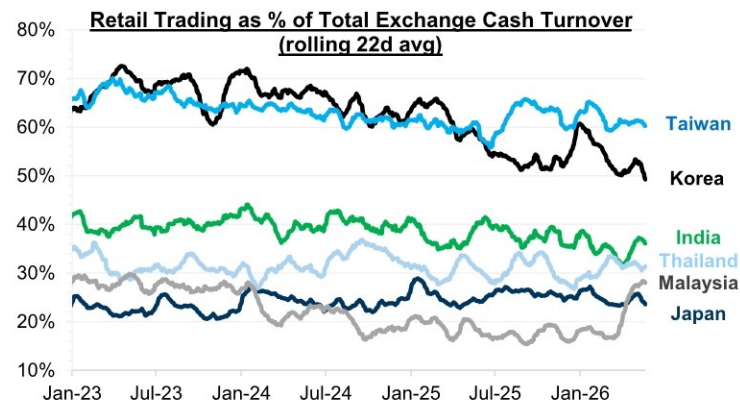
Source: Bloomberg, Local Stock Exchanges, Goldman Sachs Global Investment Research

Exhibit 7: A composite score based on multiple retail trading indicators suggests heightened retail activity across North Asia



Source: Bloomberg, Goldman Sachs Global Investment Research

Exhibit 6: ...while retail trading share has risen across Asian markets since mid-March, following market volatility linked to Middle East conflicts



Source: Bloomberg, Local Stock Exchanges, Goldman Sachs Global Investment Research

Exhibit 8: Our Asia Retail "Favorites" basket has outperformed the equal-weighted MXASJ index YTD, but has moderately underperformed the cap-weighted benchmark due to strong large-cap outperformance



Source: FactSet, Goldman Sachs Global Investment Research

For details, please see [Domestic Retail Supports the North Asia Equity Rally](#).

Focus: Preliminary Mutual Fund Positioning (April 2026)

Exhibit 9: Based on preliminary EPFR data (~50% of total AUM reported), Asian funds are most OW China/Hong Kong and Singapore, and most UW Taiwan and India. In April, Asian funds raised exposure in China and Taiwan, while trimmed exposure in Korea and Hong Kong (vs. benchmark)

AEJ funds (US\$90 bn - Active Fund Only)				
Market	OW/UW allocation (in bp)	Market	1-mth chg	3-mth chg
China	220	China	100	170
Singapore	210	Taiwan	55	15
Hong Kong	195	India	25	(30)
Indonesia	80	Malaysia	10	20
Thailand	65	Philippines	(15)	(20)
Philippines	10	Indonesia	(15)	(50)
Malaysia	-60	Thailand	(20)	(5)
Korea	-135	Singapore	(25)	(20)
India	-345	Hong Kong	(30)	(25)
Taiwan	-445	Korea	(55)	(110)

Note: The allocation of AEJ mandate only includes active funds, as of Apr '26

Source: EPFR, Goldman Sachs Global Investment Research

Exhibit 10: EM funds are most OW Brazil/Mexico, and most UW Taiwan/India. Over the past 1 and 3 months, EM funds have raised exposure the most in China and India, and trimmed exposure in Korea and Taiwan

EM funds (US\$205 bn - Active Fund Only)				
Market	OW/UW allocation (in bp)	Market	1-mth chg	3-mth chg
Brazil	320	China	100	140
Mexico	75	India	25	25
Hungary	30	Saudi Arabia	25	15
Turkey	30	South Africa	10	15
Indonesia	20	United Arab E	5	(5)
China	-115	Thailand	(10)	(10)
Korea	-140	Brazil	(15)	15
Saudi Arabia	-140	Indonesia	(15)	(5)
India	-240	Taiwan	(55)	(85)
Taiwan	-395	Korea	(65)	(90)

Note: The allocation of GEM mandates only include active funds, as of Apr '26

Source: EPFR, Goldman Sachs Global Investment Research

Exhibit 11: Sectorally, funds are most OW China Industrials and HK Insur./Other Fins, while most UW China Banks and Taiwan Tech H/W & Semis. The largest allocation increase (vs. benchmark) was China Banks and Tech H/W & Semis, while HK Insur./Other Fins and Indonesia Banks saw the biggest cut in April

Mutual Fund Positioning - Top 5 Market Sector in Asia / EM				
Market Sector	OW/UW (vs. benchmark, bp)	Market Sector	1-mth chg	3-mth chg
China Industrial	175	China Banks	20	5
Hong Kong Insur./Other Fins	90	China Tech H/w & Semis	15	10
Brazil Energy	40	Korea Industrial	15	10
Brazil Insur./Other Fins	40	Taiwan Banks	10	5
Hong Kong Industrial	40	Brazil Metals & Mining	10	10
Taiwan Insur./Other Fins	-55	Peru Banks	-5	-10
China Tech H/w & Semis	-60	China Industrial	-10	25
Taiwan Banks	-75	Taiwan Tech H/w & Semis	-10	-15
China Banks	-155	Indonesia Banks	-10	-15
Taiwan Tech H/w & Semis	-160	Hong Kong Insur./Other Fins	-10	-5

Note: Fund positioning is based on the top 350 AEJ/EM active funds (as of Apr' 26) and is subject to revision with new funds reporting

Source: FactSet, Goldman Sachs Global Investment Research

GEM Flows Recap

Exhibit 12: Foreign investors have net sold US\$40bn in EM ex-China recently, after buying US\$19bn since the April trough



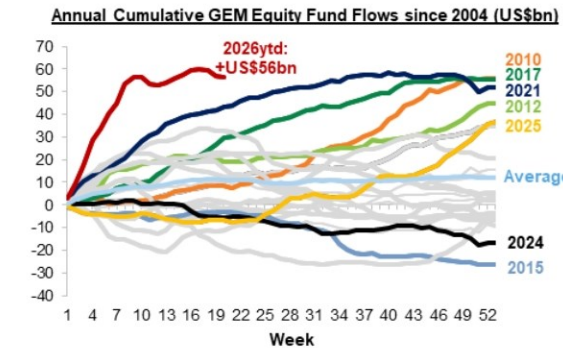
Source: Bloomberg, Goldman Sachs Global Investment Research

Exhibit 15: Adding market mandates, EM funds saw total outflows of US\$68bn over the past 8 weeks, caused by China (-US\$79bn) but offset by Taiwan (+US\$5bn)

EM Equity Fund Flows over the past 8 weeks (US\$bn)									
	1-Apr	8-Apr	15-Apr	22-Apr	29-Apr	6-May	13-May	20-May	8wk Sum
Taiwan	1.7	0.0	-0.5	1.0	0.8	0.5	0.1	1.7	5.3
GEM	1.1	2.1	1.4	2.1	0.6	-0.5	-2.6	-0.7	3.4
Latam	0.0	0.4	2.0	0.6	0.3	0.0	0.6	-1.1	2.9
Korea	2.7	2.5	-2.5	-1.2	0.4	-1.6	-0.4	3.0	2.9
EMEA	-0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	-0.1
ASEAN-4	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	-0.2
India	-0.6	-1.0	-0.3	-0.2	-0.2	-0.3	0.0	0.0	-2.5
China	-6.3	-0.5	-10.8	-8.8	-11.4	-9.8	-22.2	-9.7	-79.4
EM Markets	-1.6	3.6	-10.5	-6.4	-9.5	-11.7	-24.6	-7.0	-67.7

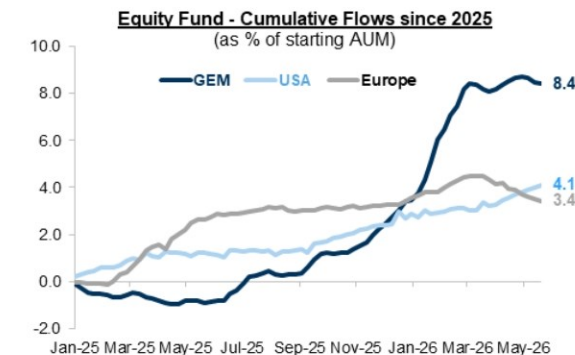
Source: EPFR, Goldman Sachs Global Investment Research

Exhibit 13: GEM funds marked the fastest annual pace of buying over the past two decades



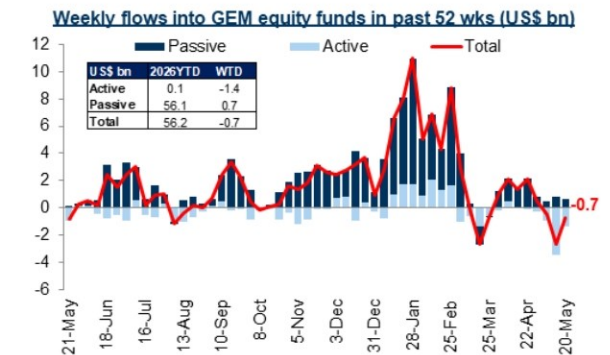
Source: EPFR, Goldman Sachs Global Investment Research

Exhibit 16: GEM and US funds have received strong inflows since 2025, while flows into Europe-focused funds have moderated recently



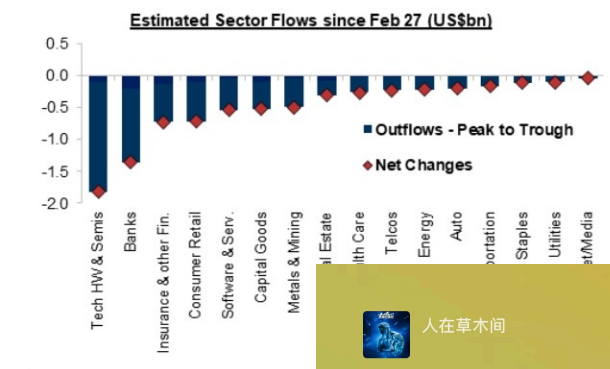
Source: EPFR

Exhibit 14: GEM equity funds flows (active vs passive)



