

June 18, 2026 10:06 AM GMT

Investor Presentation | Asia Pacific

Narrowing the K-shaped Recovery Gap

MORGAN STANLEY ASIA LIMITED+

Kathleen Oh

Chief Korea/Taiwan Economist

Kathleen.Oh@morganstanley.com

+852 2848-7340



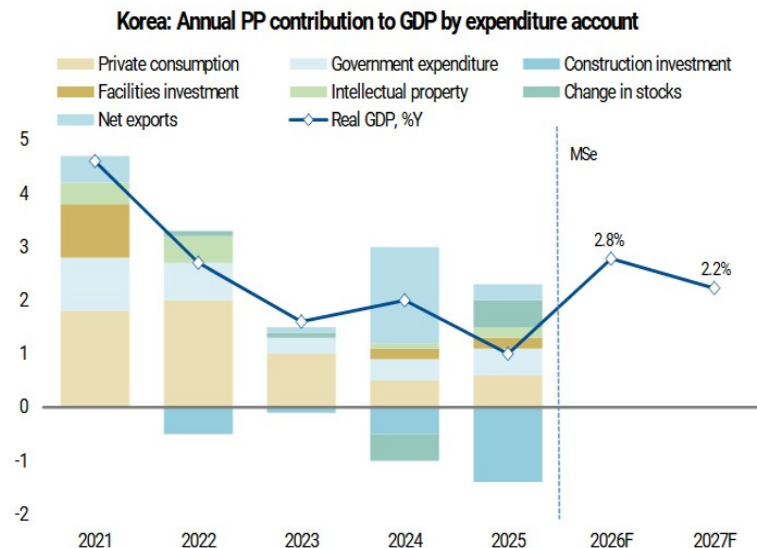
For analyst certification and other important disclosures, refer to the Disclosure Section, located at the end of this report.

Korea: Macro Overview

From K-shaped Recovery to a Broad-based Rebound

We see the Korean economy recovering on a broader-based rebound. Unprecedented resilience in tech exports coupled with a faster-than-expected consumption recovery look set to close the negative output gap two quarters earlier than our previous forecast. We see above-potential growth for the next two years and total four hikes by the BoK over one year from July 2026.

We expect a broad-based rebound in GDP growth to 2.8%Y in 2026 vs. 1.1% in 2025



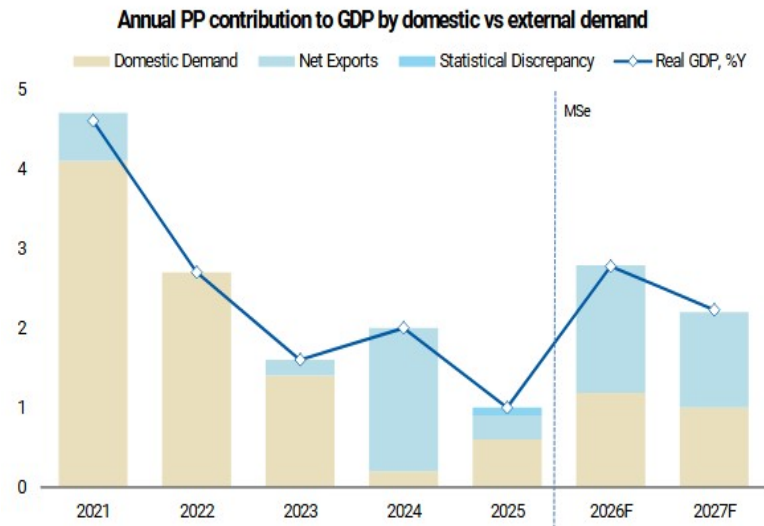
Source: BoK, Morgan Stanley Research forecasts

Key takeaways

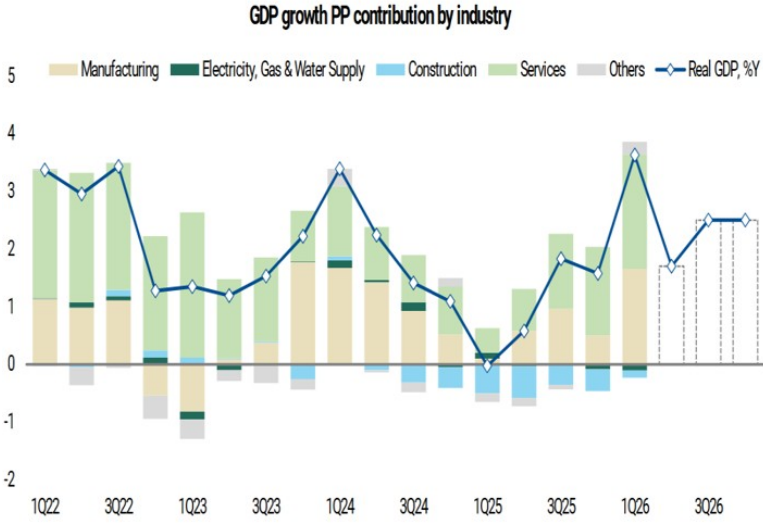
- Korea set to move from K-shaped recovery to a broad-based rebound: Growth likely to jump 2.8% in 2026 vs 1.1% in 2025 before stabilizing to 2.2% in 2027.
- CPI inflation faces upward pressure to 2.5%Y, not only from elevated oil prices but from a faster-than-expected consumption recovery among households.
- With ample tax income amid strong corporate earnings, income and securities transaction taxes, the government could hand down an extra budget in 2H26.
- With an above-potential growth outlook through 2027, we see the BoK entering tightening territory above the neutral range; terminal rate at 3.50% by 1H27e.
- The risk balance is tilted to the upside with the fiscal windfall expected from the tech exporter outperformance.

Growth to See Above-Potential Level Rebound to 2.8%Y in 2026

Growth contribution from domestic and external demand to show a balanced dynamic



Unfavorable base to kick-in from 2Q26 before a rebound in 2H26



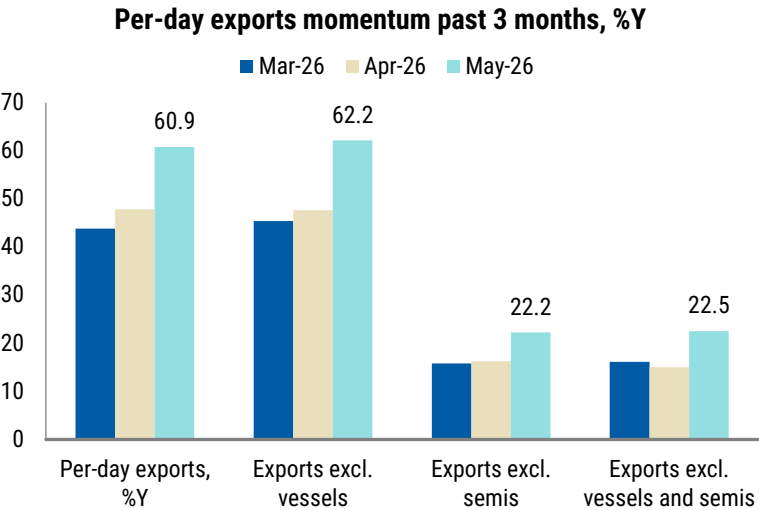
Source: BoK, Morgan Stanley Research forecasts

Exports: A New Cycle High

Korea's May trade recorded highest monthly export value, despite rising energy imports



Both tech and non-tech momentum accelerating



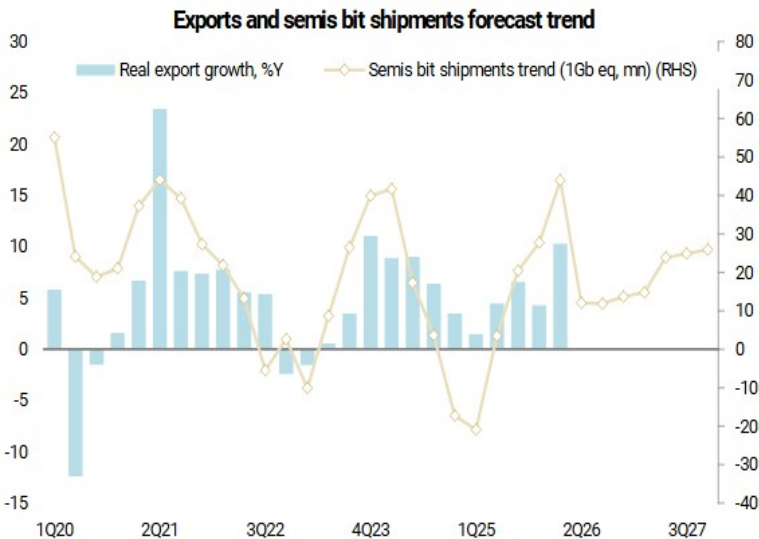
Source: KITA, Morgan Stanley Research

Rising Global Demand for HBM and Generic DRAM

Exports to rise significantly on AI-driven demand



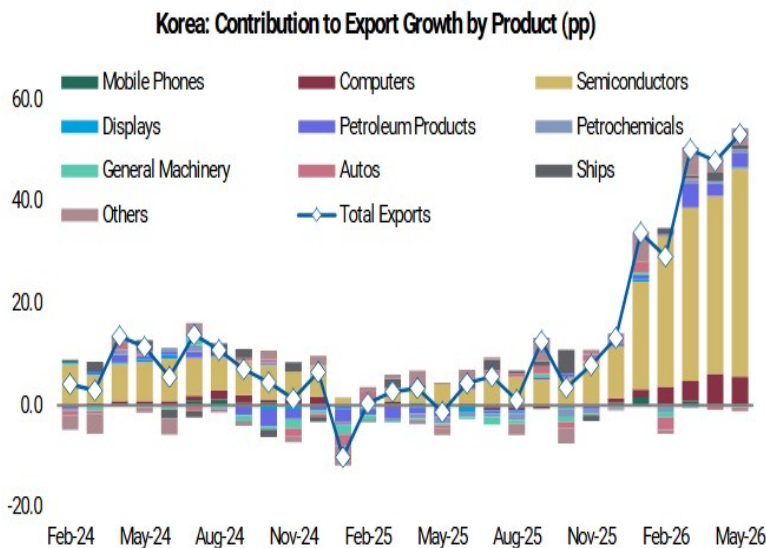
Bit shipments expected to maintain two-digit growth



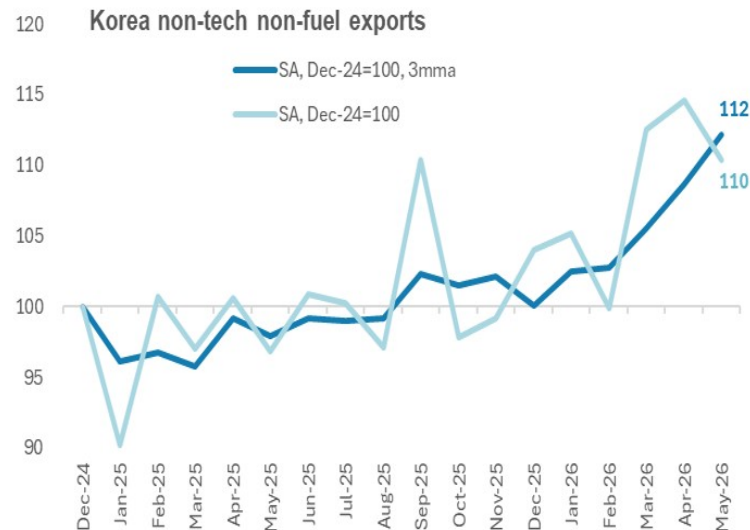
Source: BoK, Morgan Stanley Research forecasts

Semis Now 40% of Total Exports; Non-Tech Recovery Since End-2025

Tech-related goods continue to remain the key contributors to Korea's exports



Persistent energy market volatility drives crude petroleum and coal import growth



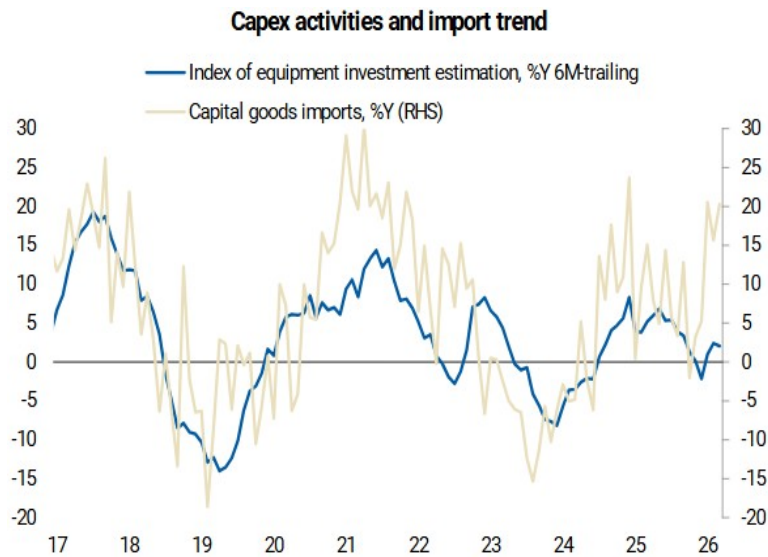
Source: KITA, Morgan Stanley Research

Tech Supercycle Benefitting Capex Activities

Unprecedented tech super-cycle benefits exports



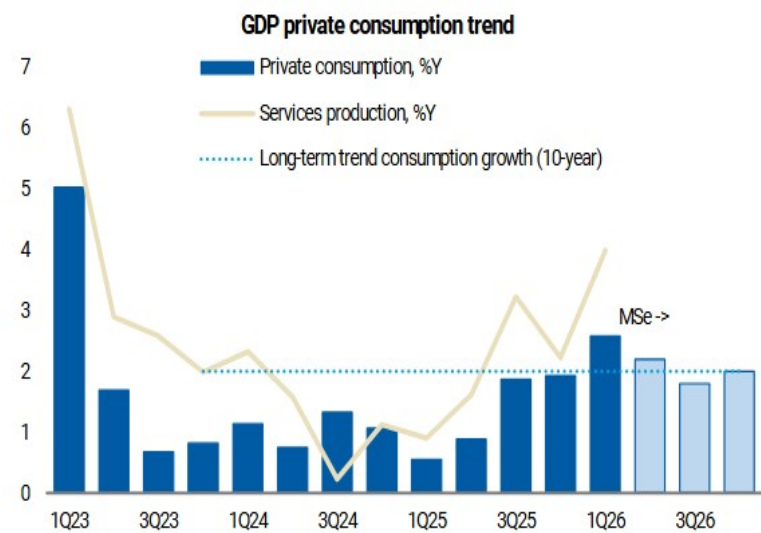
Capex and capital goods imports ramped up