Source: EPFR

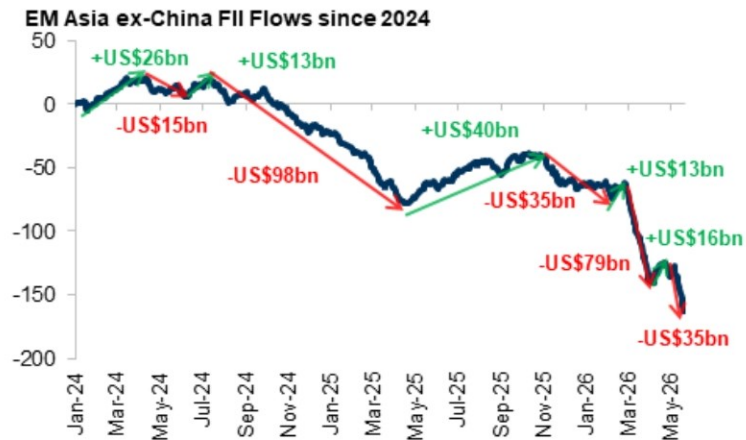
Exhibit 17: On sector flows data, Tech HW & Semis and Banks have seen the largest outflows among GEM/AEJ funds since Feb 27



Source: EPFR, Goldman Sachs Global Investment Research

Regional Flows Recap

Exhibit 18: Foreign investors have net sold US\$35bn in EM Asia ex-China recently, after buying US\$16bn since the March trough



Source: Bloomberg, Goldman Sachs Global Investment Research

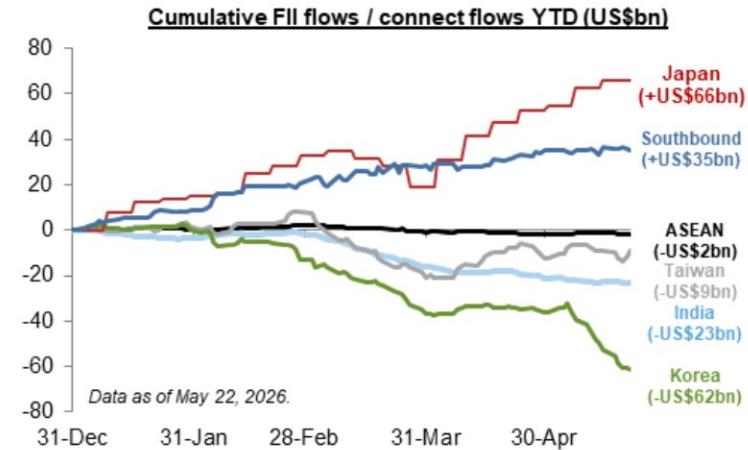
Exhibit 20: EM Asia ex-China markets saw FII outflows of US\$9.4bn w/w, driven by Korea (-US\$8.7bn) and India (-US\$0.4bn). Taiwan (+US\$0.1bn) saw modest inflows w/w.

FII Flows (US\$bn)							
Markets	2026 YTD	Jan	Feb	Mar	Apr	May	WTD
Japan	66.2	14.9	18.3	(14.3)	33.6	13.7	-
India	(23.2)	(3.3)	1.7	(14.2)	(5.2)	(2.2)	(0.4)
Korea	(61.6)	0.4	(13.7)	(23.7)	0.6	(25.2)	(8.7)
Taiwan	(9.1)	1.8	6.2	(28.7)	8.4	3.2	0.1
Philippines	(0.1)	0.2	0.1	(0.2)	(0.2)	(0.0)	(0.0)
Indonesia	(2.4)	(0.6)	0.0	(1.4)	(1.0)	0.5	(0.0)
Thailand	0.7	0.1	1.7	(1.2)	(0.1)	0.1	(0.1)
Malaysia	0.1	0.3	0.0	(0.0)	0.1	(0.3)	(0.2)
EM Asia ex China	(95.6)	(1.0)	(3.9)	(69.5)	2.6	(23.9)	(9.4)
H-shares (SB)	35.0	8.8	11.6	7.9	7.2	(0.6)	(1.7)

Southbound Connect flows are Mainland investors buying HK-listed shares, i.e., more domestic than FII flows

Source: Bloomberg, FactSet, HKEX, Goldman Sachs Global Investment Research

Exhibit 19: Within Asia, Japan saw the most buying (+US\$66bn) since 2026, followed by Southbound (+US\$35bn). Korea (-US\$62bn) has led the FII selling



Source: Bloomberg, Goldman Sachs Global Investment Research

Exhibit 21: EM Asia ex-China markets saw FII outflows of US\$95.6bn in 2026

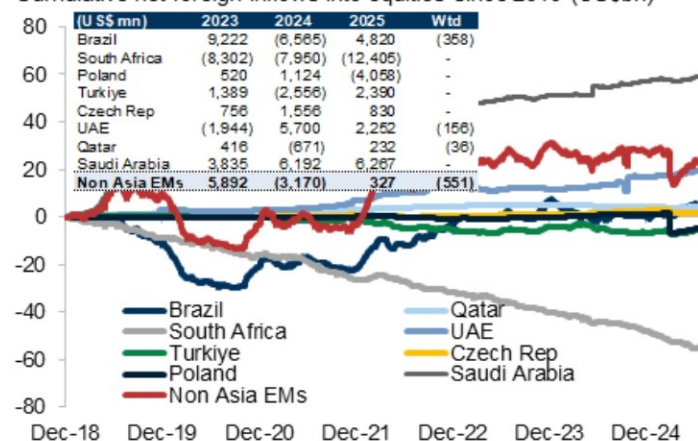
FII flows (US\$ bn)						
Markets	2021	2022	2023	2024	2025	2026YTD
India	23.4	3.8	21.4	(0.8)	(18.8)	(23.2)
Korea	(20.1)	(22.8)	10.1	1.7	(3.9)	(61.6)
Taiwan	(16.0)	(15.3)	6.5	(19.7)	(7.6)	(9.1)
Philippines	(2.5)	(0.0)	(0.9)	(0.4)	(0.9)	(0.1)
Indonesia	(3.2)	2.7	(0.3)	1.4	(1.1)	(2.4)
Thailand	(8.3)	(1.6)	(5.5)	(4.4)	(3.2)	0.7
Malaysia	(5.8)	(0.8)	(0.5)	(0.9)	(5.2)	0.1
ASEAN	(19.8)	0.3	(7.3)	(4.3)	(10.3)	(1.8)
Japan	(31.4)	3.7	23.4	0.7	36.9	66.2
EM Asia ex CN	(32.5)	(34.1)	30.8	(23.0)	(40.6)	(95.6)

Source: Bloomberg, FactSet, MSCI, Respective Local Stock Exchanges

Foreign Institutional Investors (FII) Flows

Exhibit 22: Non-Asia EMs saw selling of US\$550mn wow, led by Brazil (-US\$360mn)

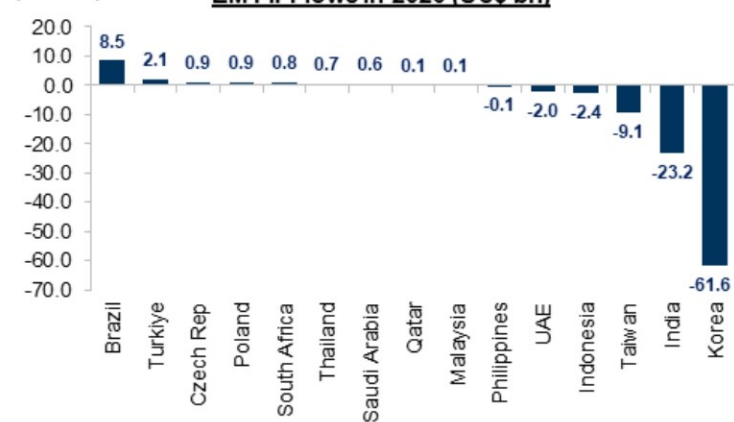
Cumulative net foreign inflows into equities since 2019 (US\$bn)



Source: Bloomberg, Respective Local Stock Exchanges

Exhibit 24: Among EM markets, Brazil (+US\$9bn) has seen the most foreign buying in 2026, while Korea (-US\$62bn) has seen the most selling

(US\$ bn) **EM FII Flows in 2026 (US\$ bn)**



Source: Bloomberg, Respective Local Stock Exchanges

Exhibit 23: In 2026, we have seen FII inflows of US\$11.8bn in Non-Asia EM markets, driven by Brazil (+US\$8.5bn) and Turkiye (+US\$2.1bn)

FII flows (US\$ bn) - Non-Asia EMs						
Markets	2021	2022	2023	2024	2025	2026YTD
LatAM						
Brazil	(9.7)	(1.2)	9.2	(6.6)	4.8	8.5
EMEA						
South Africa	(7.4)	(10.3)	(8.3)	(7.9)	(12.4)	0.8
Poland	(0.4)	0.5	0.5	1.1	(4.1)	0.9
Turkiye	(0.2)	(1.4)	1.4	(2.6)	2.4	2.1
Czech Rep	0.2	0.0	0.8	1.6	0.8	0.9
UAE	(0.4)	4.0	(1.9)	5.7	2.3	(2.0)
Qatar	0.2	1.6	0.4	(0.7)	0.2	0.1
Saudi Arabia	5.3	6.5	3.8	6.2	6.3	0.6
Non Asia EMs	(12.5)	(0.4)	5.9	(3.2)	0.3	11.8

Source: Bloomberg, Respective Local Stock Exchanges

Exhibit 25: Over the past month, EM Asia ex China, Latam and CEEMA saw outflows

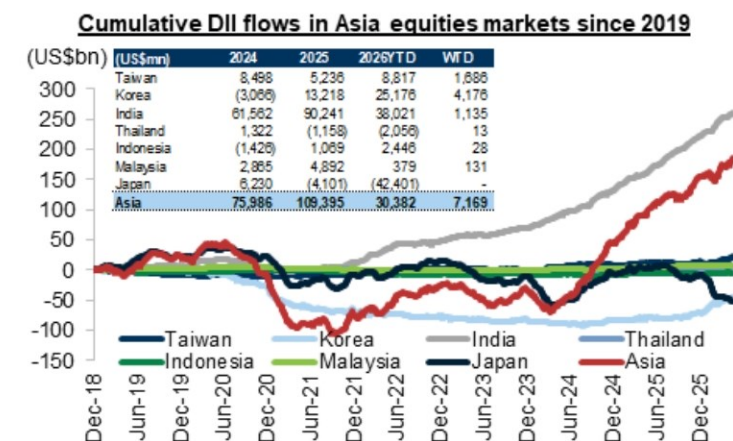
Cumulative net foreign inflows into equities since 2024 (US\$bn)



Source: Bloomberg, Respective Local Stock Exchanges

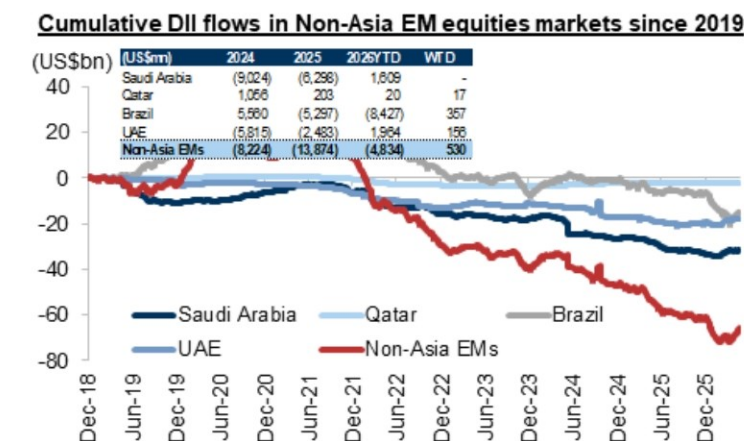
Domestic Institutional Investors (DII) Flows

Exhibit 26: Asia markets saw DII inflows of US\$7.2bn this week, driven by Korea (+US\$4.2bn) and Taiwan (+US\$1.7bn)



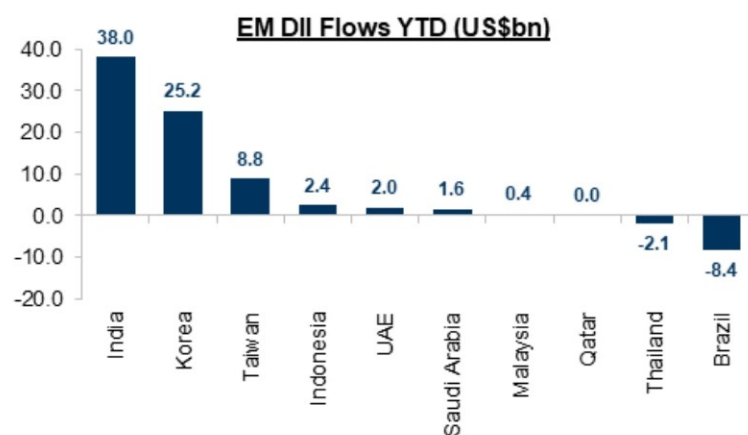
Source: Bloomberg, Respective Local Stock Exchanges

Exhibit 27: Non-Asia EM markets saw US\$530mn DII inflows this week, driven by Brazil (+US\$360mn)



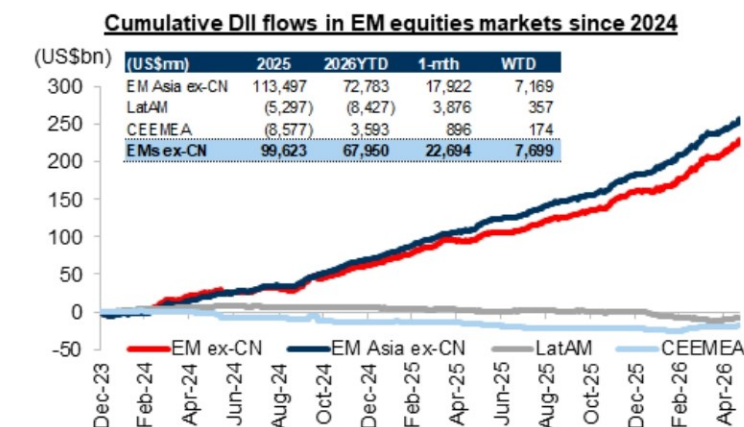
Source: Bloomberg, Respective Local Stock Exchanges

Exhibit 28: India (+US\$38bn) has seen the most DII buying in 2026



Source: Bloomberg, Respective Local Stock Exchanges

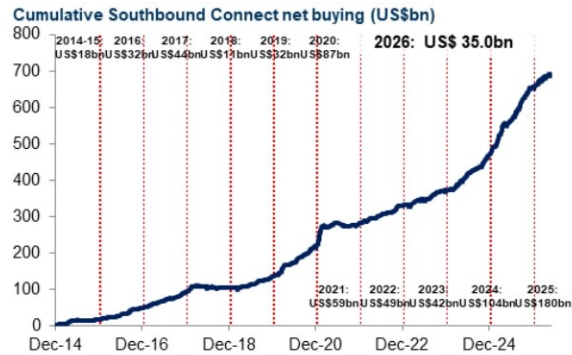
Exhibit 29: DII Flows into local equities market by geographic regions in 2026



Source: Bloomberg, Respective Local Stock Exchanges

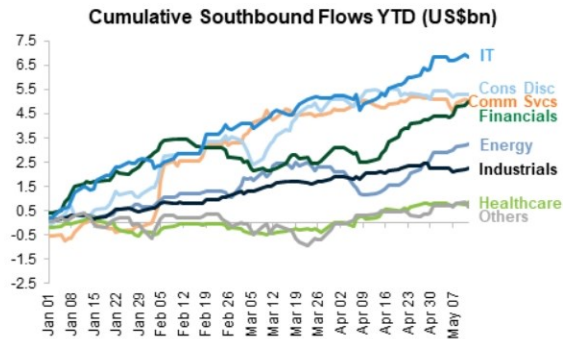
Stock Connect: Southbound Flows

Exhibit 30: Cumulative Southbound flows since inception in late 2014



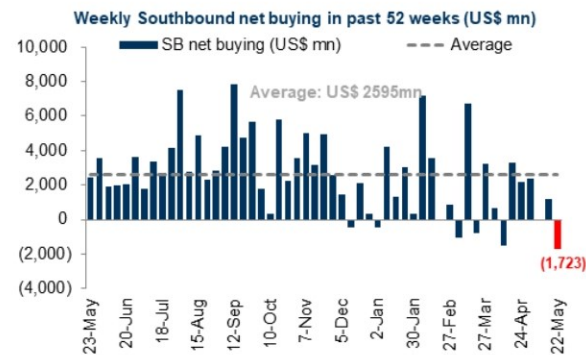
Source: HKEX, Wind

Exhibit 33: Cumulative Southbound flows YTD



Source: Wind

Exhibit 31: Weekly Southbound net buying in past 52 weeks



Source: HKEX, Wind

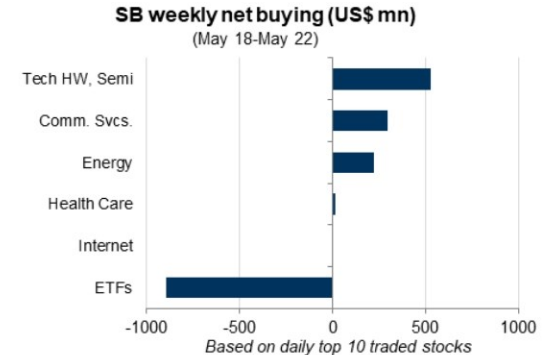
Exhibit 34: Southbound top buying for the week

Southbound Top Buying (for the week)				
S.no	Ticker	Name	SB Net Buying (US\$ mn)	
1	0981.HK	SMIC	460	
2	0941.HK	China Mobile	295	
3	0883.HK	CNOOC	224	
4	2628.HK	China Life Insurance (H)	172	
5	2477.HK	WellCell Holdings	158	
6	2015.HK	Li Auto	98	
7	2476.HK	Victory Giant Technology (H)	80	
8	1347.HK	Hua Hong Semiconductor	52	
9	6809.HK	Montage Technology (H)	37	
10	6681.HK	BrainAurora Medical Technology	16	

Note: Based on daily top 10 traded stocks.

Source: HKEX, FactSet

Exhibit 32: SB weekly net buying by sector



Source: HKEX, FactSet

Exhibit 35: Southbound top selling for the week

Southbound Top Selling (for the week)				
S.no	Ticker	Name	SB Net Selling (US\$ mn)	
1	2800.HK	The Tracker Fund of Hong Kong	-896	
2	9988.HK	Alibaba Group	-236	
3	6869.HK	Yangtze Optical Fibre & Cable (H)	-62	
4	9992.HK	Pop Mart Int'l	-52	
5	3986.HK	Giga Device Semiconductor (H)	-51	
6	1810.HK	Xiaomi	-4	
7	6651.HK	Beijing 51WORLD Digital Twin Tech (H)	-1	
8	-	-	-	
9	-	-	-	
10	-	-	-	

Note: Based on daily top 10 traded stocks.

Source: HKEX, FactSet

Exhibit 36: Largest Southbound holdings (Value and % of float)

Top Southbound Holdings (Value)			
S.no	Ticker	Name	SB Holding Value (US\$ mn)
1	0700.HK	Tencent	62,705
2	0939.HK	CCB (H)	40,675
3	0883.HK	CNOOC	37,327
4	9988.HK	Alibaba Group	37,045
5	0941.HK	China Mobile	32,496
6	1398.HK	ICBC (H)	32,482
7	0005.HK	HSBC Holdings	27,616
8	1810.HK	Xiaomi	20,781
9	0981.HK	SMIC	20,163
10	3988.HK	Bank of China	19,108

Note: SB holding values are based on latest available CCASS shareholding information. Free float factors are based on MSCI foreign inclusion factor and Bloomberg free float percent data (as of Feb 2025).