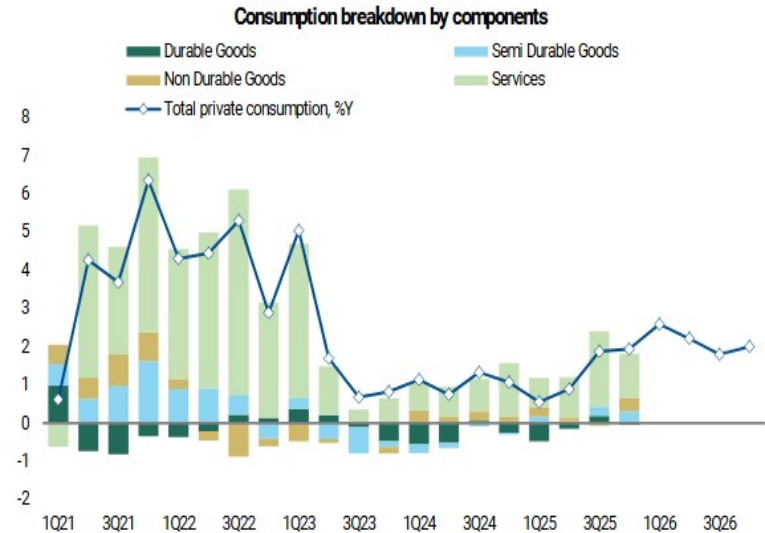
Source: BoK, Morgan Stanley Research

Consumption: Faster-Than-Expected Recovery

We see a more stable consumption path on fiscal support, wealth effect, and wage growth



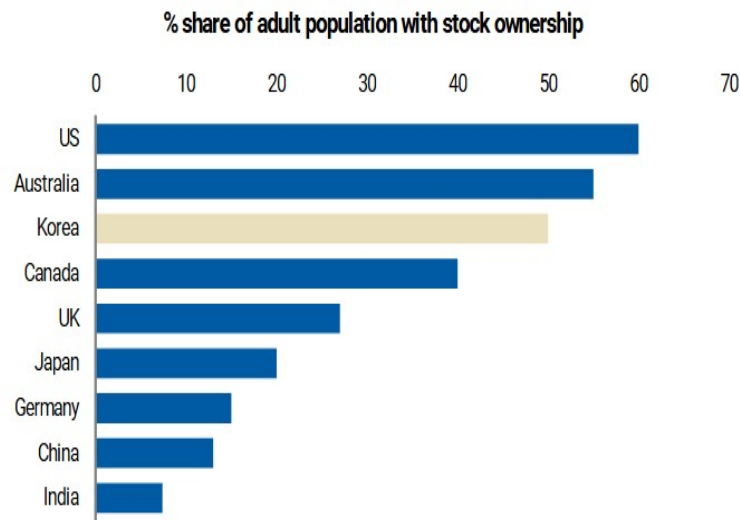
Both goods and services consumption to sustain



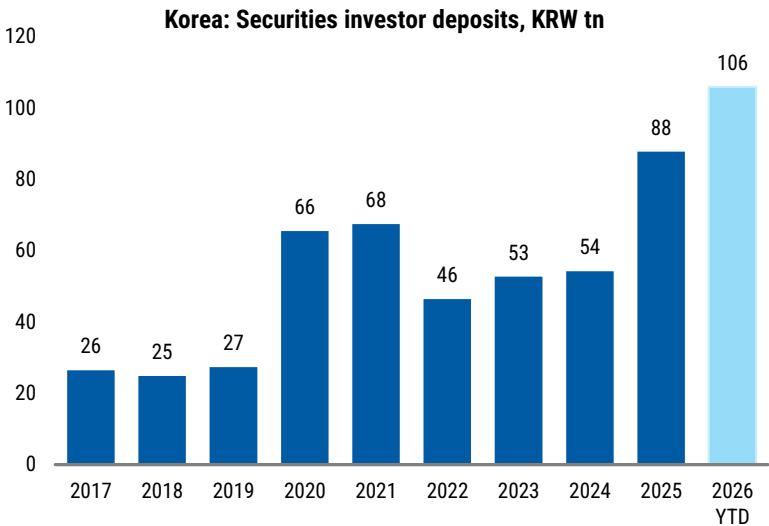
Source: BoK, Morgan Stanley Research forecasts

Structural Factors Become Favorable for Wealth Effect From Equities

Retail investor stock ownership in Korea remains relatively high, nearly 50% of the adult population



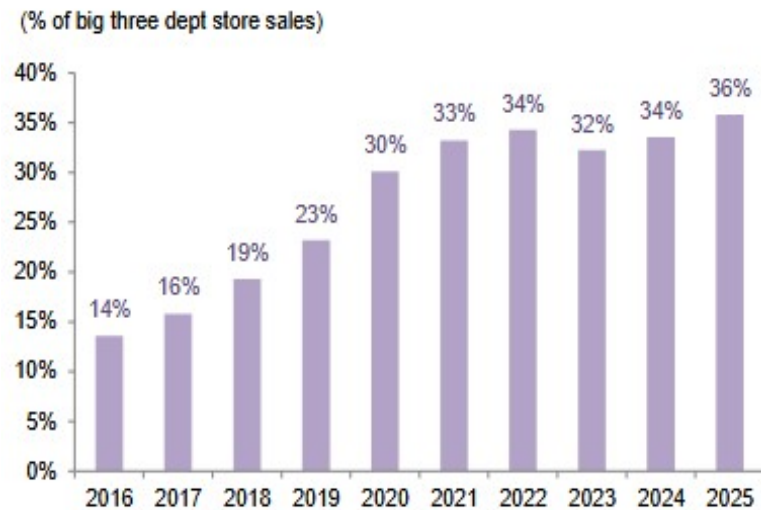
Liquidity in Korea's equity market remains ample, with a recent jump over the past two years



Source: CEIC, Korea Exchange, Morgan Stanley Research

Supporting Strong Luxury Sales Growth

Wealth effect benefiting high-end consumption, especially luxury category sales



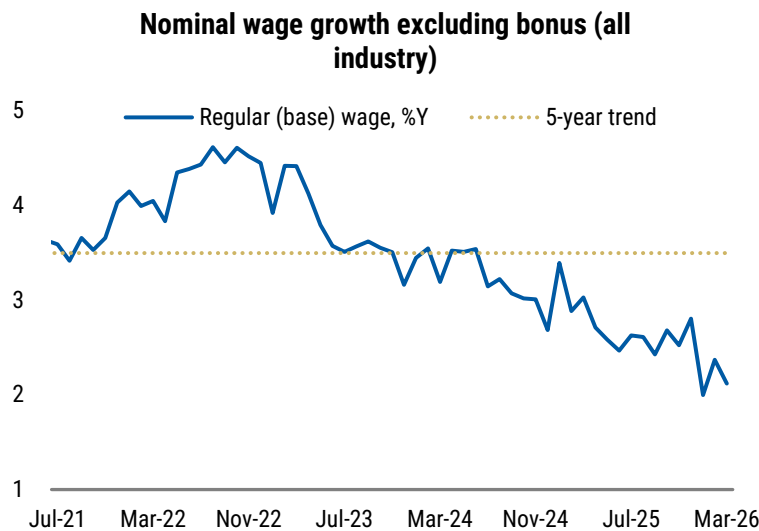
Luxury sales growth at department stores



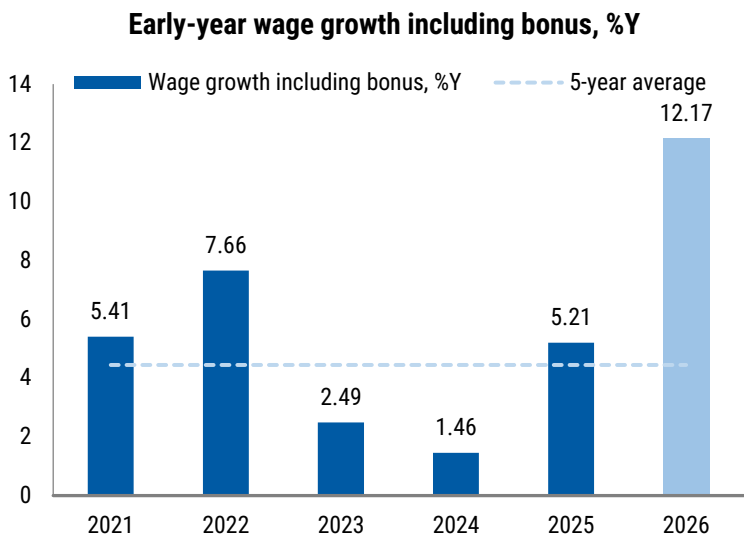
Source: Company Data, Morgan Stanley Research estimates

Uneven Wealth Gains across Income Groups

Overall wage growth below the long-term trend...



...But early year bonus has nearly tripled this year



Source: MoEL, Morgan Stanley Research

Uneven Wealth Gains across Income Groups

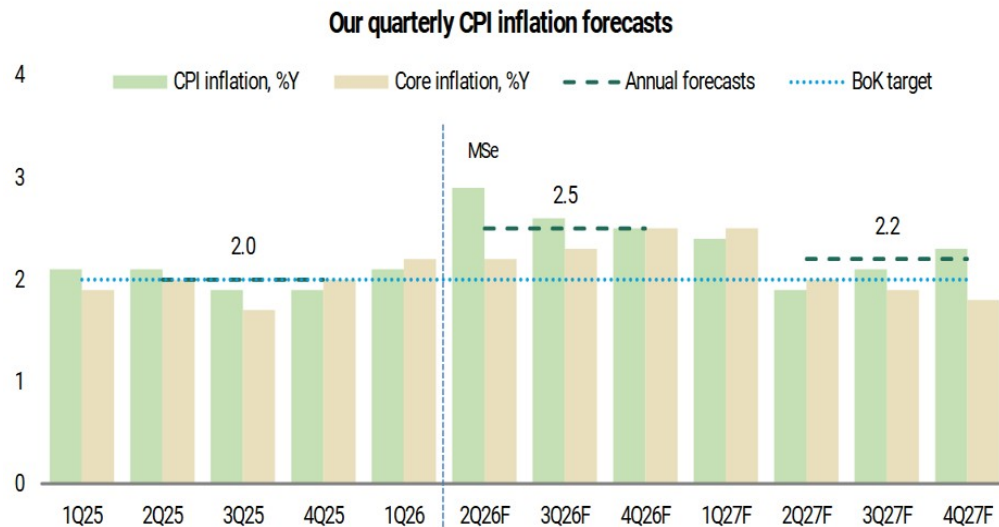
Labor income as a share of total household income has fallen in the past two years vs. return on assets

Korea nominal wage growth - total growth including bonus	2023	2024	2025	1Q26
Total wage including bonus, %Y	2.59	3.07	3.11	11.14
Mining and quarrying	0.56	5.91	0.10	5.49
Manufacturing	3.60	3.25	3.30	12.41
Electricity, gas, steam and water supply	6.47	6.40	2.57	(1.89)
Sewerage, waste management, materials recovery and remediation activities	3.07	3.37	2.54	2.18
Construction	4.00	3.01	2.70	21.80
Wholesale and retail trade	3.98	2.99	2.57	11.65
Transportation	4.04	3.51	3.57	6.31
Accommodation and food service activities	4.70	1.81	3.51	31.14
Information and communications	2.66	4.35	3.10	1.04
Financial and insurance activities	0.67	2.08	6.16	8.82
Real estate activities and renting and leasing	1.06	1.59	1.64	0.95
Professional, scientific and technical activities	1.79	3.55	2.89	9.32
Business facilities management and business support services	3.99	3.79	2.13	8.32
Education	2.04	2.94	2.35	5.56
Human health and social work activities	0.30	2.83	4.15	7.56
Arts, sports and recreation related services	(0.58)	1.87	1.92	13.71
Membership organizations, repair and other personal services	6.24	4.07	2.42	7.47

Source: BoK, Morgan Stanley Research

CPI Inflation: From Supply-side to Services Build-up

We see an inflation trajectory above 2% through 2027; peaking in 2Q26

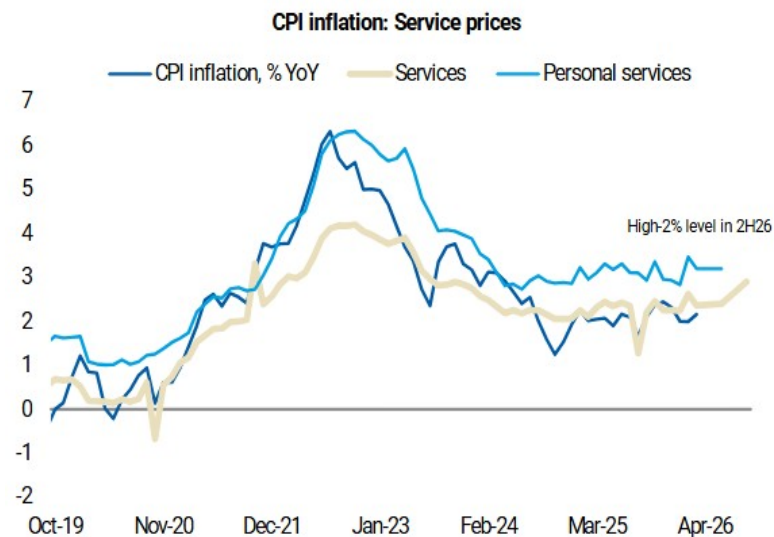


- We raise our CPI inflation forecast to 2.5% for this year with the peak at 2.9% in 2Q26.
- Reflecting the elevated energy prices and faster-than-expected domestic recovery story, we forecast CPI inflation at 2.5% and core inflation at 2.3% for 2026.
- While higher oil prices are yet to have been fully passed through to domestic services inflation in 1Q26 as the administered price smoothing and retail oil price caps are in place, we forecast CPI inflation to rise to 2.9%Y in 2Q26 before it stabilizes at 2.5% in 2H26.