Source: Bloomberg, HKEX, FactSet, MSCI

Exhibit 37: Top Southbound ownership changes (over the past week)

Top Increase in SB Ownership (over the past week)			
S.no	Ticker	Name	SB Ownership Change (as % float)
1	2715.HK	Estun Automation Co Ltd	8.0%
2	2701.HK	Nsing Technologies Inc	7.6%
3	6809.HK	Montage Technology (H)	6.0%
4	6613.HK	Lens Technology (H)	5.6%
5	2171.HK	CARsgen Therapeutics	4.6%
6	2635.HK	Nuobikan Artificial Intelligence Tech (H)	4.6%
7	6603.HK	IFBH	4.4%
8	0991.HK	Datang Int'l Power Generation (H)	4.4%
9	0638.HK	Fibocom Wireless Inc.	4.2%
10	2692.HK	Shenzhen Zhaowei Machinery & Electronic	4.1%

Source: Bloomberg, HKEX, FactSet, MSCI

Top Southbound Holdings (as % float cap)			
S.no	Ticker	Name	SB Holding Value (as % float cap)
1	0861.HK	Digital China	100%
2	6855.HK	Ascentage Pharma Grp. Intl.	96%
3	1877.HK	Shanghai Junshi Biosciences (H)	92%
4	1989.HK	Delton Technology (H)	92%
5	1797.HK	East Buy	90%
6	1269.HK	China First Capital Group	88%
7	3900.HK	Greentown China	87%
8	3369.HK	Qinhuangdao Port	87%
9	2603.HK	Xiamen Jihong Co Ltd (H)	82%
10	6127.HK	JOINN Laboratories (H)	82%

Top Decrease in SB Ownership (over the past week)			
S.no	Ticker	Name	SB Ownership Change (as % float)
1	2473.HK	XXF Group	-6.8%
2	3330.HK	Lingbao Gold Group (H)	-3.6%
3	1164.HK	CGN Mining Co. Ltd.	-3.2%
4	1385.HK	Shanghai Fudan Microelectronics (H)	-3.0%
5	1888.HK	Kingboard Laminates	-3.0%
6	2218.HK	Yantai North Andre Juice	-2.9%
7	6693.HK	Chifeng Jilong Gold Mining	-2.8%
8	1989.HK	Delton Technology (H)	-2.6%
9	2517.HK	Guoquan Food (Shanghai) Co., Ltd.	-2.5%
10	9606.HK	Duality Biotherapeutics	-2.3%

Exhibit 38: Top Southbound traded stocks this week (as % of stock turnover)

Top SB traded stocks (as % of stock turnover)							Top SB traded stocks (as % of stock turnover)								
S.no	Ticker	Name	SB net buying (as % stock turnover)					S.no	Ticker	Name	SB net buying (as % stock turnover)				
			5/18	5/19	5/20	5/21	5/22				5/18	5/19	5/20	5/21	5/22
1	0941.HK	China Mobile	-	18%	62%	-	-	11	9988.HK	Alibaba Group	-11%	12%	-2%	-10%	-
2	2628.HK	China Life Insurance (H)	49%	-	-	-	-	12	0981.HK	SMIC	3%	5%	11%	6%	-
3	2476.HK	Victory Giant Technology (H)	-	31%	-	-	-	13	1347.HK	Hua Hong Semiconductor	-4%	-1%	11%	-4%	-
4	0883.HK	CNOOC	1%	31%	13%	12%	-	14	6809.HK	Montage Technology (H)	3%	2%	7%	-1%	-
5	2477.HK	WellCell Holdings	-	-	-	27%	-	15	6681.HK	BrainAurora Medical Technology	-	7%	-	-	-
6	2015.HK	Li Auto	21%	-	-	-	-	16	0700.HK	Tencent	4%	2%	5%	-6%	-
7	2800.HK	The Tracker Fund of Hong Kong	-20%	3%	-	-13%	-	17	6651.HK	Beijing 51WORLD Digital Twin Tech (H)	3%	-	-3%	-	-
8	9992.HK	Pop Mart Int'l	-18%	-	-	-	-	18	6166.HK	China Vast Industrial Urban	-	2%	-	-	-
9	3986.HK	Giga Device Semiconductor (H)	3%	-	-17%	-	-	19	9993.HK	Radiance Holdings	2%	2%	-	-	-
10	6869.HK	Yangtze Optical Fibre & Cable (H)	0%	-13%	8%	-8%	-	20	1810.HK	Xiaomi	-	-	-	-1%	-

Note: Based on top 10 traded stocks.

Source: HKEX, FactSet

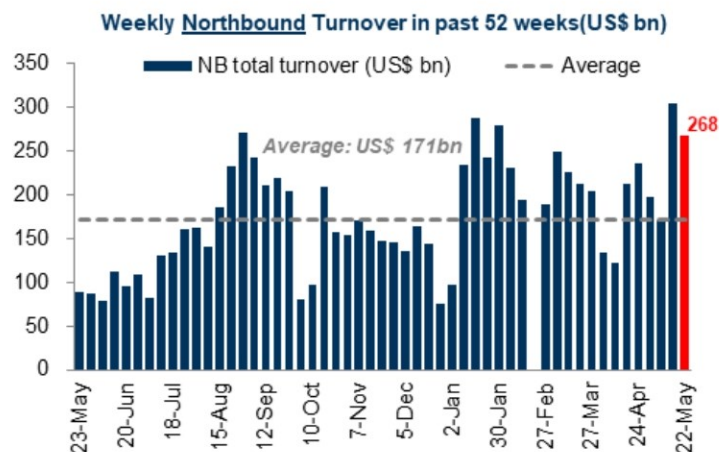
Exhibit 39: Occurrences in Top 10 stocks (Southbound favorites)

SB stocks that have occurred most frequently in Top 10 (past 1-year)			SB stocks that have occurred most frequently in Top 10 (past 1-month)			SB stocks that have occurred most frequently in Top 10 (past 1-week)		
S.no	Ticker	Name	S.no	Ticker	Name	S.no	Ticker	Name
		% times in Top 10 past 1-yr			% times in Top 10 past 1-mo			% times in Top 10 past 1-wk
1	9988.HK	Alibaba Group	1	9988.HK	Alibaba Group	1	0981.HK	SMIC
2	0700.HK	Tencent	2	0700.HK	Tencent	2	1347.HK	Hua Hong Semiconductor
3	1810.HK	Xiaomi	3	0981.HK	SMIC	3	9988.HK	Alibaba Group
4	0981.HK	SMIC	4	6869.HK	Yangtze Optical Fibre & Cable (H)	4	0700.HK	Tencent
5	3690.HK	Meituan	5	1347.HK	Hua Hong Semiconductor	5	6869.HK	Yangtze Optical Fibre & Cable (H)
6	0883.HK	CNOOC	6	0883.HK	CNOOC	6	0883.HK	CNOOC
7	9992.HK	Pop Mart Int'l	7	1810.HK	Xiaomi	7	1810.HK	Xiaomi
8	1347.HK	Hua Hong Semiconductor	8	9992.HK	Pop Mart Int'l	8	0941.HK	China Mobile
9	6869.HK	Yangtze Optical Fibre & Cable (H)	9	1024.HK	Kuaishou Technology (B)	9	9992.HK	Pop Mart Int'l
10	1024.HK	Kuaishou Technology (B)	10	3690.HK	Meituan	10	2628.HK	China Life Insurance (H)

Source: HKEX, FactSet

Stock Connect: Northbound Flows

Exhibit 40: Weekly Northbound total turnover in past 52 weeks



Source: HKEX, Wind

Exhibit 41: Northbound top turnover for the week

Northbound Total Turnover (for the week)			
S.no	Ticker	Name	NB Total Turnover (US\$ mn)
1	300308.SZ	Zhongji Innolight (A)	28,325
2	300502.SZ	Eoptolink Technology Inc (A)	21,999
3	300750.SZ	Contemporary Amperex Technology (A)	21,762
4	002371.SZ	NAURA Technology (A)	16,031
5	300274.SZ	Sungrow Power Supply (A)	14,423
6	002384.SZ	Suzhou Dongshan Precision (A)	13,707
7	002475.SZ	Luxshare Precision (A)	12,784
8	300394.SZ	Suzhou TFC Optical Communication (A)	10,750
9	002281.SZ	Accelink Technologies (A)	9,594
10	000988.SZ	Huagong Tech (A)	5,026

Note: Based on daily top 10 traded stocks.

Source: HKEX, FactSet

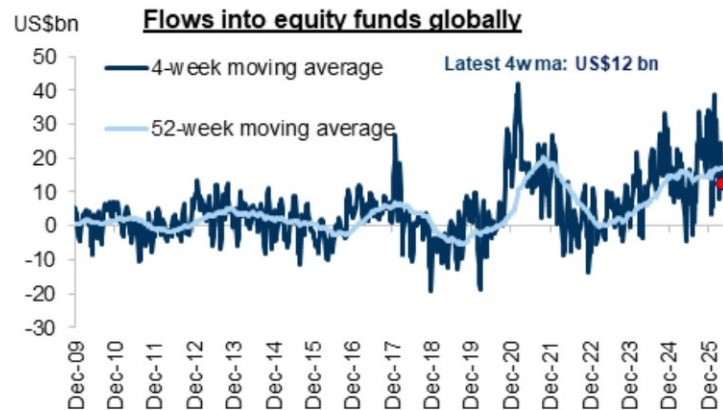
Exhibit 42: Occurrences in Top 10 stocks

NB stocks that have occurred most frequently in Top 10 (past 1-year)				NB stocks that have occurred most frequently in Top 10 (past 1-month)				NB stocks that have occurred most frequently in Top 10 (past 1-week)			
S.no	Ticker	Name	% times in Top 10 past 1-yr	S.no	Ticker	Name	% times in Top 10 past 1-mo	S.no	Ticker	Name	% times in Top 10 past 1-wk
1	300750.SZ	CATL (A)	89%	1	300750.SZ	CATL (A)	83%	1	002371.SZ	NAURA Technology (A)	100%
2	300502.SZ	Eoptolink Technology Inc (A)	87%	2	300502.SZ	Eoptolink Technology Inc (A)	83%	2	603986.SS	GigaDevice Semi (Beijing) (A)	100%
3	300308.SZ	Zhongji Innolight (A)	86%	3	300308.SZ	Zhongji Innolight (A)	83%	3	300750.SZ	CATL (A)	100%
4	600519.SS	Kweichow Moutai (A)	77%	4	688256.SS	Cambricon Technologies (A)	83%	4	688008.SS	Montage Technology (A)	100%
5	688256.SS	Cambricon Technologies (A)	76%	5	002475.SZ	Luxshare Precision (A)	83%	5	002384.SZ	Suzhou Dongshan Precision (A)	100%
6	601899.SS	Zijin Mining (A)	73%	6	688008.SS	Montage Technology (A)	83%	6	300502.SZ	Eoptolink Technology Inc (A)	100%
7	601138.SS	Foxconn Industrial Internet (A)	72%	7	002384.SZ	Suzhou Dongshan Precision (A)	83%	7	688041.SS	Hygon Information Technology (A)	100%
8	002475.SZ	Luxshare Precision (A)	68%	8	300394.SZ	Suzhou TFC Optical Communication (A)	78%	8	002475.SZ	Luxshare Precision (A)	100%
9	300274.SZ	Sungrow Power Supply (A)	60%	9	688041.SS	Hygon Information Technology (A)	78%	9	300274.SZ	Sungrow Power Supply (A)	100%
10	603986.SS	GigaDevice Semi (Beijing) (A)	55%	10	603986.SS	GigaDevice Semi (Beijing) (A)	74%	10	688012.SS	Adv. Micro-Fabrication Equip. (A)	100%

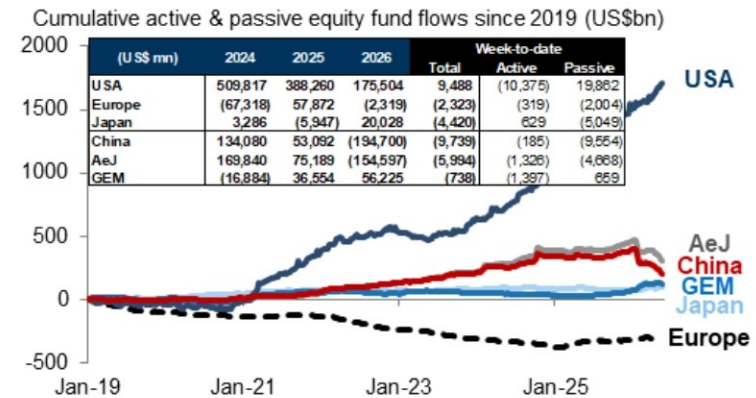
Source: HKEX, FactSet

Note: Northbound total buying and selling (in aggregate and at stock level) are no longer disclosed by HKEX.

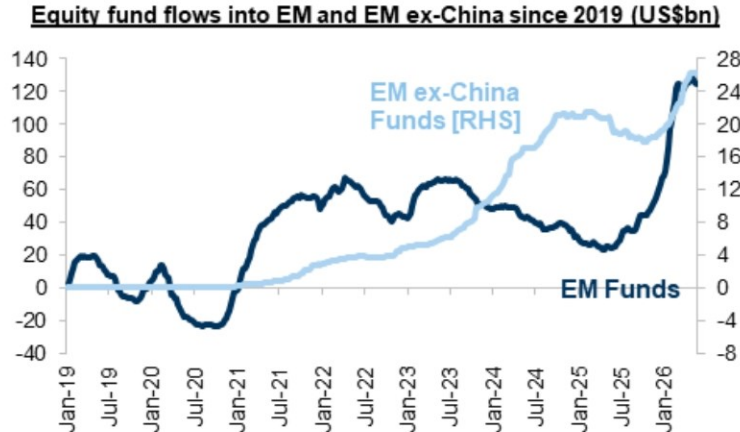
Global, EM, Regional and Country Fund Flows

Exhibit 43: Equity funds globally saw inflows of US\$2bn wow (vs. US\$21bn inflows last week)

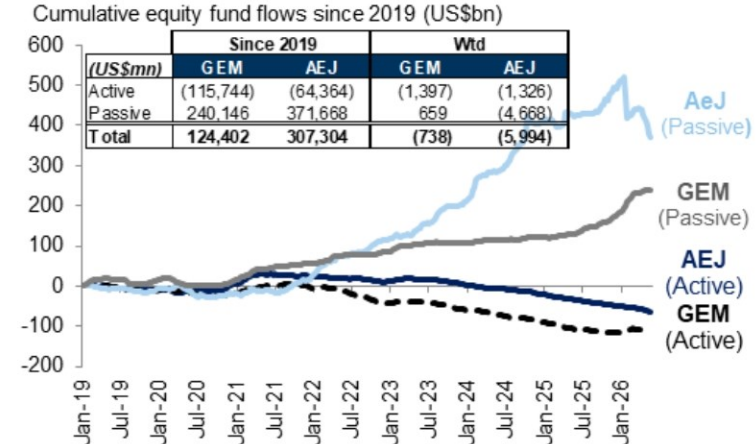
Source: EPFR, Goldman Sachs Global Investment Research

Exhibit 44: In DM, US funds saw net buying of US\$9.5bn. Europe (-US\$2.3bn) and Japan (-US\$4.4bn) saw selling w/w.

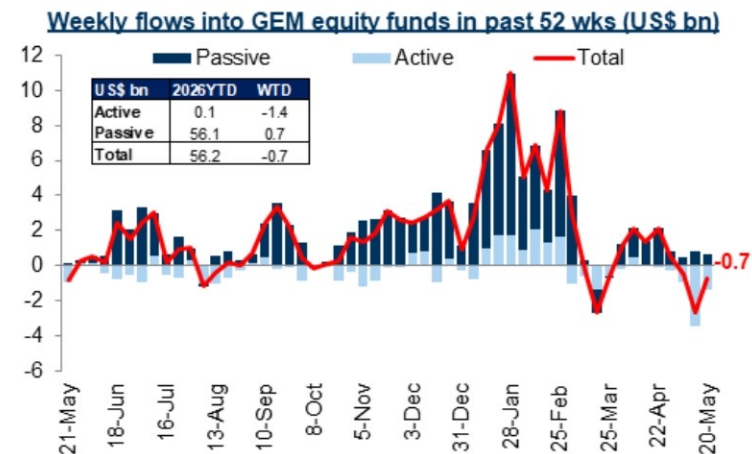
Source: EPFR

Exhibit 45: EM ex-China funds have seen US\$26bn inflows since 2019

Source: EPFR, Goldman Sachs Global Investment Research

Exhibit 46: AEJ (-US\$6bn) and GEM (-US\$0.7bn) saw outflows w/w.

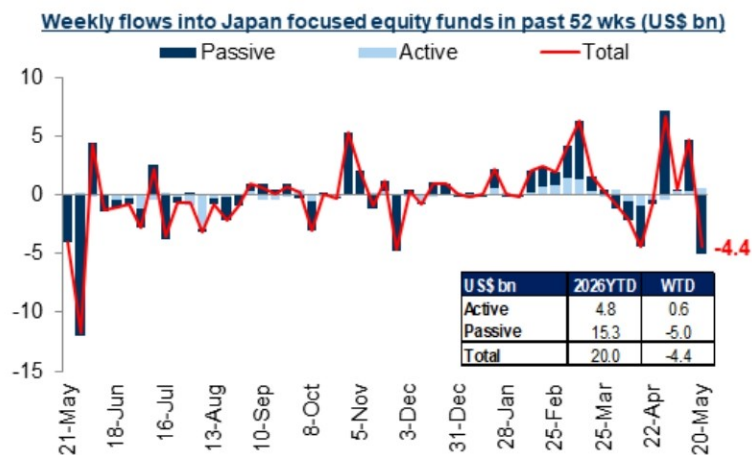
Source: EPFR

Exhibit 47: GEM equity funds flows (active vs passive)

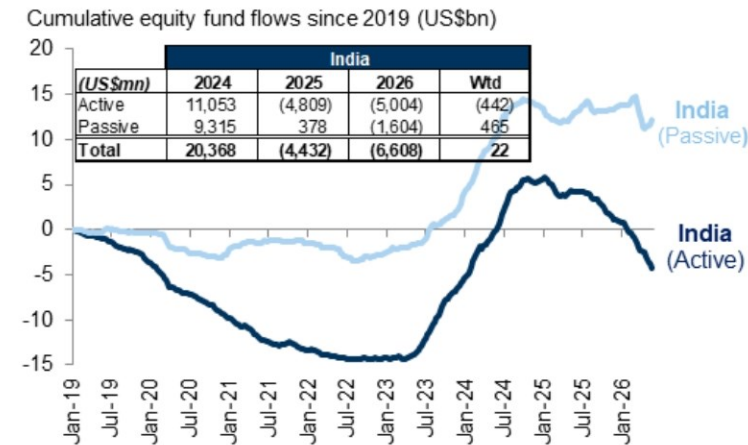
Source: EPFR

Exhibit 48: China equity funds flows (active vs passive)

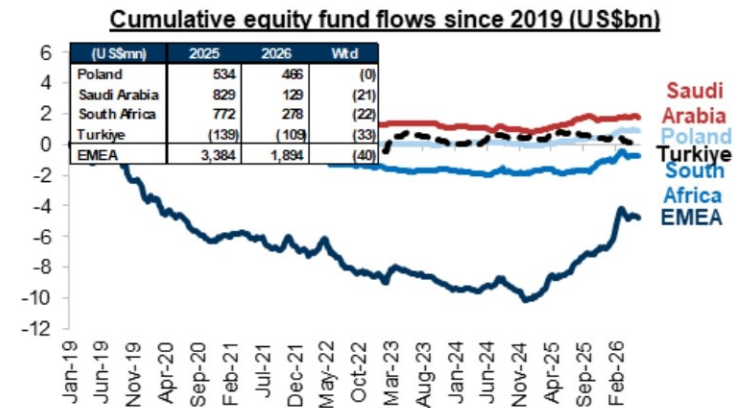
Source: EPFR

Exhibit 49: Japan equity funds flows (active vs passive)