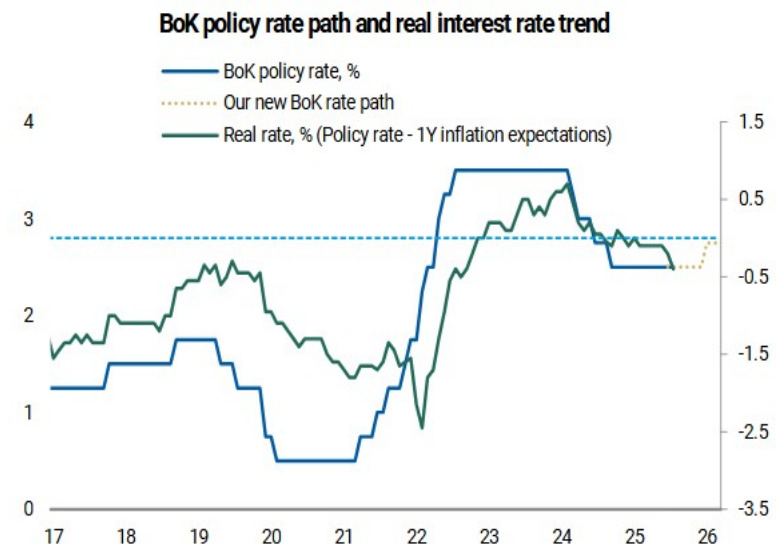
Source: BoK, Morgan Stanley Research forecasts

CPI Inflation: From Supply-side to Services Build-up

Demand-driven services inflation looks set to climb to the 2% level by 2H26 vs. 2.4% pre-Iran conflict



Real rate extends further into negative territory as inflation expectations jump to 2.9% in April

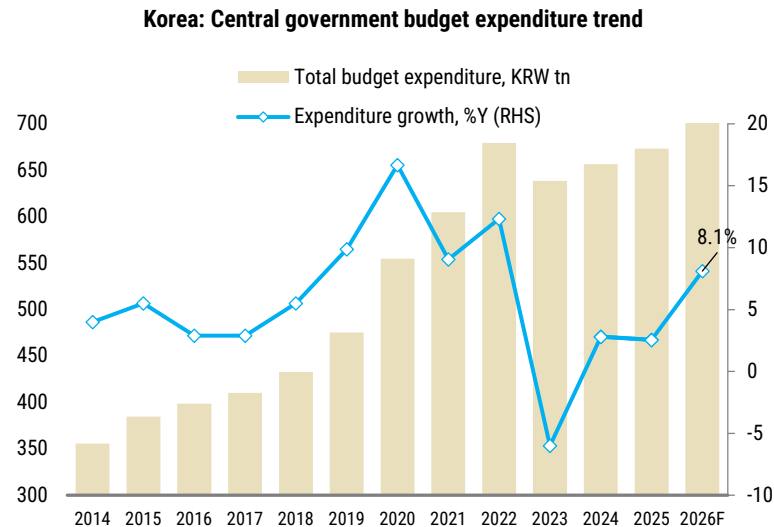


Source: BoK, Morgan Stanley Research forecasts

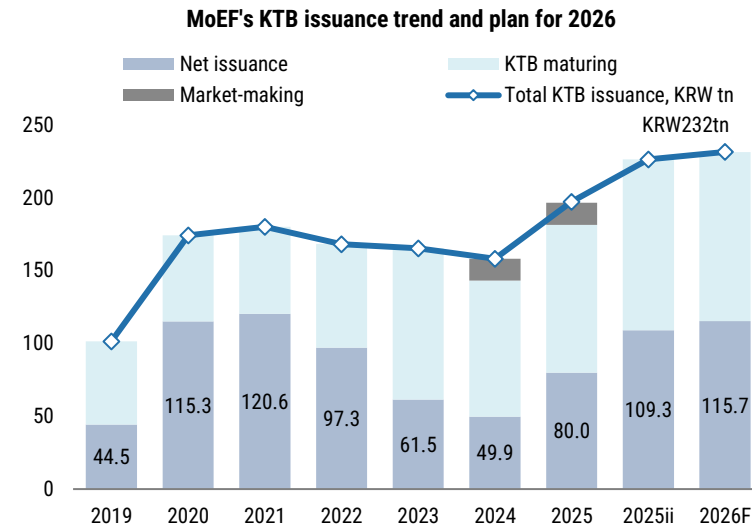
Fiscal Policy: Ample Revenue for Expansion

On the policy side, we see 2026 as the first full year of expansionary fiscal policy in four years. After the previous government's fiscal prudence agenda and the mid-year 2025 election, this will be the first year the government's expanded spending plan is fully in place, and the domestic economy should benefit as it recovers.

With weak growth backdrop, the government proposes record-high budget spending in 2026



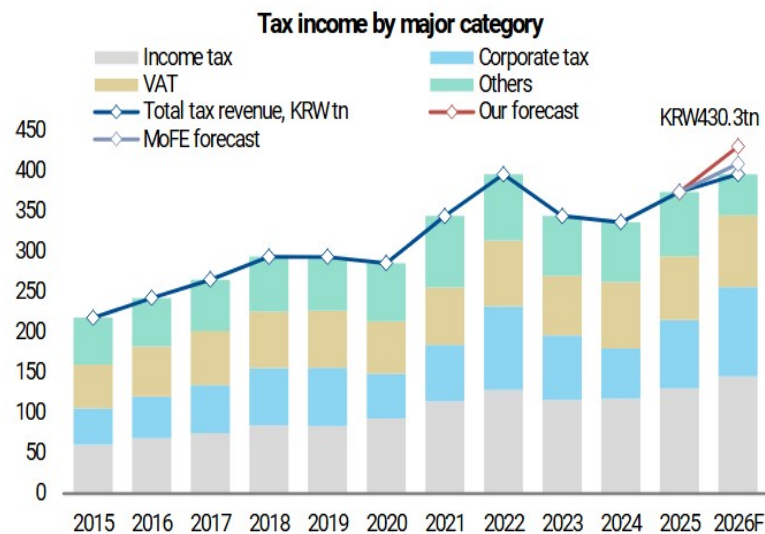
KTB issuance to rise marginally from this year



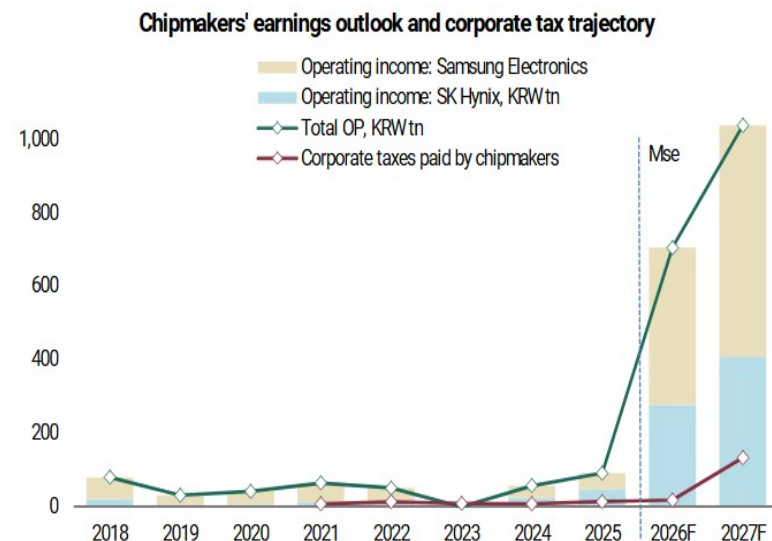
Source: MoEF, Morgan Stanley Research (F) forecasts

Ample Revenue for Expansion

We think tax income could rise 8% more than the government's forecast, mostly on corporate tax increase



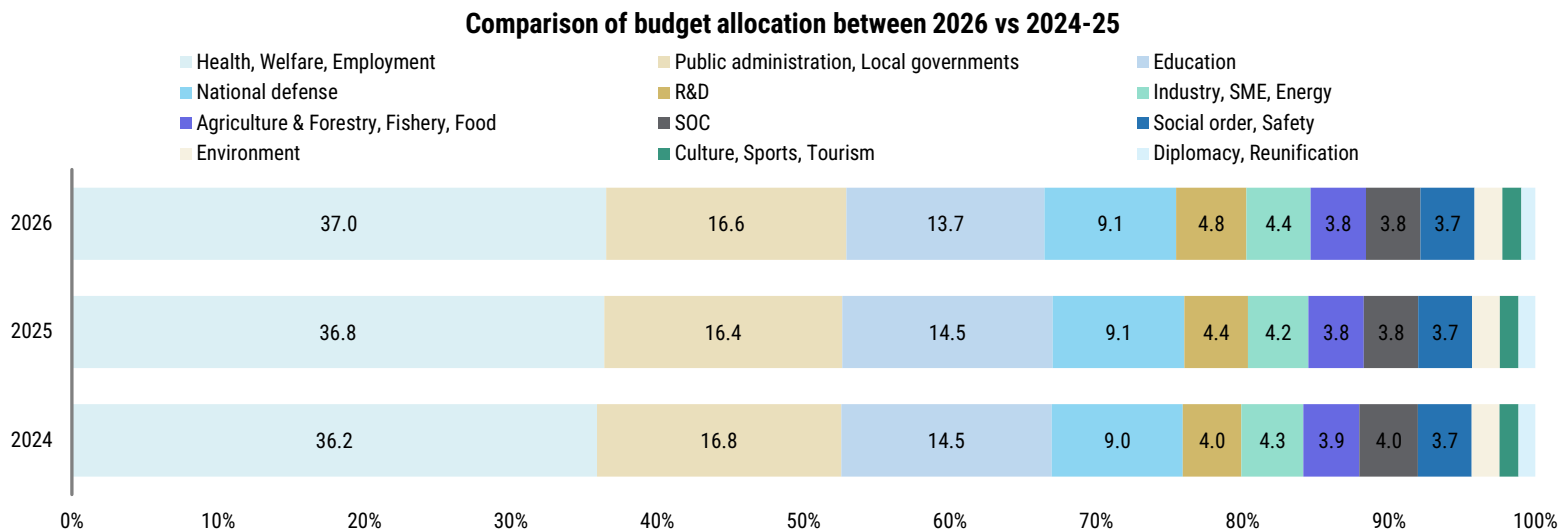
Our tech team expects earnings to rise 7.8x for the two Korean chipmakers this year



Source: MOFE, NABO, Morgan Stanley Research

2026 Expansionary Fiscal Policy

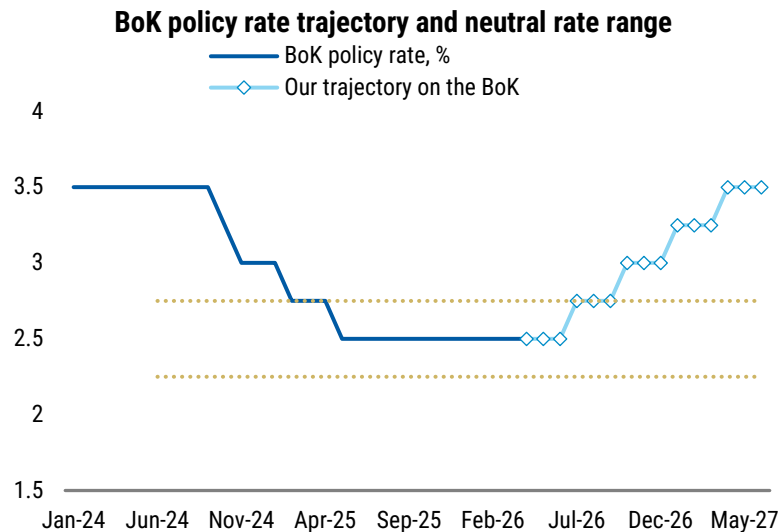
Budget allocation likely extended on household support and AI-related R&D spending



Source: MoEF, Morgan Stanley Research

Monetary Policy: All Signs Point to Hiking Path

We see four BoK hikes now, starting from 4Q26, to a terminal rate of 3.50% by mid-2027

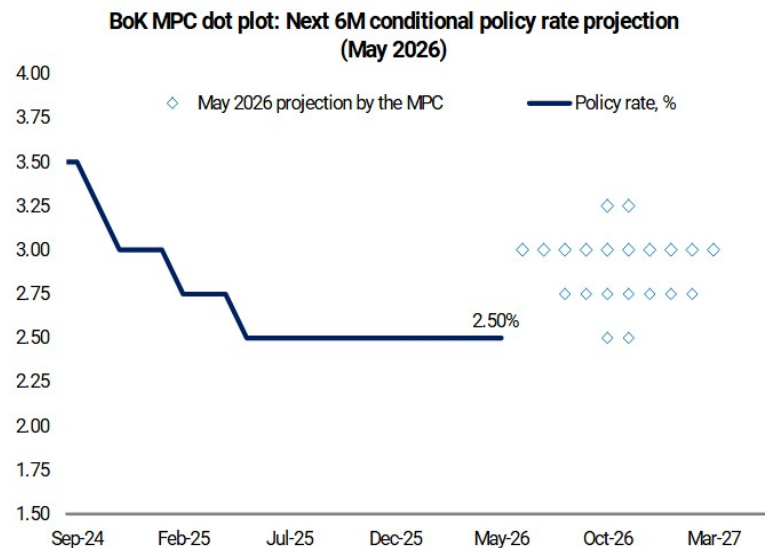


Source: BoK, Morgan Stanley Research

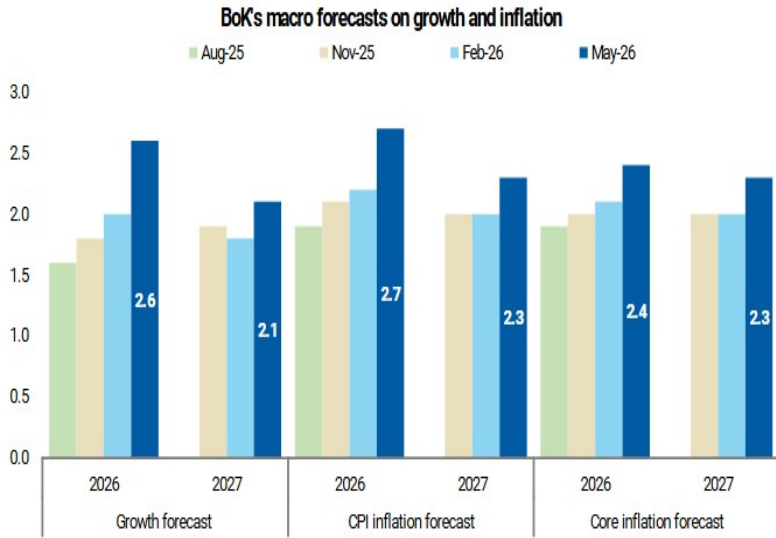
- On the monetary side, we expect four hikes in this cycle, taking the terminal rate to 3.5% by 2Q27.
- We expect the first hike in July, followed by October, January, and April 2027.
- The BoK's renewed confidence in fundamentals-driven growth and sustained inflation – rather than a transient rebound – leads us to shift our view from an incremental hiking cycle to an earlier and longer one.
- While we do not rule out back-to-back hikes this year, the BoK's core inflation forecast – remaining elevated at 2.4% and 2.3% through next year – supports a sustained move deeper into tightening territory rather than a rapidly front-loaded path.