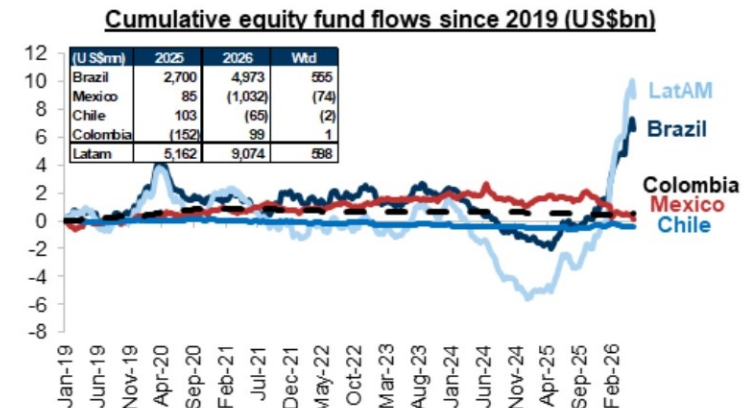
Source: EPFR

Exhibit 50: India equity funds flows (active vs passive)

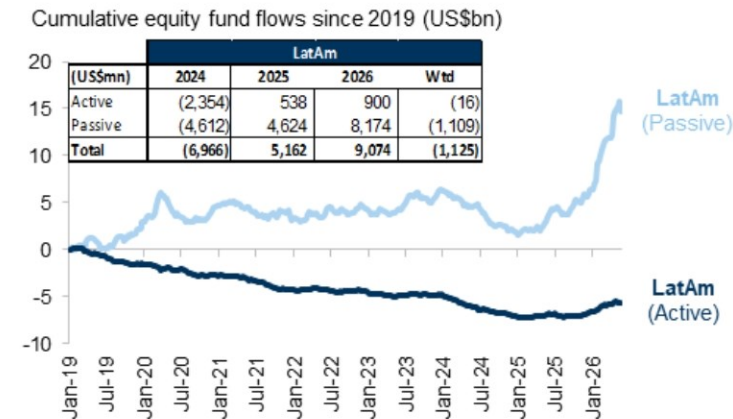
Source: EPFR

Exhibit 51: EMEA saw muted flows this week, driven by Turkiye (-US\$30mn)

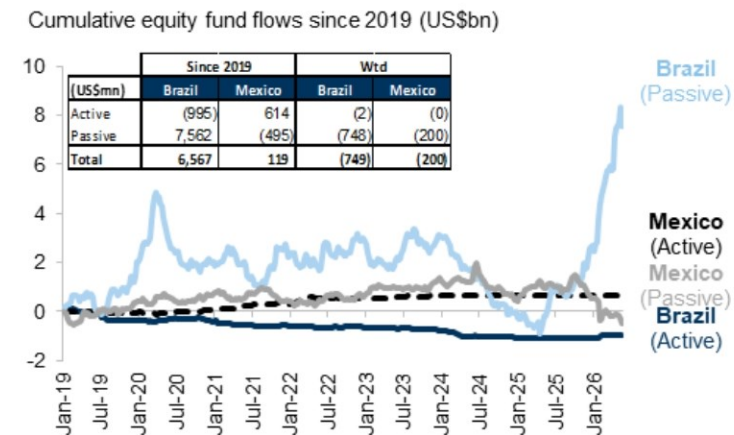
Source: EPFR

Exhibit 52: LatAm (+US\$0.6bn) saw inflows this week, led by Brazil (+US\$0.6bn) but offset by Mexico (-US\$0.1bn)

Source: EPFR

Exhibit 53: LatAm equity fund flows (active vs passive)

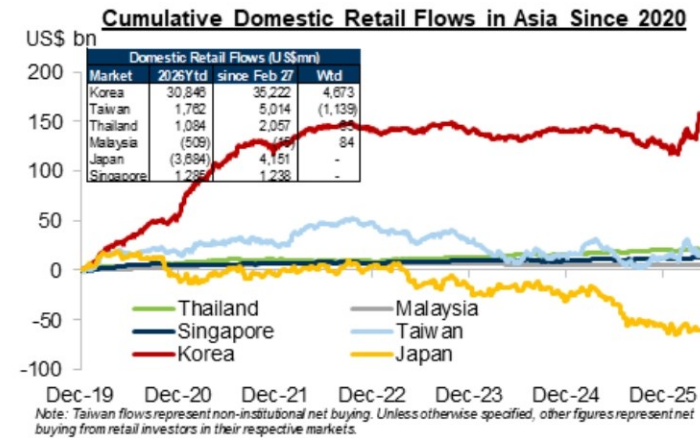
Source: EPFR

Exhibit 54: Brazil & Mexico equity funds flows (active vs passive)

Source: EPFR

Retail Investor Flows

Exhibit 55: Korea (+US\$4.7bn) saw retail buying while Taiwan (-US\$1.1bn) saw retail selling this week. Ytd, Asian markets have seen US\$31bn retail inflows.



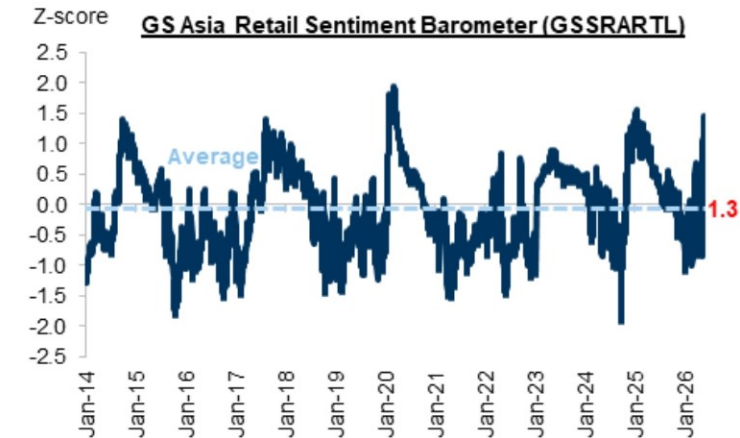
Source: Bloomberg, AMFI, TEJ, FactSet, MSCI

Exhibit 57: Our retail sentiment barometers across markets



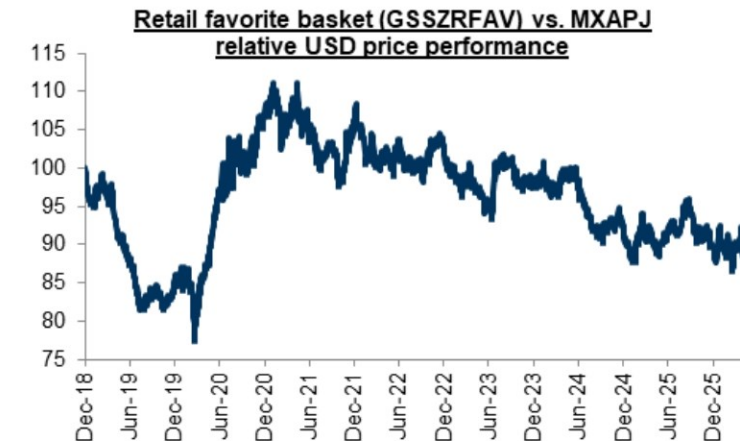
Source: Goldman Sachs Global Investment Research

Exhibit 56: Our regional retail sentiment barometer (GSSRARTL)



Source: Goldman Sachs Global Investment Research

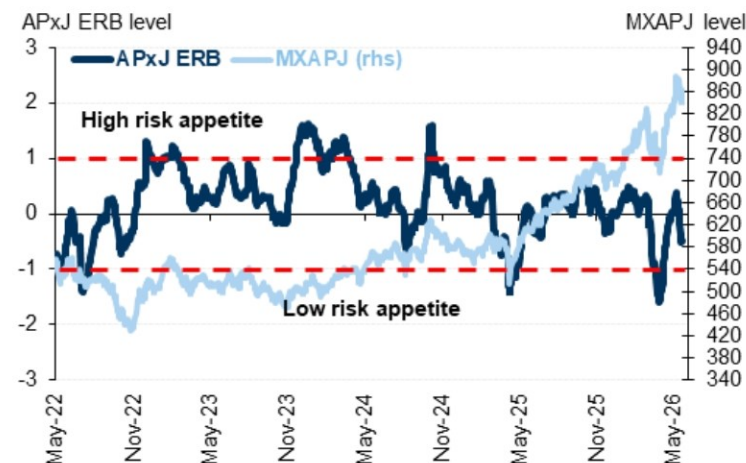
Exhibit 58: Relative performance of retail favorite basket (GSSZRFAV) vs MXAPJ since 2019



Source: FactSet, MSCI, Goldman Sachs Global Investment Research

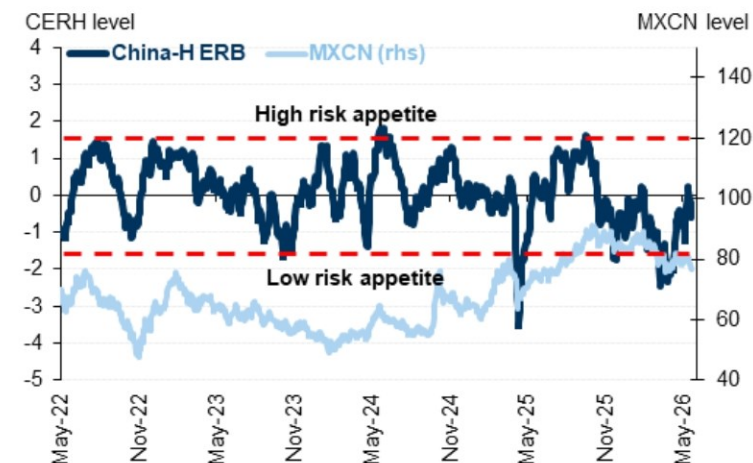
Regional Equity Risk Barometers (ERBs)

Exhibit 59: GS Asia Pacific ex-Japan Equity Risk Barometer



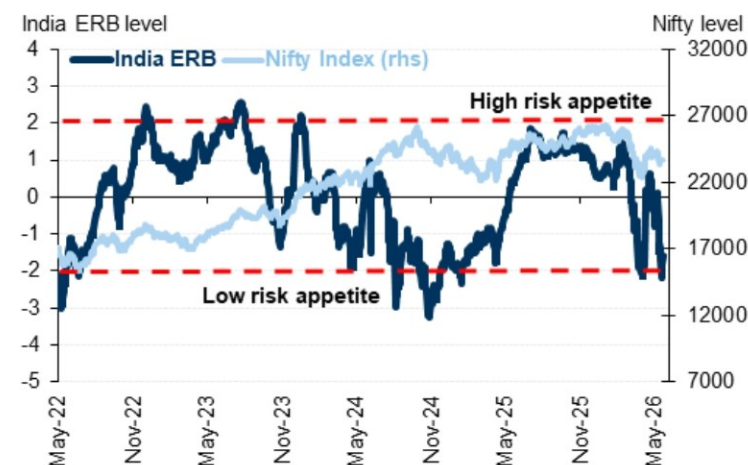
Source: Bloomberg, FactSet, MSCI, Goldman Sachs Global Investment Research

Exhibit 60: GS China-H Equity Risk Barometer



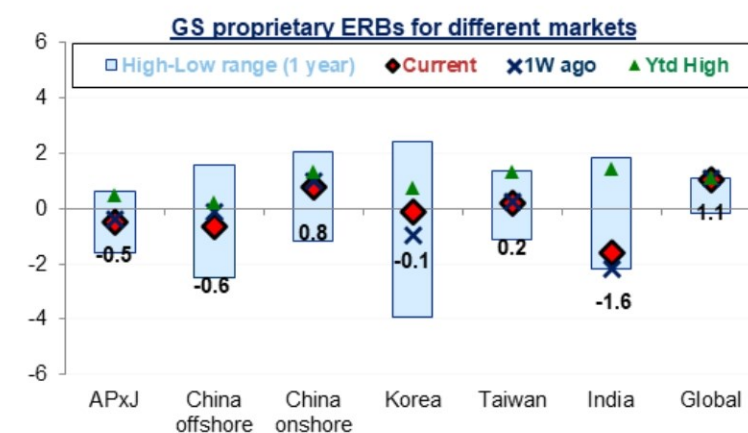
Source: Bloomberg, FactSet, MSCI, Goldman Sachs Global Investment Research

Exhibit 61: GS India Equity Risk Barometer



Source: Bloomberg, FactSet, MSCI, Goldman Sachs Global Investment Research

Exhibit 62: One-year range of our ERBs across the region



Note: Global refers to the GS Risk Appetite Indicator <GSRAII>.

Source: Goldman Sachs Global Investment Research

Disclosure Appendix

Reg AC

We, Sunil Koul, Mark Hung, Timothy Moe, CFA, Alvin So, CFA, Si Fu, Ph.D., Kinger Lau, CFA, John Kwon, Amorita Goel, CFA, Tarun Lalwani, CFA and Mambuna Njie, hereby certify that all of the views expressed in this report accurately reflect our personal views, which have not been influenced by considerations of the firm's business or client relationships.

Unless otherwise stated, the individuals listed on the cover page of this report are analysts in Goldman Sachs' Global Investment Research division.

Contributing Authors: Sunil Koul Goldman Sachs International, Mark Hung Goldman Sachs (Asia) L.L.C., Timothy Moe, CFA Goldman Sachs (Singapore) Pte, Alvin So, CFA Goldman Sachs (Asia) L.L.C., Si Fu, Ph.D. Goldman Sachs (Asia) L.L.C., Kinger Lau, CFA Goldman Sachs (Asia) L.L.C., John Kwon Goldman Sachs (Singapore) Pte, Amorita Goel, CFA Goldman Sachs (Singapore) Pte, Tarun Lalwani, CFA Goldman Sachs India SPL, Mambuna Njie Goldman Sachs International.

Unless otherwise stated, the individuals listed in the Contributing Authors disclosure of this report are analysts in Goldman Sachs' Global Investment Research division.

Disclosures

Marquee disclosure

Marquee is a product of Goldman Sachs FICC and Equities. Any Marquee content linked in this report is not necessarily representative of GS Research views. If you need access to Marquee, please contact your GS salesperson or email the Marquee team at gs-marquee-sales@gs.com.

MSCI disclosure

All MSCI data used in this report is the exclusive property of MSCI, Inc. (MSCI). Without prior written permission of MSCI, this information and any other MSCI intellectual property may not be reproduced or disseminated in any form and may not be used to create any financial instruments or products or any indices. This information is provided on an "as is" basis, and the user of this information assumes the entire risk of any use made of this information. Neither MSCI, any of its affiliates nor any third party involved in, or related to, computing or compiling the data makes any express or implied warranties or representations with respect to this information (or the results to be obtained by the use thereof), and MSCI, its affiliates and any such third party hereby expressly disclaim all warranties of originality, accuracy, completeness, merchantability or fitness for a particular purpose with respect to any of this information. Without limiting any of the foregoing, in no event shall MSCI, any of its affiliates or any third party involved in, or related to, computing or compiling the data have any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) even if notified of the possibility of such damages. MSCI and the MSCI indexes are service marks of MSCI and its affiliates. The Global Industry Classification Standard (GICS) were developed by and is the exclusive property of MSCI and Standard & Poor's. GICS is a service mark of MSCI and S&P and has been licensed for use by The Goldman Sachs Group, Inc.

Basket disclosure

The ability to trade the basket(s) discussed in this research will depend upon market conditions, including liquidity and borrow constraints at the time of trade.

Regulatory disclosures

Disclosures required by United States laws and regulations

See company-specific regulatory disclosures above for any of the following disclosures required as to companies referred to in this report: manager or co-manager in a pending transaction; 1% or other ownership; compensation for certain services; types of client relationships; managed/co-managed public offerings in prior periods; directorships; for equity securities, market making and/or specialist role. Goldman Sachs trades or may trade as a principal in debt securities (or in related derivatives) of issuers discussed in this report.

The following are additional required disclosures: **Ownership and material conflicts of interest:** Goldman Sachs policy prohibits its analysts, professionals reporting to analysts and members of their households from owning securities of any company in the analyst's area of coverage. **Analyst compensation:** Analysts are paid in part based on the profitability of Goldman Sachs, which includes investment banking revenues. **Analyst as officer or director:** Goldman Sachs policy generally prohibits its analysts, persons reporting to analysts or members of their households from serving as an officer, director or advisor of any company in the analyst's area of coverage. **Non-U.S. Analysts:** Non-U.S. analysts may not be associated persons of Goldman Sachs & Co. LLC and therefore may not be subject to FINRA Rule 2241 or FINRA Rule 2242 restrictions on communications with a subject company, public appearances and trading in securities covered by the analysts.

Additional disclosures required under the laws and regulations of jurisdictions other than the United States

The following disclosures are those required by the jurisdiction indicated, except to the extent already made above pursuant to United States laws and regulations. **Australia:** Goldman Sachs Australia Pty Ltd and its affiliates are not authorised deposit-taking institutions (as that term is defined in the Banking Act 1959 (Cth)) in Australia and do not provide banking services, nor carry on a banking business, in Australia. This research, and any access to it, is intended only for "wholesale clients" within the meaning of the Australian Corporations Act, unless otherwise agreed by Goldman Sachs. In producing research reports, members of Global Investment Research of Goldman Sachs Australia may attend site visits and other meetings hosted by the companies and other entities which are the subject of its research reports. In some instances the costs of such site visits or meetings may be met in part or in whole by the issuers concerned if Goldman Sachs Australia considers it is appropriate and reasonable in the specific circumstances relating to the site visit or meeting. To the extent that the contents of this document contains any financial product advice, it is general advice only and has been prepared by Goldman Sachs without taking into account a client's objectives, financial situation or needs. A client should, before acting on any such advice, consider the appropriateness of the advice having regard to the client's own objectives, financial situation and needs. A copy of certain Goldman Sachs Australia and New Zealand disclosure of interests and a copy of Goldman Sachs' Australian Sell-Side Research Independence Policy Statement are available at: <https://www.goldmansachs.com/disclosures/australia-new-zealand/index.html>. **Brazil:** Disclosure information in relation to CVM Resolution n. 20 is

available at <https://www.gs.com/worldwide/brazil/area/gir/index.html>. Where applicable, the Brazil-registered analyst primarily responsible for the content of this research report, as defined in Article 20 of CVM Resolution n. 20, is the first author named at the beginning of this report, unless indicated otherwise at the end of the text. **Canada:** This information is being provided to you for information purposes only and is not, and under no circumstances should be construed as, an advertisement, offering or solicitation by Goldman Sachs & Co. LLC for purchasers of securities in Canada to trade in any Canadian security. Goldman Sachs & Co. LLC is not registered as a dealer in any jurisdiction in Canada under applicable Canadian securities laws and generally is not permitted to trade in Canadian securities and may be prohibited from selling certain securities and products in certain jurisdictions in Canada. If you wish to trade in any Canadian securities or other products in Canada please contact Goldman Sachs Canada Inc., an affiliate of The Goldman Sachs Group Inc., or another registered Canadian dealer. **Hong Kong:** Further information on the securities of covered companies referred to in this research may be obtained on request from Goldman Sachs (Asia) L.L.C. **India:** Further information on the subject company or companies referred to in this research may be obtained from Goldman Sachs (India) Securities Private Limited, Research Analyst – SEBI Registration Number INH000001493, 10th Floor, Ascent-Worli, Sudam Kalu Ahire Marg, Worli, Mumbai-400 025, India, Corporate Identity Number U74140MH2006FTC160634, Phone +91 22 6616 9000, Fax +91 22 6616 9001. Goldman Sachs may beneficially own 1% or more of the securities (as such term is defined in clause 2 (h) the Indian Securities Contracts (Regulation) Act, 1956) of the subject company or companies referred to in this research report. Investment in securities market are subject to market risks. Read all the related documents carefully before investing. Registration granted by SEBI and certification from NISM in no way guarantee performance of the intermediary or provide any assurance of returns to investors. Goldman Sachs (India) Securities Private Limited compliance officer and investor grievance contact details can be found at: <https://www.goldmansachs.com/worldwide/india/documents/Grievance-Redressal-and-Escalation-Matrix.pdf>, and a copy of the annual audit compliance report can be found at this link: <https://publishing.gs.com/content/site/india-annual-compliance-report.html>. **Japan:** See below. **Korea:** This research, and any access to it, is intended only for “professional investors” within the meaning of the Financial Services and Capital Markets Act, unless otherwise agreed by Goldman Sachs. Further information on the subject company or companies referred to in this research may be obtained from Goldman Sachs (Asia) L.L.C., Seoul Branch. **New Zealand:** Goldman Sachs New Zealand Limited and its affiliates are neither “registered banks” nor “deposit takers” (as defined in the Reserve Bank of New Zealand Act 1989) in New Zealand, and any access to it, is intended for “wholesale clients” (as defined in the Financial Advisers Act 2008) unless otherwise agreed by Goldman Sachs. A copy of certain Goldman Sachs Australia and New Zealand disclosure of interests is available at: <https://www.goldmansachs.com/disclosures/australia-new-zealand/index.html>. **Russia:** Research reports distributed in the Russian Federation are not advertising as defined in the Russian legislation, but are information and analysis not having product promotion as their main purpose and do not provide appraisal within the meaning of the Russian legislation on appraisal activity. Research reports do not constitute a personalized investment recommendation as defined in Russian laws and regulations, are not addressed to a specific client, and are prepared without analyzing the financial circumstances, investment profiles or risk profiles of clients. Goldman Sachs assumes no responsibility for any investment decisions that may be taken by a client or any other person based on this research report. **Singapore:** Goldman Sachs (Singapore) Pte. (Company Number: 198602165W), which is regulated by the Monetary Authority of Singapore, accepts legal responsibility for this research, and should be contacted with respect to any matters arising from, or in connection with, this research. **Taiwan:** This material is for reference only and must not be reprinted without permission. Investors should carefully consider their own investment risk. Investment results are the responsibility of the individual investor. **United Kingdom:** Persons who would be categorized as retail clients in the United Kingdom, as such term is defined in the rules of the Financial Conduct Authority, should read this research in conjunction with prior Goldman Sachs research on the covered companies referred to herein and should refer to the risk warnings that have been sent to them by Goldman Sachs International. A copy of these risks warnings, and a glossary of certain financial terms used in this report, are available from Goldman Sachs International on request.