Confident on Growth, Rushing to Hike on Inflation

A sharp turn to higher rate projection signals an immediate start to the hiking cycle and potentially a longer-lasting one



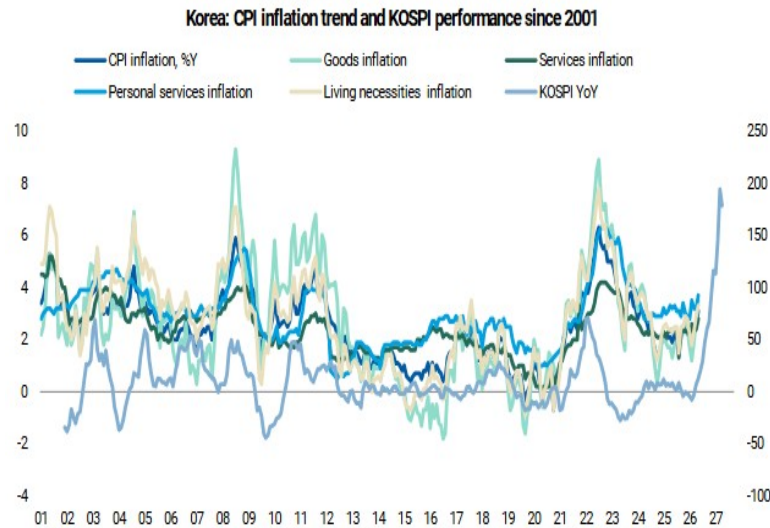
BoK's growth forecast is in line with our expectations at 2.6% for the next year while its inflation forecast looks stickier at 2.7% vs. our forecast of 2.5%; Its core inflation forecast at 2.3% next year is notable



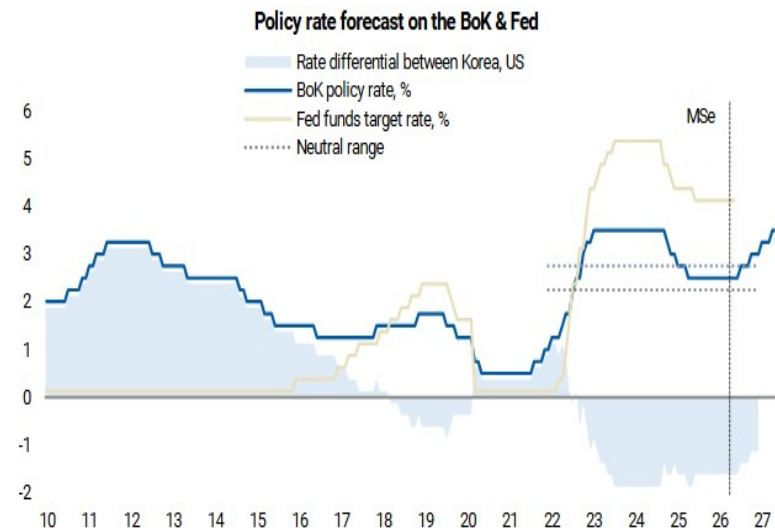
Source: Haver, Morgan Stanley Research

Wealth Effect: Implications for CPI Inflation and Monetary Policy

Amplified wealth effect likely implies inflationary pressure build-up; KOSPI move highly correlated with a statistical lead of 15-18 months



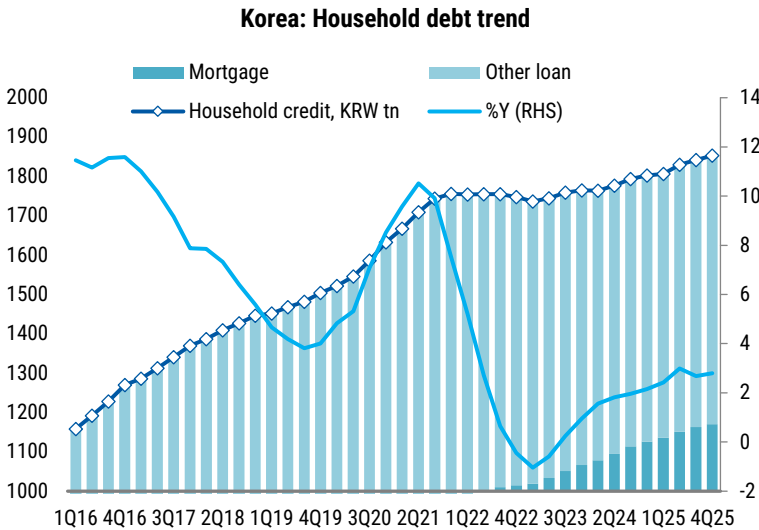
We expect a hiking cycle to start from July 2026 through mid-2027



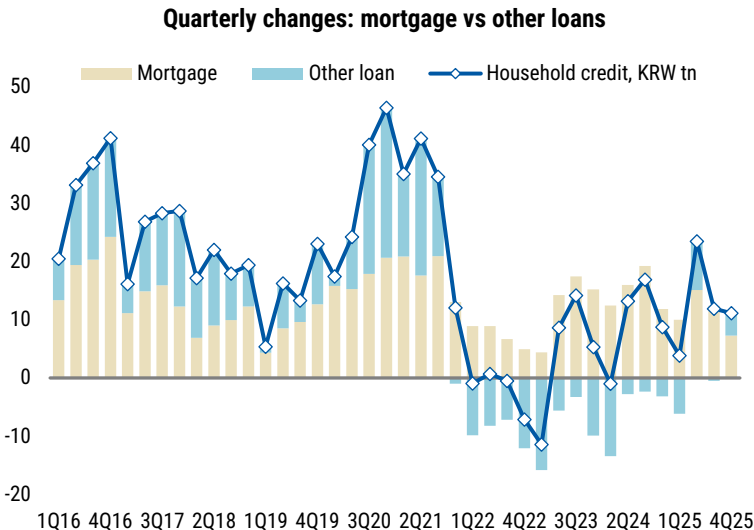
Source: BoK, Fed, Morgan Stanley Research forecasts

Household Debt Overall Slowing Down

Korea’s YoY Household debt growth has remained under 3% over the past 3 years



Mortgage debt growth has been the main driver of marginal debt increase



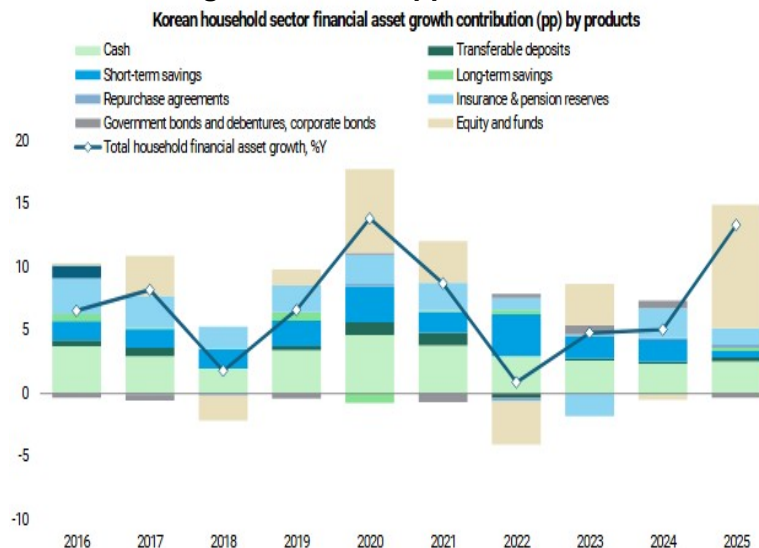
Source: BoK, Morgan Stanley Research

Korea Renaissance: Is the Household Asset Move to Equities Sustainable? Possibly

Korean Households' Asset Reallocation Has Been an Ongoing Trend

Korean household balance sheets are undergoing a major shift. Equity holdings are surging, as a long-standing bias towards cash fades. With property accumulation facing policy headwinds and the stock market set for positive catalysts, we see retail investors' participation in equities continuing.

After accumulating wealth primarily through real estate, household equity holdings surged 48%Y in 2025, a striking inflection in appetite for risk assets



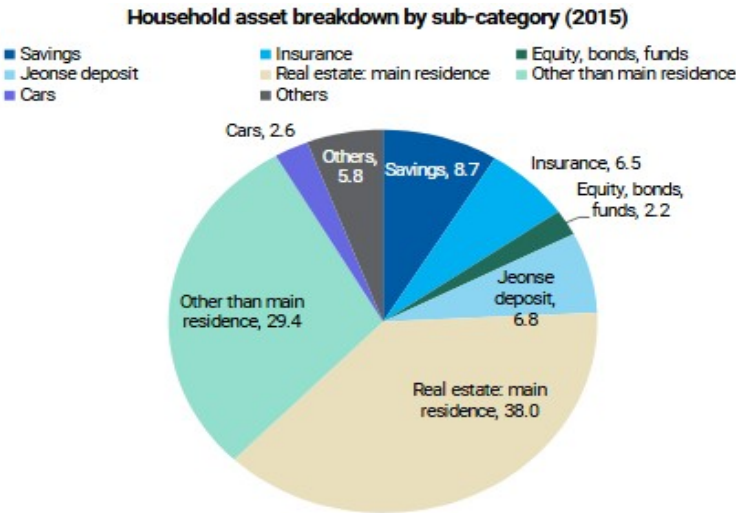
Source: BoK, FSC, MoDS, Morgan Stanley Research

Key takeaways

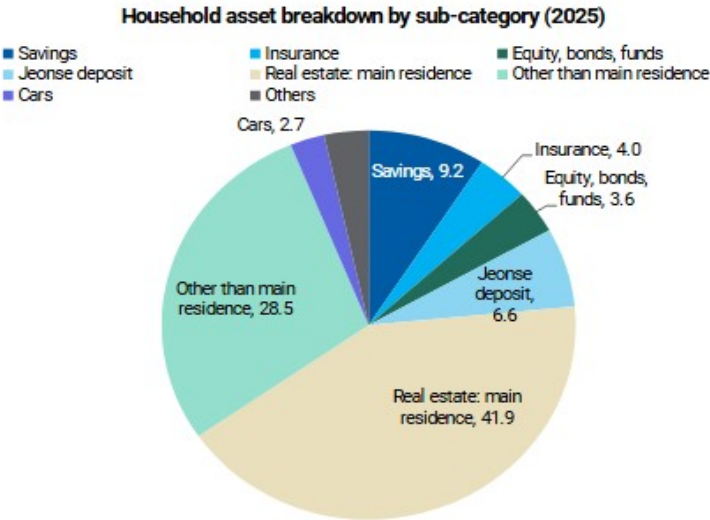
- Household asset composition in Korea is undergoing a meaningful structural shift into risk assets, with equity holdings extending their sharp rise since 2025.
- Housing unaffordability and tight credit policy contrasted by stock-market reform measures are behind the transition to an alternative wealth-building vehicle.
- Both positive and negative economic implications are at play: wealth effect to help consumption, while high exposure to volatility risks the reverse effect.
- The tendencies of Korean retail investors toward equity investing appear to be evolving in a positive way, but leverage needs to be managed.
- We expect retail investor engagement to be sustained, but investors' expanded scope could be a double-edged sword. We raise our KOSPI target to 9,000.

Heavy Bias Toward Real Assets Coming from Lack of Retirement Safety Net

Real estate assets across main and other residences composed 67% of total household assets back in 2015



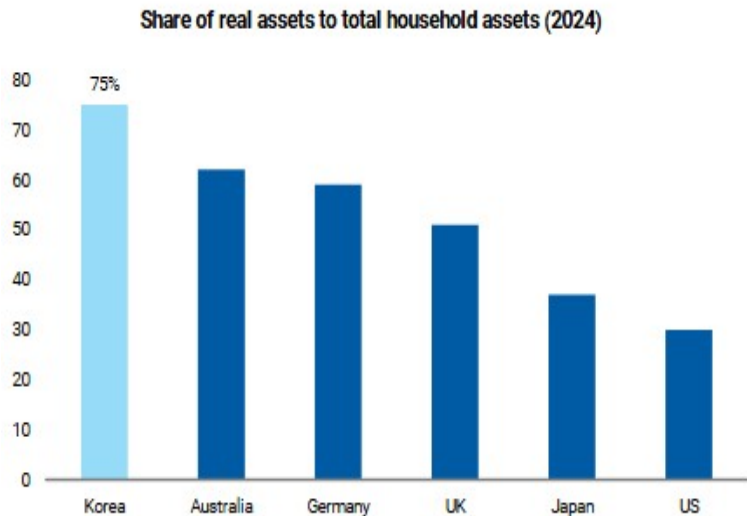
The share rose to 70% while the size of total assets nearly doubled in the past decade through 2025



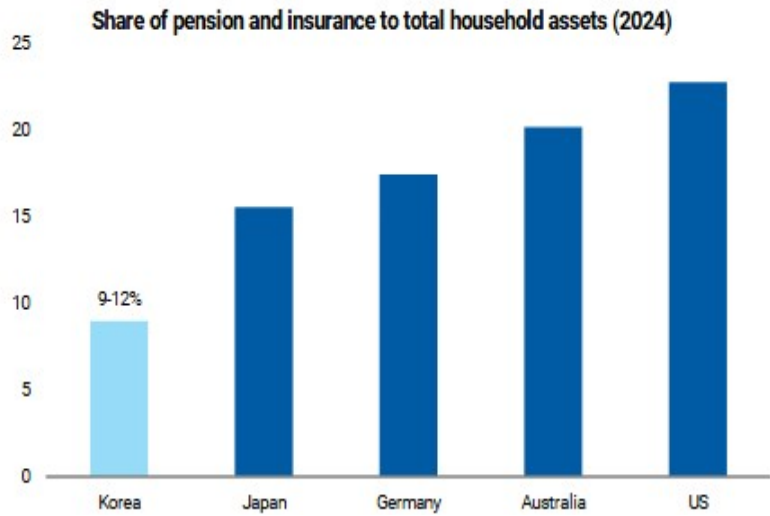
Source: BoK, CEIC, Morgan Stanley Research

Real Assets a de facto Retirement Savings Instrument

Korean households' real asset share exceeded trend compared to other economies



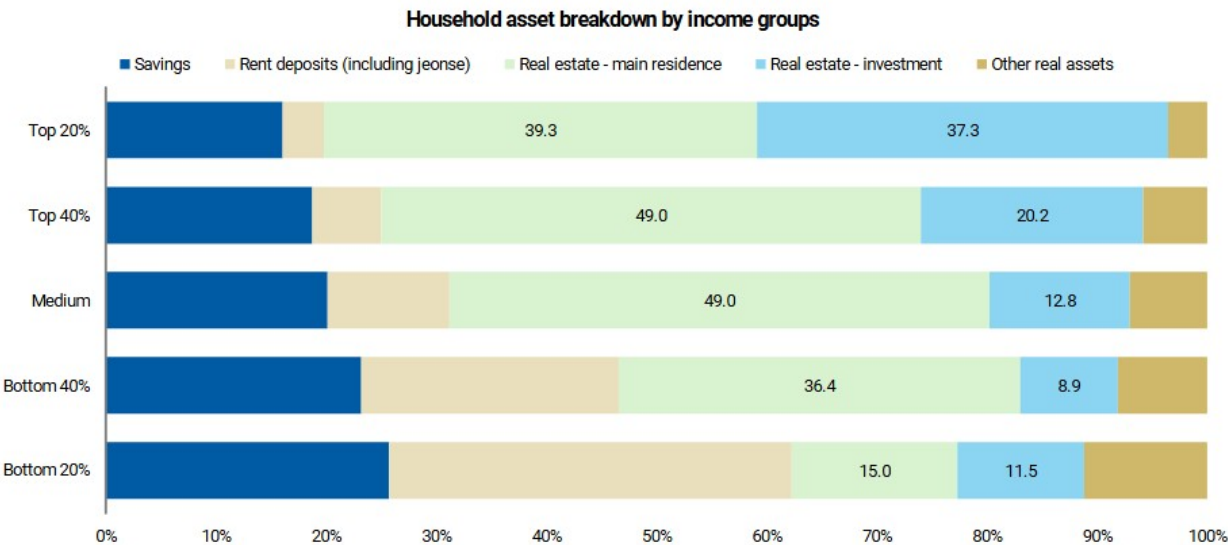
Real assets likely substituted for the low-funded pension and post-retirement income



Source: BoK, ESRI, Bundesbank, FRED, Morgan Stanley Research

Wealthier Households Shift Faster from Concentrated Holdings of Real Assets

Wealthier households showed a stronger preference to holding real estate: 77% vs. medium-income of 66.8% vs. 26.5% for bottom income households; Yet, this long-entrenched bias toward real assets among wealthier households has shown signs of rotation in recent years.