European Union and United Kingdom: Disclosure information in relation to Article 6 (2) of the European Commission Delegated Regulation (EU) (2016/958) supplementing Regulation (EU) No 596/2014 of the European Parliament and of the Council (including as that Delegated Regulation is implemented into United Kingdom domestic law and regulation following the United Kingdom's departure from the European Union and the European Economic Area) with regard to regulatory technical standards for the technical arrangements for objective presentation of investment recommendations or other information recommending or suggesting an investment strategy and for disclosure of particular interests or indications of conflicts of interest is available at <https://www.gs.com/disclosures/europeanpolicy.html> which states the European Policy for Managing Conflicts of Interest in Connection with Investment Research.

Japan: Goldman Sachs Japan Co., Ltd. is a Financial Instrument Dealer registered with the Kanto Financial Bureau under registration number Kinsho 69, and a member of Japan Securities Dealers Association, Financial Futures Association of Japan Type II Financial Instruments Firms Association, and Investment Management Association of Japan. Sales and purchase of equities are subject to commission pre-determined with clients plus consumption tax. See company-specific disclosures as to any applicable disclosures required by Japanese stock exchanges, the Japanese Securities Dealers Association or the Japanese Securities Finance Company.

Global product; distributing entities

Goldman Sachs Global Investment Research produces and distributes research products for clients of Goldman Sachs on a global basis. Analysts based in Goldman Sachs offices around the world produce research on industries and companies, and research on macroeconomics, currencies, commodities and portfolio strategy. This research is disseminated in Australia by Goldman Sachs Australia Pty Ltd (ABN 21 006 797 897); in Brazil by Goldman Sachs do Brasil Corretora de Títulos e Valores Mobiliários S.A.; Public Communication Channel Goldman Sachs Brazil: 0800 727 5764 and / or contatogoldmanbrasil@gs.com. Available Weekdays (except holidays), from 9am to 6pm. Canal de Comunicação com o Público Goldman Sachs Brasil: 0800 727 5764 e/ou contatogoldmanbrasil@gs.com. Horário de funcionamento: segunda-feira à sexta-feira (exceto feriados), das 9h às 18h; in Canada by Goldman Sachs & Co. LLC; in Hong Kong by Goldman Sachs (Asia) L.L.C.; in India by Goldman Sachs (India) Securities Private Ltd.; in Japan by Goldman Sachs Japan Co., Ltd.; in the Republic of Korea by Goldman Sachs (Asia) L.L.C., Seoul Branch; in New Zealand by Goldman Sachs New Zealand Limited; in Russia by OOO Goldman Sachs; in Singapore by Goldman Sachs (Singapore) Pte. (Company Number: 198602165W); and in the United States of America by Goldman Sachs & Co. LLC. Goldman Sachs International has approved this research in connection with its distribution in the United Kingdom.

Goldman Sachs International (“GSI”), authorised by the Prudential Regulation Authority (“PRA”) and regulated by the Financial Conduct Authority (“FCA”) and the PRA, has approved this research in connection with its distribution in the United Kingdom.

European Economic Area: Goldman Sachs Bank Europe SE (“GSBE”) is a credit institution incorporated in Germany and, within the Single Supervisory Mechanism, subject to direct prudential supervision by the European Central Bank and in other respects supervised by German Federal Financial Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht, BaFin) and Deutsche Bundesbank and disseminates research within the European Economic Area.

General disclosures

This research is for our clients only. Other than disclosures relating to Goldman Sachs, this research is based on current public information that we consider reliable, but we do not represent it is accurate or complete, and it should not be relied on as such. The information, opinions, estimates and forecasts contained herein are as of the date hereof and are subject to change without prior notification. We seek

to update our research as appropriate, but various regulations may prevent us from doing so. Other than certain industry reports published on a periodic basis, the large majority of reports are published at irregular intervals as appropriate in the analyst's judgment.

Goldman Sachs conducts a global full-service, integrated investment banking, investment management, and brokerage business. We have investment banking and other business relationships with a substantial percentage of the companies covered by Global Investment Research. Goldman Sachs & Co. LLC, the United States broker dealer, is a member of SIPC (<https://www.sipc.org>).

Our salespeople, traders, and other professionals may provide oral or written market commentary or trading strategies to our clients and principal trading desks that reflect opinions that are contrary to the opinions expressed in this research. Our asset management area, principal trading desks and investing businesses may make investment decisions that are inconsistent with the recommendations or views expressed in this research.

We and our affiliates, officers, directors, and employees will from time to time have long or short positions in, act as principal in, and buy or sell, the securities or derivatives, if any, referred to in this research, unless otherwise prohibited by regulation or Goldman Sachs policy.

The views attributed to third party presenters at Goldman Sachs arranged conferences, including individuals from other parts of Goldman Sachs, do not necessarily reflect those of Global Investment Research and are not an official view of Goldman Sachs.

Any third party referenced herein, including any salespeople, traders and other professionals or members of their household, may have positions in the products mentioned that are inconsistent with the views expressed by analysts named in this report.

This research is focused on investment themes across markets, industries and sectors. It does not attempt to distinguish between the prospects or performance of, or provide analysis of, individual companies within any industry or sector we describe.

Any trading recommendation in this research relating to an equity or credit security or securities within an industry or sector is reflective of the investment theme being discussed and is not a recommendation of any such security in isolation.

This research is not an offer to sell or the solicitation of an offer to buy any security in any jurisdiction where such an offer or solicitation would be illegal. It does not constitute a personal recommendation or take into account the particular investment objectives, financial situations, or needs of individual clients. Clients should consider whether any advice or recommendation in this research is suitable for their particular circumstances and, if appropriate, seek professional advice, including tax advice. The price and value of investments referred to in this research and the income from them may fluctuate. Past performance is not a guide to future performance, future returns are not guaranteed, and a loss of original capital may occur. Fluctuations in exchange rates could have adverse effects on the value or price of, or income derived from, certain investments.

Certain transactions, including those involving futures, options, and other derivatives, give rise to substantial risk and are not suitable for all investors. Investors should review current options and futures disclosure documents which are available from Goldman Sachs sales representatives or at <https://www.theocc.com/about/publications/character-risks.jsp> and https://www.goldmansachs.com/disclosures/cftc_fcm_disclosures. Transaction costs may be significant in option strategies calling for multiple purchase and sales of options such as spreads. Supporting documentation will be supplied upon request.

Differing Levels of Service provided by Global Investment Research: The level and types of services provided to you by Goldman Sachs Global Investment Research may vary as compared to that provided to internal and other external clients of GS, depending on various factors including your individual preferences as to the frequency and manner of receiving communication, your risk profile and investment focus and perspective (e.g., marketwide, sector specific, long term, short term), the size and scope of your overall client relationship with GS, and legal and regulatory constraints. As an example, certain clients may request to receive notifications when research on specific securities is published, and certain clients may request that specific data underlying analysts' fundamental analysis available on our internal client websites be delivered to them electronically through data feeds or otherwise. No change to an analyst's fundamental research views (e.g., ratings, price targets, or material changes to earnings estimates for equity securities), will be communicated to any client prior to inclusion of such information in a research report broadly disseminated through electronic publication to our internal client websites or through other means, as necessary, to all clients who are entitled to receive such reports.

All research reports are disseminated and available to all clients simultaneously through electronic publication to our internal client websites. Not all research content is redistributed to our clients or available to third-party aggregators, nor is Goldman Sachs responsible for the redistribution of our research by third party aggregators. For research, models or other data related to one or more securities, markets or asset classes (including related services) that may be available to you, please contact your GS representative or go to <https://research.gs.com>.

Disclosure information is also available at <https://www.gs.com/research/hedge.html> or from Research Compliance, 200 West Street, New York, NY 10282.

© 2026 Goldman Sachs.

You are permitted to store, display, analyze, modify, reformat, and print the information made available to you via this service only for your own use. You may not resell or reverse engineer this information to calculate or develop any index for disclosure and/or marketing or create any other derivative works or commercial product(s), data or offering(s) without the express written consent of Goldman Sachs. You are not permitted to publish, transmit, or otherwise reproduce this information, in whole or in part, in any format to any third party without the express written consent of Goldman Sachs. This foregoing restriction includes, without limitation, using, extracting, downloading or retrieving this information, in whole or in part, to train or finetune a machine learning or artificial intelligence system, or to provide or reproduce this information, in whole or in part, as a prompt or input to any such system.