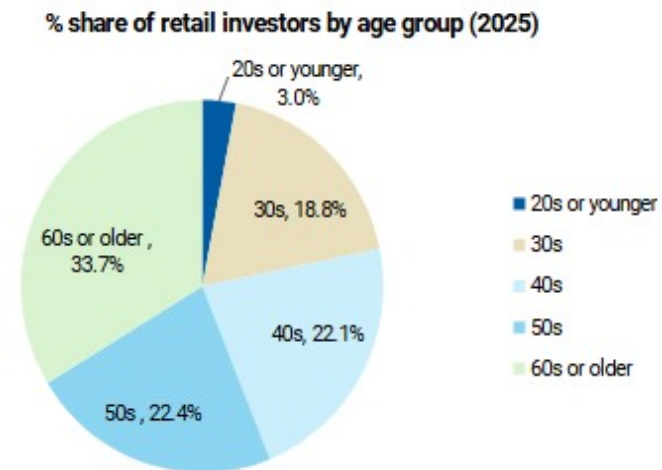
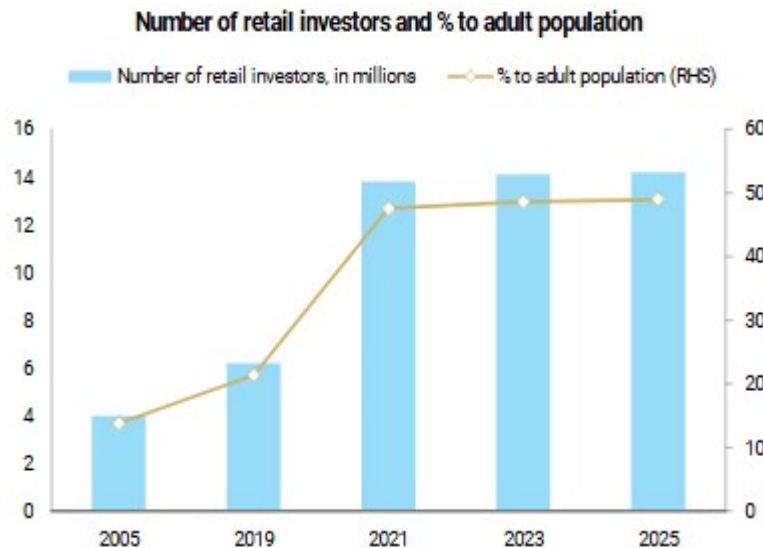
Source: Korea Statistics (2025 Household Financial Conditions Survey), Morgan Stanley Research

Economic Implications of Household Asset Shift

With the structural shift toward equity investments that we believe is underway, we see this transition carrying a wide range of positive and negative implications for the real economy. Transitions carry notable implications for consumption, financial stability, inflation as well as monetary policy, in our view, amid the broadening of the investor base and scale-up in total equity holdings newly featured in the past 4-5 years that did not exist to the same degree pre-2020.

The number of retail investors increased to 50% of total adult population vs. 21% in 2019

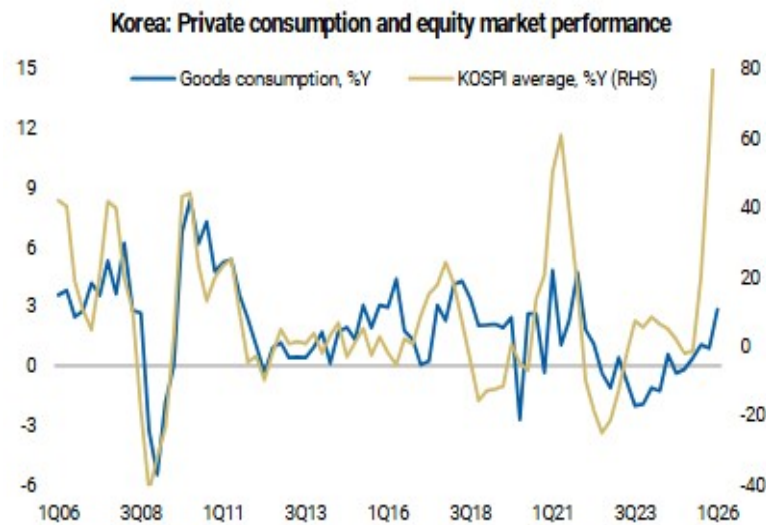
43% of retail investors are aged 40s or below, groups with a higher marginal propensity to consume



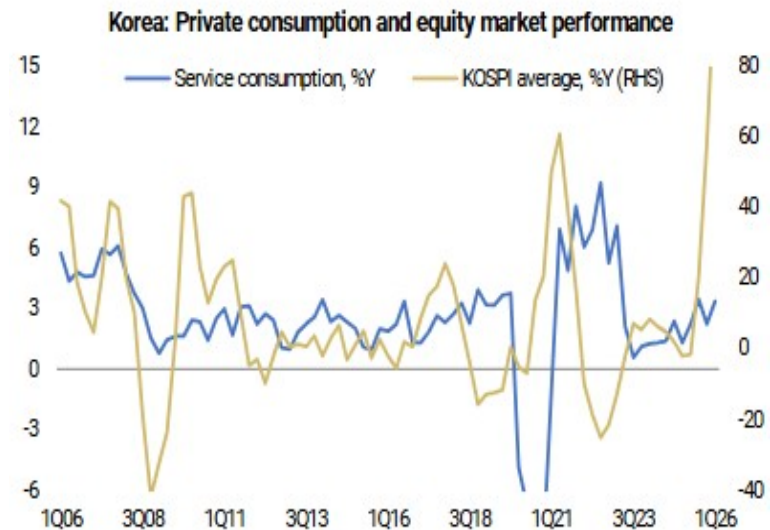
Source: Korea Statistics (2025 Household Financial Conditions Survey), Morgan Stanley Research

Positive Implications: (1) Amplified Positive Wealth Effect

Historically, a 1% gain in the KOSPI implied a boost to consumption growth of approximately 0.03-0.035%p



Along with goods consumption, services has shown a higher response to KOSPI performance in the recent quarters

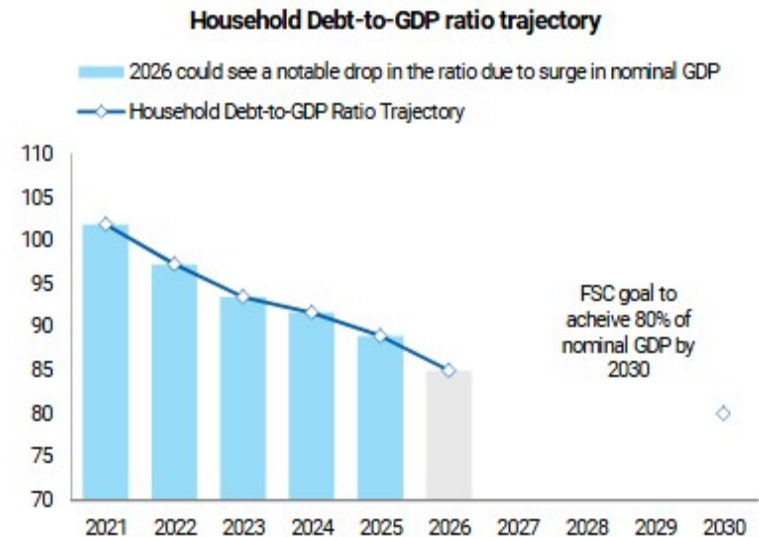


Source: Bloomberg, BoK, Morgan Stanley Research

(2) Reduced Systemic Leverage and Asset Skewness to Real Estate

Stronger growth and inflation forecasts for this year offset by weaker outlook next year

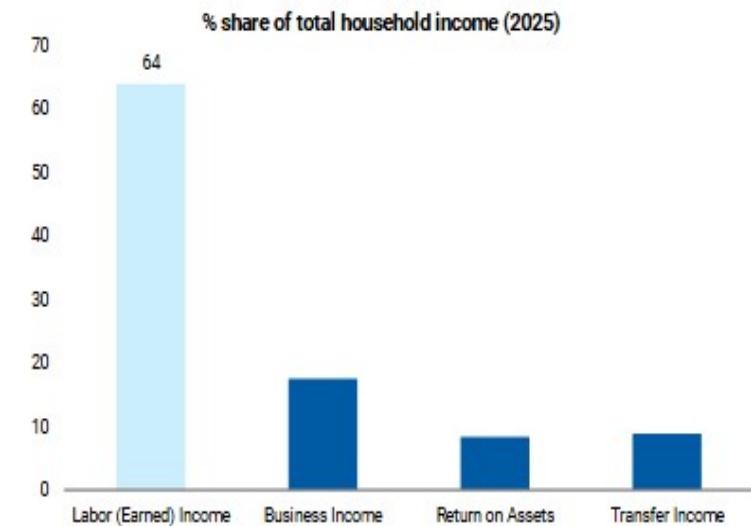
The outlook for both consumption and exports weakens in 2H26 vs. 1H26



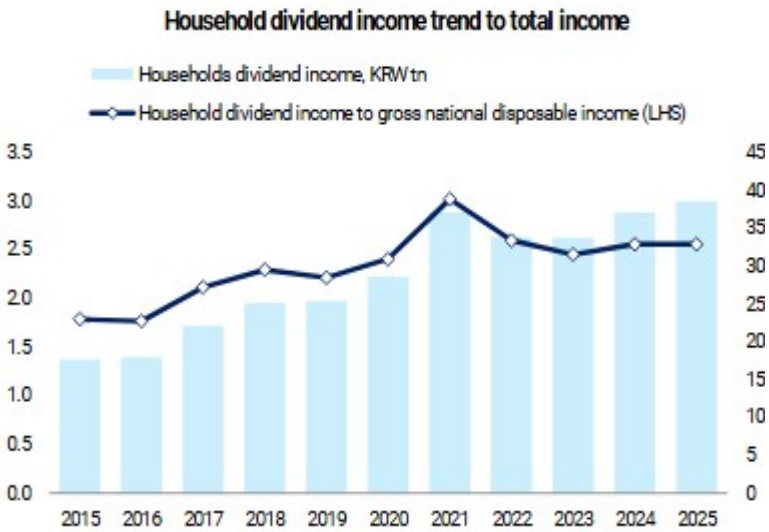
Source: Korea Statistics (2025 Household Financial Conditions Survey), Morgan Stanley Research

(3) Diversifying Household Income Channels Beyond Labor and Real Asset Returns

Income breakdown across labor, financial and real asset returns show a heavy dependency on labor income



Households' dividend income shows an up-trend, yet remains relatively low at 2.2% of total disposable income

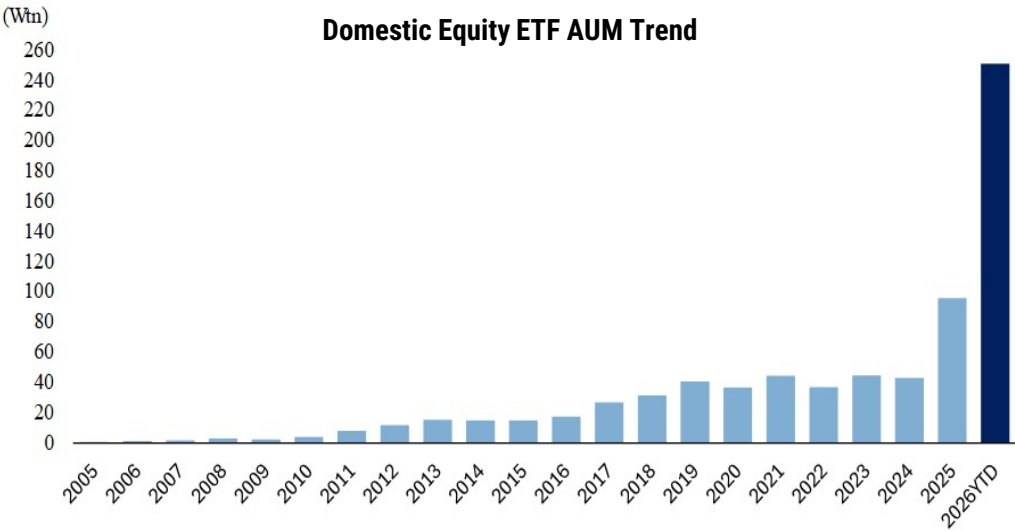


Source: BoK, Korea Statistics, Morgan Stanley Research

Negative Implications: (1) Heightened Exposure to Market Volatility

As Korean households already carry a large debt burden, a period of elevated equity market exposure could stretch liquidity, slow consumption, and increase debt-service stress. The scale of equity asset accumulation on Korean households' balance sheets reached a record high, 61% of nominal GDP, from the previous five-year trend of 45%. By 2027, we estimate that this is likely to grow to over 81% of nominal GDP. This would heighten households' sensitivity to equity market volatility.

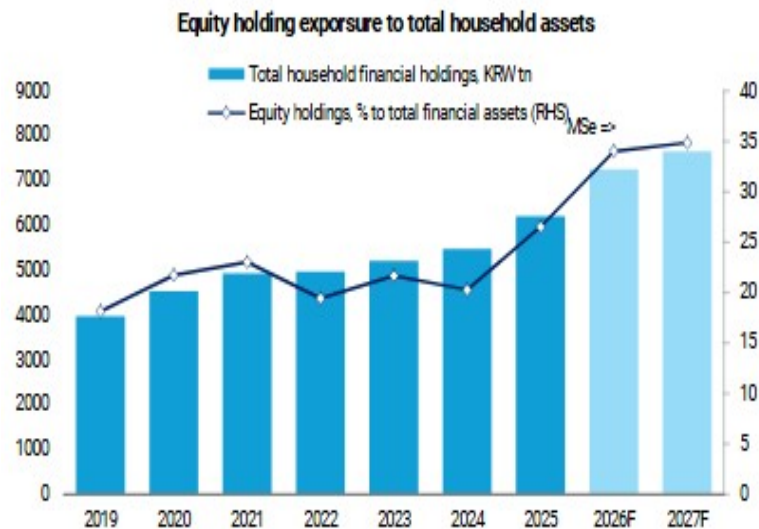
ETF flows have been one of the key drivers of the domestic equity market; ETFs can be a double-edged sword: on the way up, they are a catalyst, but they could have the same effect on the way down. We will have to monitor the flows closely



Source: WiseFN, Morgan Stanley Research, Data as of Jun 2, 2026

(2) Risks around Asymmetry in Reverse Wealth Effect

Share of equity assets held by households set to reach the highest level, at 35% of total financial assets



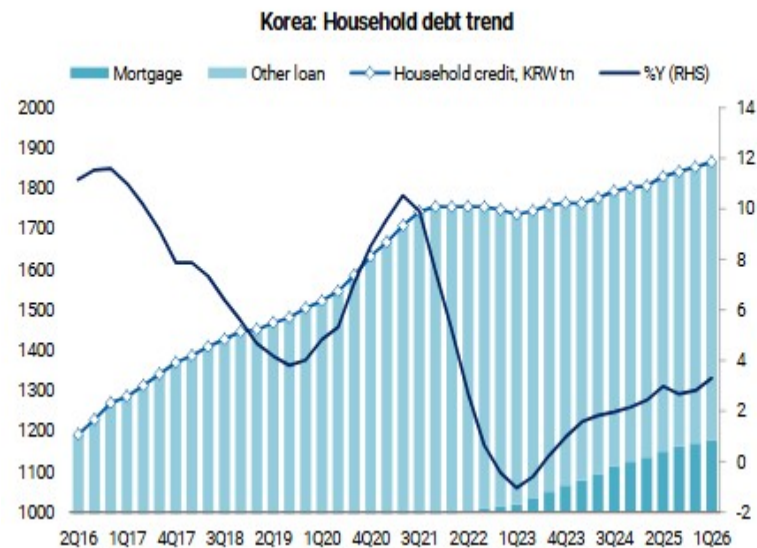
This likely extends the size to over 80% of nominal GDP by 2027 vs. 61% in 2025 and 43% in 2024



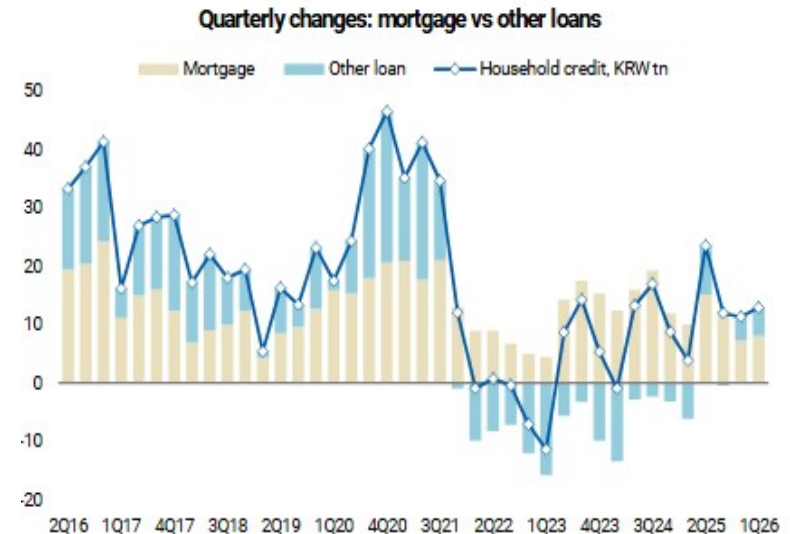
Source: BoK, Morgan Stanley Research forecasts

(3) Higher Sensitivity to Tighter Financial Conditions

Households' sensitivity to rising interest rates adds pressure to their already high leverage



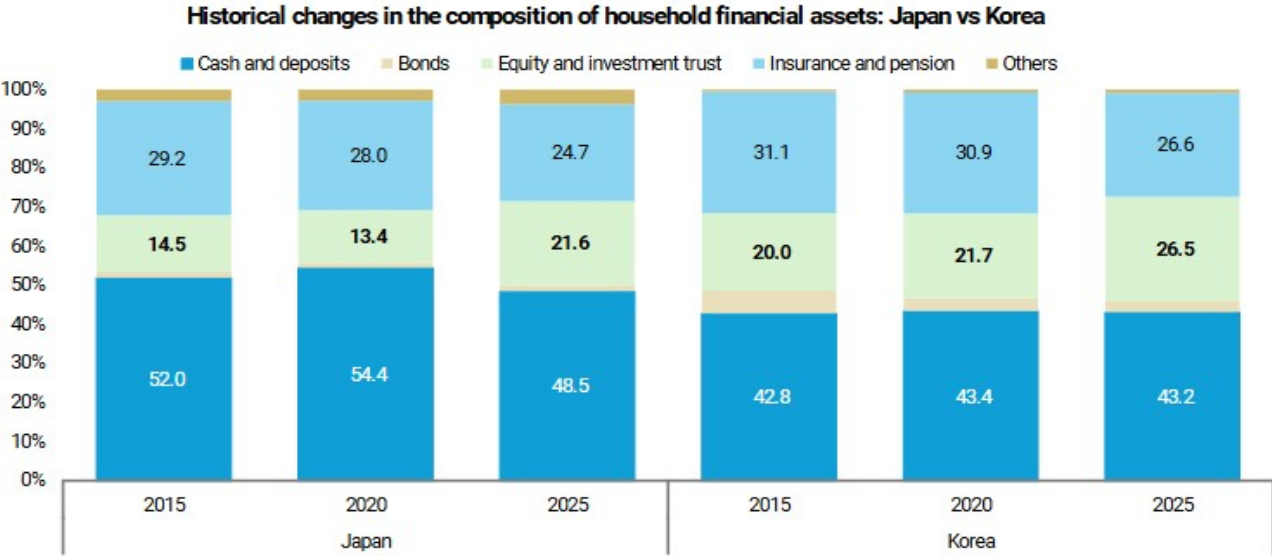
Amid persistent increase in mortgage loans, other loans turned around to an increase in the past 4 quarters



Source: BoK, Morgan Stanley Research

Japan's Reform as Reference: Quicker Move amid Active Risk-Seeking in Korea

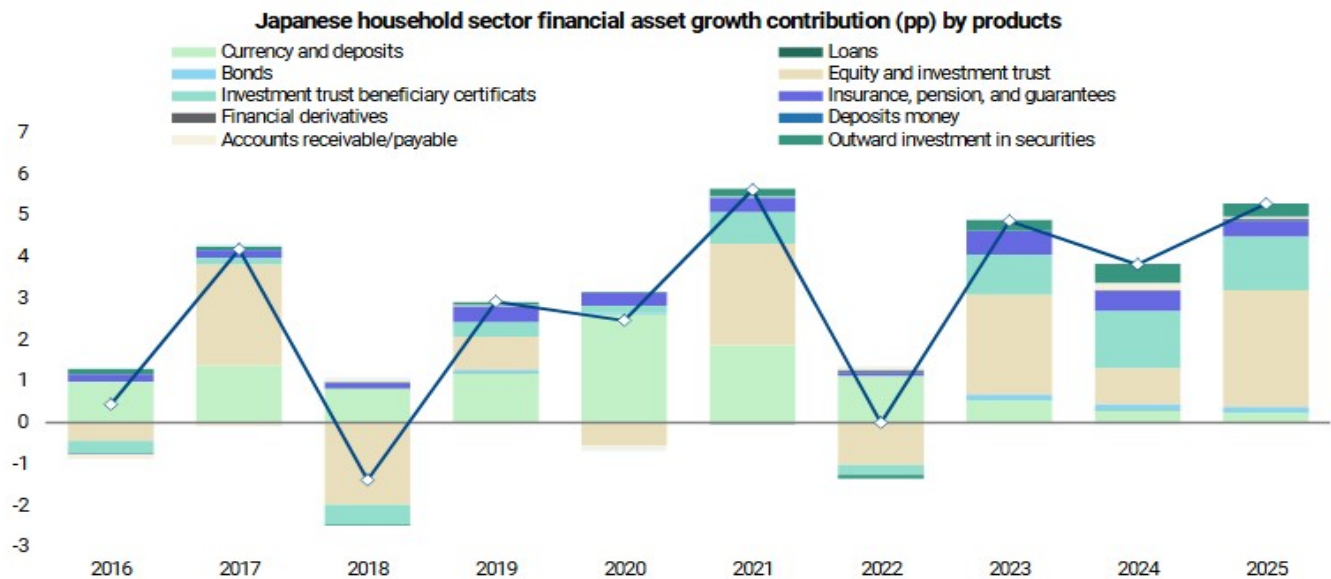
Japanese households have shown stronger appetite for lower-risk assets vs. Korea; bias to cash remains higher



Source: BoK, ESRI, Morgan Stanley Research

Successful Expansion of Retail Participation in NISA

Japan: Majority of contributions to an annual increase in financial assets came from equity and investment trust holdings in 2025, following new NISA reforms



Source: BoJ, Morgan Stanley Research

Stronger Appetite for Retail Equity Investment in Korea vs. Japan

Retail investor stock ownership: Despite an earlier start on market reforms with the new NISA in 2024, Japan's retail participation share has risen, but from a low base. Its individual investors accounted for 25% of trading value in 2025, the highest level in over a decade, but they made up only 17% of market ownership. Meanwhile in Korea, retail traders historically made up about 42-45% of total domestic exchange turnover, and the retail investor base has more than doubled in five years, to 14.2mn in 2024 from 6.9mn in 2019, or nearly half of the adult population (above age 15).

Intensity of retail participation: This growth has led retail transaction volumes to surge in Korea. In 2026, retail investors have been the largest net buyers in the Korean market, with approximately US\$15bn in inflows. On the other hand, Japanese retail investors have been net sellers of domestic stocks in 2025-26, offloading JPY3.8tn, despite a significant rally in Japanese equities. We think this contrarian behavior is indicative of the conservative nature of the domestic market in Japan.

More resources in Korea? Korean investors have significant cash in brokerage accounts, reaching W132tn this year, a record high. We believe this could be invested in equities. Margin lending balances have also continued to trend higher, indicating rising risk appetite. As of June 2026, customer deposits were up 60%, to W132tn, and margin lending balances up 70%, to W37.7tn, compared to August 2025.

Source: Morgan Stanley Research

Asia's Industrial Cycle is Inflecting

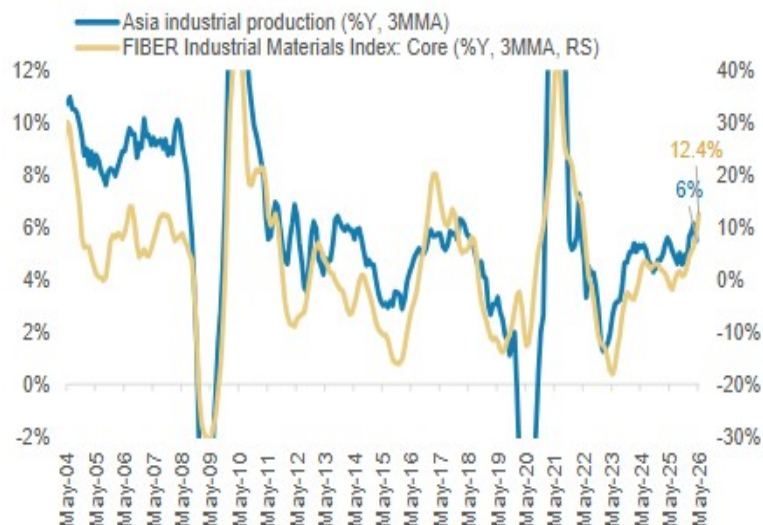
Asia's Industrial Cycle is Inflecting

A variety of indicators suggest that Asia's industrial growth is improving. An increase in energy transition-related, AI infrastructure and defense spending should lift Asia's industrial production further this year. Moreover, lower energy prices could provide a boost to the ongoing industrial and capex super-cycle. Korea should benefit considering its high net oil imports.

Key takeaways

- Asia ex-China's industrial production growth has already reached a 42-month high, and we expect a further acceleration.
- AI infrastructure, energy transition-related, and defense spending will increase and support industrial production.
- Economies outside of Asia are also raising their spending, which could lift Asia's non-tech exports.
- With the progress on a US-Iran peace deal, dated Brent prices have declined below US\$85/bbl from a peak of US\$144/bbl and vs. \$72/bbl on February 26.
- Our global oil strategist now sees dated Brent price settling at around US\$80/bbl from 4Q26 onwards.

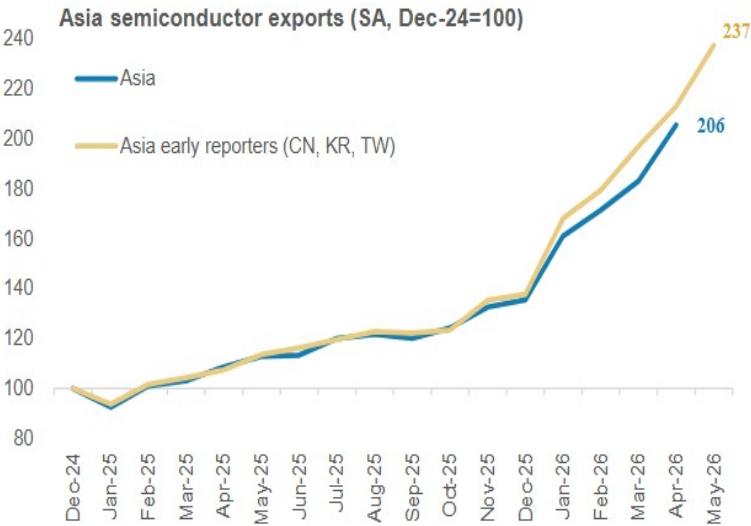
Asia's industrial production growth is at a four-year high



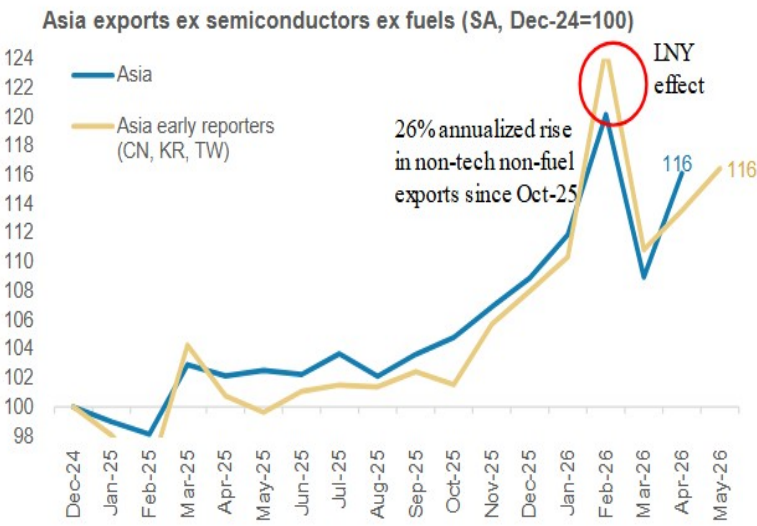
Source: Morgan Stanley Research

Ongoing Industrial Super-cycle Gets a Boost

Semis exports have continued to strengthen



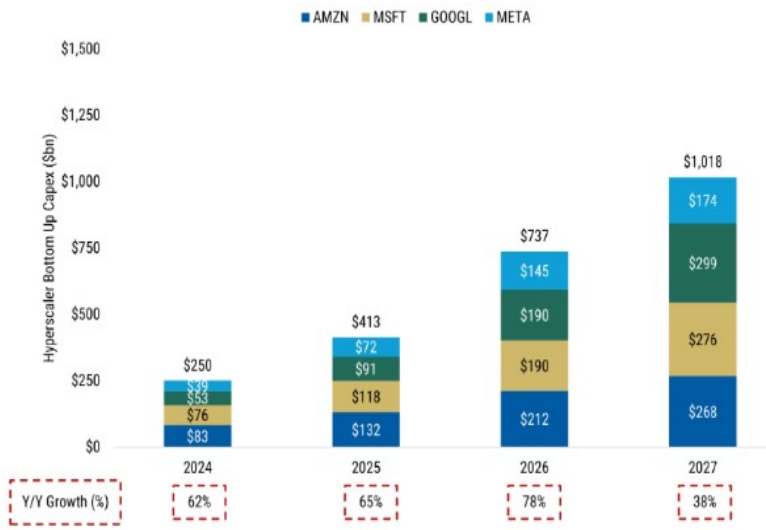
Strength in non-tech exports has sustained into May



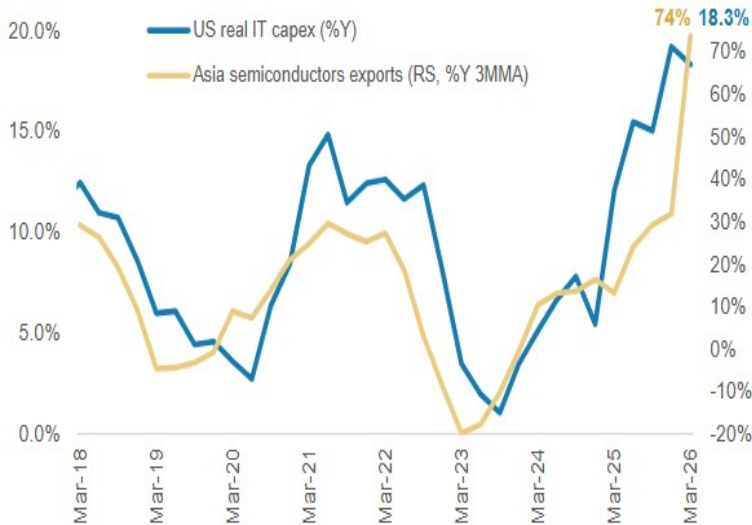
Source: CEIC, Haver, Morgan Stanley Research

Trends in Semis Exports: Still Surging Driven by Strong Demand from Hyperscalers

US hyperscaler capex to sustain strong growth through 2027



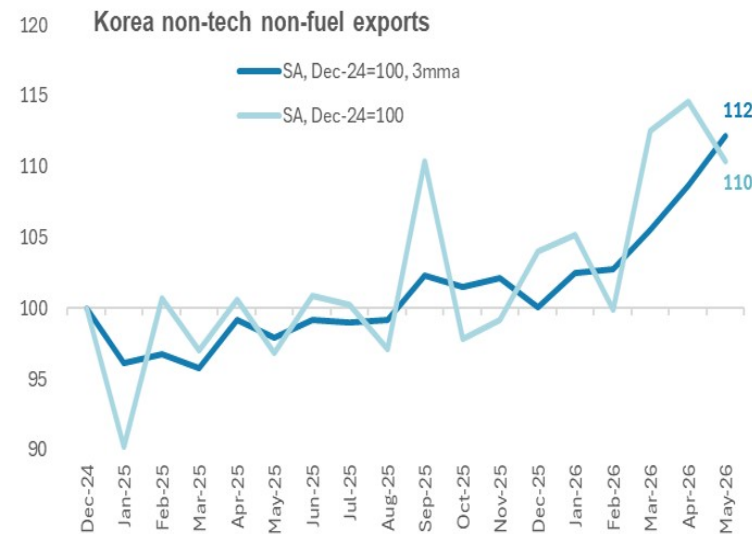
Strong US IT capex to sustain Asia's tech exports



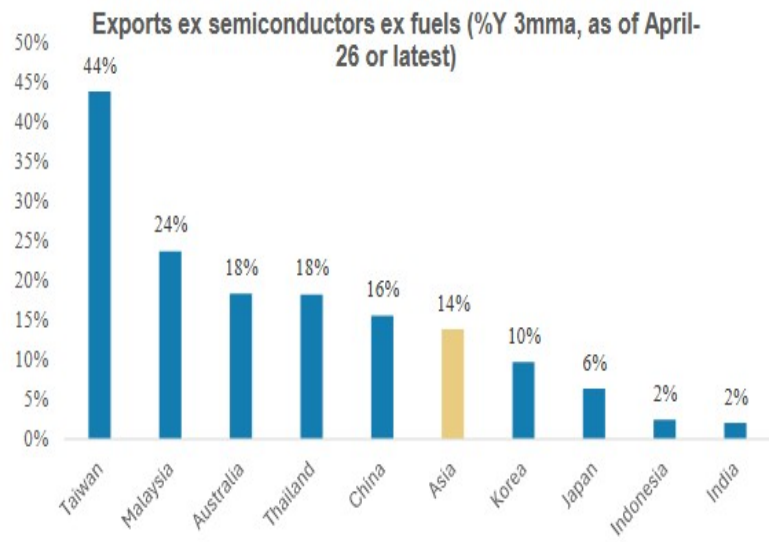
Source: Haver, Morgan Stanley US Equity Research team

Don't Underestimate the Recovery in Non-tech Exports

On an annualized basis, non-tech exports for Asia's early reporting economies have grown at 27% since October through April



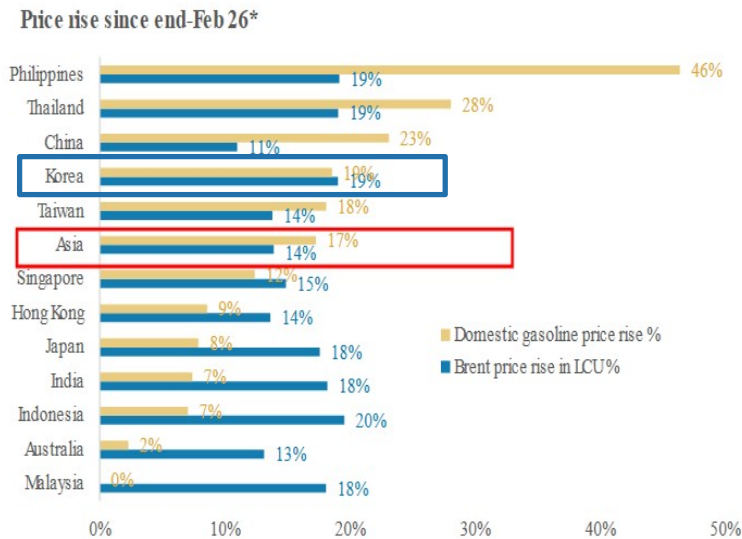
On a YoY three-month trailing basis, Asia's non-tech exports growth has accelerated to 14%Y



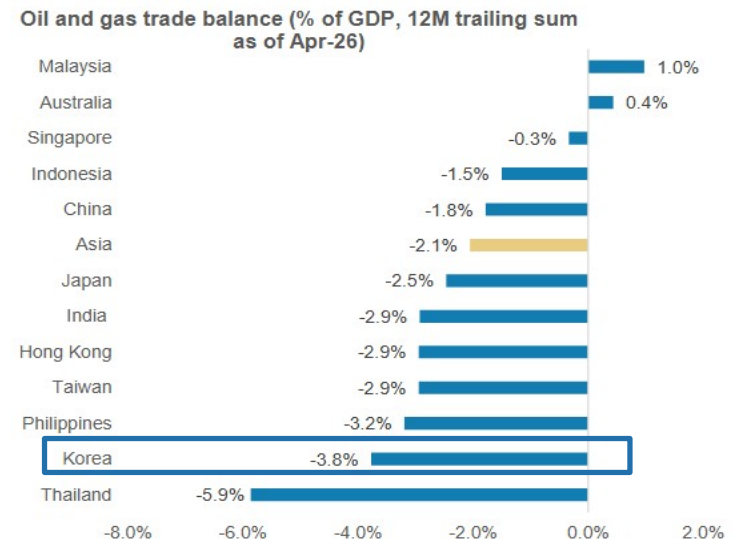
Source: CEIC, Morgan Stanley Research; Note: Asia includes China, India, Indonesia, Korea, Malaysia, Thailand, Taiwan, Australia and Japan. Non-tech non-fuel exports have risen at an annualized run rate of 25% (and 27% for early reporters) since October 2025, when the US signed trade deals with most Asian economies.

Korea Benefits from Lower Oil Prices

Policymakers have mitigated the pass-through from international oil price increases to domestic fuel price increases



Lower oil prices to minimize Korea's large exposure to oil balance deficits



Source: CEIC, Globalpetrolprices.com, Morgan Stanley Research; Note: *Data for brent price as of June 16, data for domestic fuel price as of June 8.



USDKRW

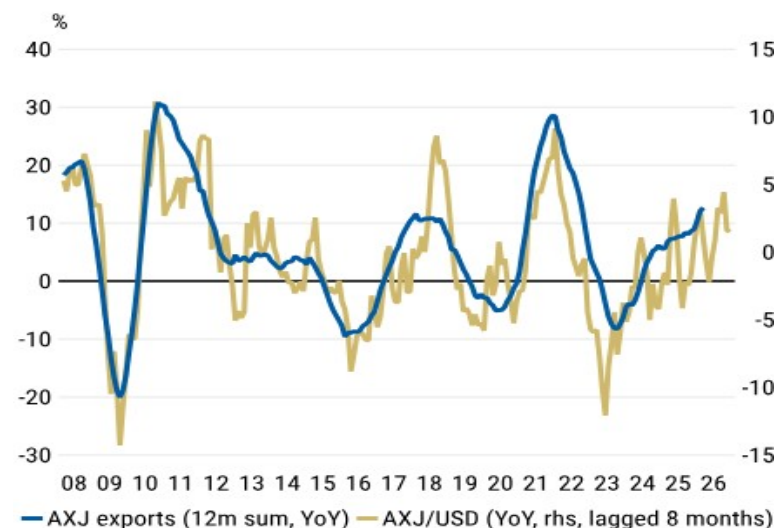
KRW Has Potential to Outperform

Our FX strategist sees KRW outperforming when the Strait of Hormuz re-opens given its high beta and cheap valuations. Domestic fundamentals are also supportive: 1) Korea's current account surplus is likely to continue expanding to a new high with tailwinds from the industrial cycle; 2) NPS's foreign investments may not weaken KRW to the same extent as before given its higher FX hedge ratio; 3) Outflows from Korea retail investors have eased; and 4) Our equity strategists see further upside for KOSPI.

We expect AXJ currencies to recover in 2H26 as oil prices ease

	12-May-26	2Q26	3Q26	4Q26	1Q27	2Q27	3Q27	4Q27
USD/CNY	6.80	6.78	6.72	6.75	6.77	6.80	6.77	6.75
USD/HKD	7.83	7.81	7.79	7.77	7.81	7.80	7.79	7.78
USD/IDR	17529	17300	17150	17100	17200	17400	17111	16826
USD/INR	95.6	94.0	93.0	93.5	94.2	95.0	93.8	92.7
USD/KRW	1494	1450	1430	1420	1430	1440	1418	1397
USD/MYR	3.93	3.89	3.83	3.80	3.83	3.86	3.86	3.87
USD/PHP	61.5	60.3	59.8	59.6	60.0	60.5	60.0	59.4
USD/SGD	1.272	1.260	1.240	1.230	1.240	1.250	1.266	1.282
USD/THB	32.4	31.9	31.4	31.2	31.6	31.9	31.8	31.8
USD/TWD	31.5	31.2	30.7	30.5	30.8	31.0	30.7	30.4
DX	98	97	95	96	98	99	99	99

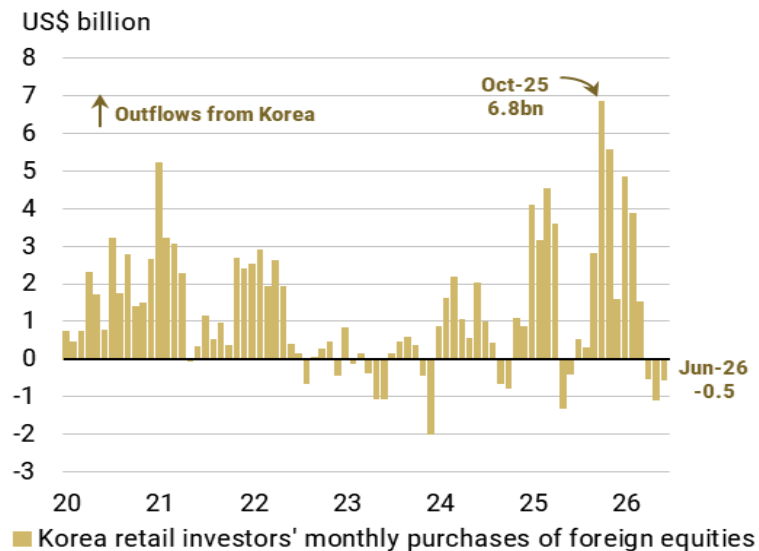
The capex cycle should continue to underpin Asia export strength and FX recovery



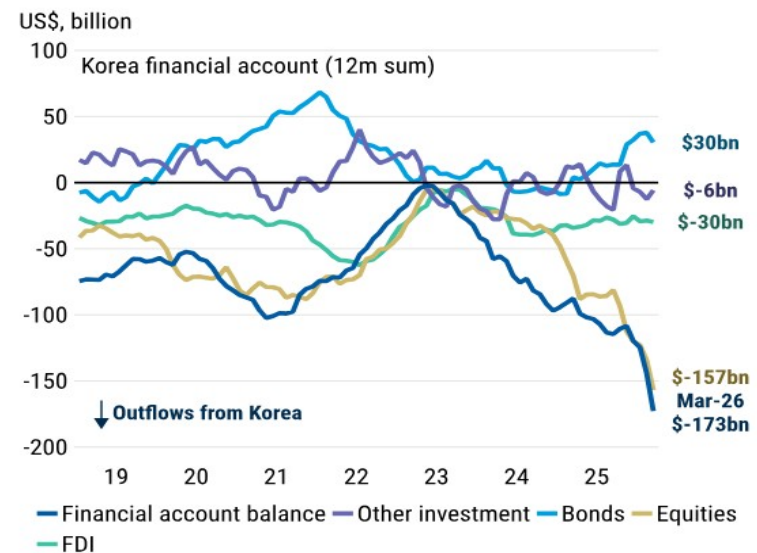
Source: Bloomberg, Macrobond, Morgan Stanley Research

Outflows from Korea Retail Investors Have Eased vs. Foreigners

Outflows from Korea retail investors have eased since March 2026



Equities are the key source of capital outflows from Korea



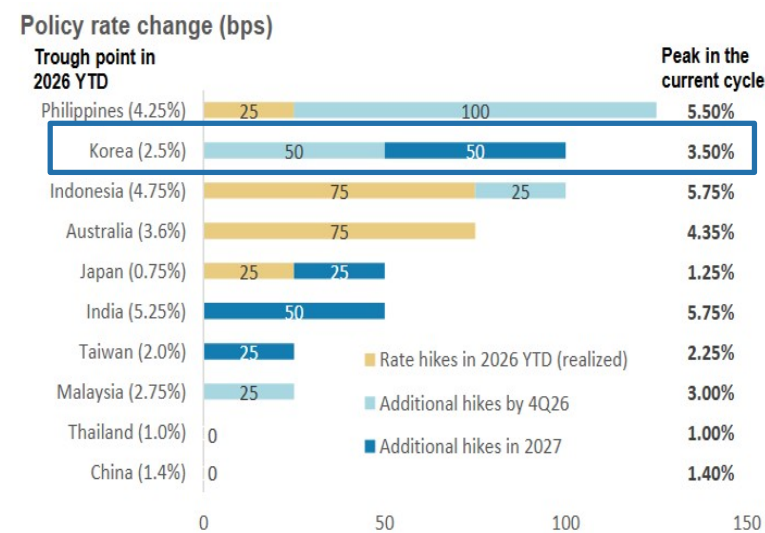
Source: Bloomberg, Macrobond, Seibro, Morgan Stanley Research

Inflation Above Target Putting Upside Risks for Korea Yields

Rate hike pricing historically peaks after the start of the hiking cycle



We see upside risks to our policy rate forecasts arising from upside risks to growth



Source: Bloomberg, Haver Analytics, Morgan Stanley Research forecasts

Disclosure Section

Information and opinions in Morgan Stanley Research were prepared or are disseminated by one or more of the following, which accept responsibility for its contents: Morgan Stanley Asia Limited, and/or Morgan Stanley Asia (Singapore) Pte. (Registration number 199206298Z) and/or Morgan Stanley Asia (Singapore) Securities Pte Ltd (Registration number 200008434H), regulated by the Monetary Authority of Singapore (which accepts legal responsibility for its contents and should be contacted with respect to any matters arising from, or in connection with, Morgan Stanley Research), and/or Morgan Stanley Taiwan Limited and/or Morgan Stanley & Co International plc, Seoul Branch, and/or Morgan Stanley Australia Limited (A.B.N. 67 003 734 576, holder of Australian financial services license No. 233742), and/or Morgan Stanley Wealth Management Australia Pty Ltd (A.B.N. 19 009 145 555, holder of Australian financial services license No. 240813, and/or Morgan Stanley India Company Private Limited having Corporate Identification No (CIN) U22990MH1998PTC115305, regulated by the Securities and Exchange Board of India ("SEBI") and holder of licenses as a Research Analyst (SEBI Registration No. INH000001105), Stock Broker (SEBI Stock Broker Registration No. INZ000244438), Merchant Banker (SEBI Registration No. INM000011203), and depository participant with National Securities Depository Limited (SEBI Registration No. IN-DP-NSDL-567-2021) having registered office at Altimus, Level 39 & 40, Pandurang Budhkar Marg, Worli, Mumbai 400018, India; Telephone no. +91-22-61181000; Compliance Officer Details: Mr. Tejarshi Hardas, Tel. No.: +91-22-61181000 or Email: tejarshi.hardas@morganstanley.com; Grievance officer details: Mr. Tejarshi Hardas, Tel. No.: +91-22-61181000 or Email: msic-compliance@morganstanley.com which accepts the responsibility for its contents and should be contacted with respect to any matters arising from, or in connection with, Morgan Stanley Research and their affiliates (collectively, "Morgan Stanley"). Morgan Stanley India Company Private Limited (MSICPL) may use AI tools in providing research services. All recommendations contained herein are made by the duly qualified research analysts;

For important disclosures, stock price charts and equity rating histories regarding companies that are the subject of this report, please see the Morgan Stanley Research Disclosure Website at www.morganstanley.com/eqr/disclosures/webapp/generalresearch, or contact your investment representative or Morgan Stanley Research at 1585 Broadway, (Attention: Research Management), New York, NY, 10036 USA.

For valuation methodology and risks associated with any recommendation, rating or price target referenced in this research report, please contact the Client Support Team as follows: US/Canada +1800 303-2495; Hong Kong +852 2848-5999; Latin America +1718 754-5444 (U.S.); London +44 (0)20-7425-8169; Singapore +65 6834-6860; Sydney +61(0)2-9770-1505; Tokyo +81(0)3-6836-9000. Alternatively you may contact your investment representative or Morgan Stanley Research at 1585 Broadway, (Attention: Research Management), New York, NY 10036 USA.

Global Research Conflict Management Policy

Morgan Stanley Research has been published in accordance with our conflict management policy, which is available at www.morganstanley.com/institutional/research/conflictolicies. A Portuguese version of the policy can be found at www.morganstanley.com.br

Important Disclosures

Morgan Stanley is not acting as a municipal advisor and the opinions or views contained herein are not intended to be, and do not constitute, advice within the meaning of Section 975 of the Dodd-Frank Wall Street Reform and Consumer Protection Act. Morgan Stanley Research does not provide individually tailored investment advice. Morgan Stanley Research has been prepared without regard to the circumstances and objectives of those who receive it. Morgan Stanley recommends that investors independently evaluate particular investments and strategies, and encourages investors to seek the advice of a financial adviser. The appropriateness of an investment or strategy will depend on an investor's circumstances and objectives. The securities, instruments, or strategies discussed in Morgan Stanley Research may not be suitable for all investors, and certain investors may not be eligible to purchase or participate in some or all of them. Morgan Stanley Research is not an offer to buy or sell or the solicitation of an offer to buy or sell any security/instrument or to participate in any particular trading strategy. The value of and income from your investments may vary because of changes in interest rates, foreign exchange rates, default rates, prepayment rates, securities/instruments prices, market indexes, operational or financial conditions of companies or other factors. There may be time limitations on the exercise of options or other rights in securities/instruments transactions. Past performance is not necessarily a guide to future performance. Estimates of future performance are based on assumptions that may not be realized. If provided, and unless otherwise stated, the closing price on the cover page is that of the primary exchange for the subject company's securities/instruments.

The fixed income research analysts, strategists or economists principally responsible for the preparation of Morgan Stanley Research have received compensation based upon various factors, including quality, accuracy and value of research, firm profitability or revenues (which include fixed income trading and capital markets profitability or revenues), client feedback and competitive factors. Fixed Income Research analysts', strategists' or economists' compensation is not linked to investment banking or capital markets transactions performed by Morgan Stanley or the profitability or revenues of particular trading desks.

With the exception of information regarding Morgan Stanley, Morgan Stanley Research is based on public information. Morgan Stanley makes every effort to use reliable, comprehensive information, but we make no representation that it is accurate or complete. We have no obligation to tell you when opinions or information in Morgan Stanley Research change apart from when we intend to discontinue equity research coverage of a subject company. Facts and views presented in Morgan Stanley Research have not been reviewed by, and may not reflect information known to, professionals in other Morgan Stanley business areas, including investment banking personnel.

Morgan Stanley may make investment decisions that are inconsistent with the recommendations or views in this report.

To our readers based in Taiwan or trading in Taiwan securities/instruments: Information on securities/instruments that trade in Taiwan is distributed by Morgan Stanley Taiwan Limited ("MSTL"). Such information is for your reference only. The reader should independently evaluate the investment risks and is solely responsible for their investment decisions. Morgan Stanley Research may not be distributed to the public media or quoted or used by the public media without the express written consent of Morgan Stanley. Any non-customer reader within the scope of Article 7-1 of the Taiwan Stock Exchange Recommendation Regulations accessing and/or receiving Morgan Stanley Research is not permitted to provide Morgan Stanley Research to any third party (including but not limited to related parties, affiliated companies and any other third parties) or engage in any activities regarding Morgan Stanley Research which may create or give the appearance of creating a conflict of interest. Information on securities/instruments that do not trade in Taiwan is for informational purposes only and is not to be construed as a recommendation or a solicitation to trade in such securities/instruments. MSTL may not execute transactions for clients in these securities/instruments.

Morgan Stanley is not incorporated under PRC law and the research in relation to this report is conducted outside the PRC. Morgan Stanley Research does not constitute an offer to sell or the solicitation of an offer to buy any securities in the PRC. PRC investors shall have the relevant qualifications to invest in such securities and shall be responsible for obtaining all relevant approvals, licenses, verifications and/or registrations from the relevant governmental authorities themselves. Neither this report nor any part of it is intended as, or shall constitute, provision of any consultancy or advisory service of securities investment as defined under PRC law. Such information is provided for your reference only.

Morgan Stanley Research is disseminated in Brazil by Morgan Stanley C.T.V.M. S.A. located at Av. Brigadeiro Faria Lima, 3600, 6th floor, São Paulo - SP, Brazil; and is regulated by the Comissão de Valores Mobiliários; in Mexico by Morgan Stanley México, Casa

de Bolsa, S.A. de C.V. which is regulated by Comisión Nacional Bancaria y de Valores. Paseo de los Tamarindos 90, Torre 1, Col. Bosques de las Lomas Floor 29, 05120 Mexico City; in Japan by Morgan Stanley MUFG Securities Co., Ltd. and, for Commodities related research reports only, Morgan Stanley Capital Group Japan Co., Ltd; in Hong Kong by Morgan Stanley Asia Limited (which accepts responsibility for its contents) and by Morgan Stanley Bank Asia Limited; in Singapore by Morgan Stanley Asia (Singapore) Pte. (Registration number 199206298Z) and/or Morgan Stanley Asia (Singapore) Securities Pte Ltd (Registration number 200008434H), regulated by the Monetary Authority of Singapore (which accepts legal responsibility for its contents and should be contacted with respect to any matters arising from, or in connection with, Morgan Stanley Research) and by Morgan Stanley Bank Asia Limited, Singapore Branch (Registration number T14FC0118); in Australia to "wholesale clients" within the meaning of the Australian Corporations Act by Morgan Stanley Australia Limited A.B.N. 67 003 734 576, holder of Australian financial services license No. 233742, which accepts responsibility for its contents; in Australia to "wholesale clients" and "retail clients" within the meaning of the Australian Corporations Act by Morgan Stanley Wealth Management Australia Pty Ltd (A.B.N. 19 009 145 555, holder of Australian financial services license No. 240813, which accepts responsibility for its contents; in Korea by Morgan Stanley & Co International plc, Seoul Branch; in India by Morgan Stanley India Company Private Limited having Corporate Identification No (CIN) U22990MH1998PTC115305, regulated by the Securities and Exchange Board of India ("SEBI") and holder of licenses as a Research Analyst (SEBI Registration No. INH000001105); Stock Broker (SEBI Stock Broker Registration No. INZ000244438), Merchant Banker (SEBI Registration No. INM000011203), and depository participant with National Securities Depository Limited (SEBI Registration No. IN-DP-NSDL-567-2021) having registered office at Altimus, Level 39 & 40, Pandurang Budhkar Marg, Worli, Mumbai 400018, India; Telephone no. +91-22-61181000; Compliance Officer Details: Mr. Tejarshi Hardas, Tel. No.: +91-22-61181000 or Email: tejarshi.hardas@morganstanley.com; Grievance officer details: Mr. Tejarshi Hardas, Tel. No.: +91-22-61181000 or Email: msic-compliance@morganstanley.com. Morgan Stanley India Company Private Limited (MSICPL) may use AI tools in providing research services. All recommendations contained herein are made by the duly qualified research analysts; in Canada by Morgan Stanley Canada Limited; in Germany and the European Economic Area where required by Morgan Stanley Europe S.E., regulated by Bundesanstalt fuer Finanzdienstleistungsaufsicht (BaFin) under the reference number 149169; in the United States by Morgan Stanley & Co. LLC, which accepts responsibility for its contents. Morgan Stanley & Co. International plc, authorized by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority, disseminates in the UK research that it has prepared, and research which has been prepared by any of its affiliates, only to persons who (i) are investment professionals falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (as amended, the "Order"); (ii) are persons who are high net worth entities falling within Article 49(2)(a) to (d) of the Order; or (iii) are persons to whom an invitation or inducement to engage in investment activity (within the meaning of section 21 of the Financial Services and Markets Act 2000, as amended) may otherwise lawfully be communicated or caused to be communicated. RMB Morgan Stanley Proprietary Limited is a member of the JSE Limited and A2X (Pty) Ltd. RMB Morgan Stanley Proprietary Limited is a joint venture owned equally by Morgan Stanley International Holdings Inc. and RMB Investment Advisory (Proprietary) Limited, which is wholly owned by FirstRand Limited. The information in Morgan Stanley Research is being disseminated by Morgan Stanley Saudi Arabia, regulated by the Capital Market Authority in the Kingdom of Saudi Arabia, and is directed at Sophisticated investors only.

The trademarks and service marks contained in Morgan Stanley Research are the property of their respective owners. Third-party data providers make no warranties or representations relating to the accuracy, completeness, or timeliness of the data they provide and shall not have liability for any damages relating to such data. The Global Industry Classification Standard (GICS) was developed by and is the exclusive property of MSCI and S&P.

Morgan Stanley Research, or any portion thereof may not be reprinted, sold or redistributed without the written consent of Morgan Stanley.

Indicators and trackers referenced in Morgan Stanley Research may not be used as, or treated as, a benchmark under Regulation EU 2016/1011, or any other similar framework.

The information in Morgan Stanley Research is being communicated by Morgan Stanley & Co. International plc (DIFC Branch), regulated by the Dubai Financial Services Authority (the DFSA) or by Morgan Stanley & Co. International plc (ADGM Branch), regulated by the Financial Services Regulatory Authority Abu Dhabi (the FSRA), and is directed at Professional Clients only, as defined by the DFSA or the FSRA, respectively. The financial products or financial services to which this research relates will only be made available to a customer who we are satisfied meets the regulatory criteria of a Professional Client. A distribution of the different MS Research ratings or recommendations, in percentage terms for Investments in each sector covered, is available upon request from your sales representative.

The information in Morgan Stanley Research is being communicated by Morgan Stanley & Co. International plc (QFC Branch), regulated by the Qatar Financial Centre Regulatory Authority (the QFCRA), and is directed at business customers and market counterparties only and is not intended for Retail Customers as defined by the QFCRA.

As required by the Capital Markets Board of Turkey, investment information, comments and recommendations stated here, are not within the scope of investment advisory activity. Investment advisory service is provided exclusively to persons based on their risk and income preferences by the authorized firms. Comments and recommendations stated here are general in nature. These opinions may not fit to your financial status, risk and return preferences. For this reason, to make an investment decision by relying solely to this information stated here may not bring about outcomes that fit your expectations.

Registration granted by SEBI and certification from the National Institute of Securities Markets (NISM) in no way guarantee performance of the intermediary or provide any assurance of returns to investors. Investment in securities market are subject to market risks. Read all the related documents carefully before investing.