



Robust Semiconductor Exports and 2026 Korean Economic Growth

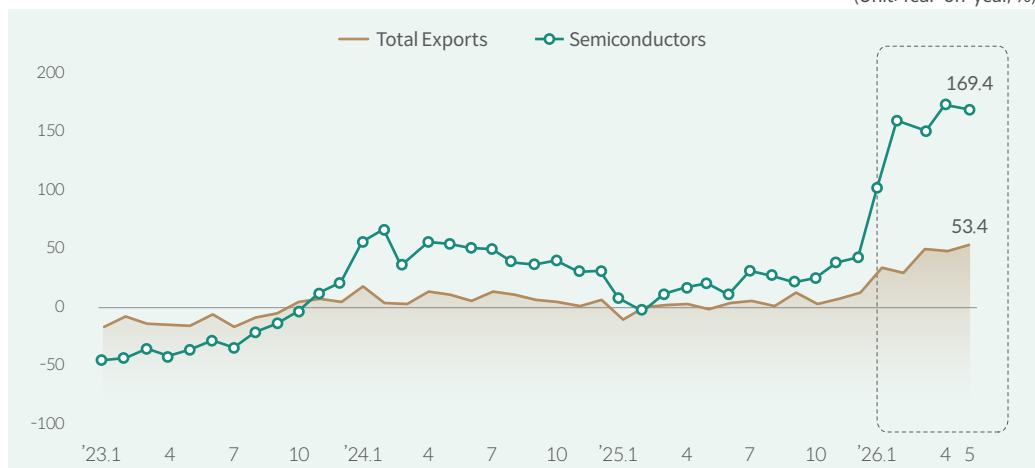
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Background

- **In 2026, our exports reached a record high, emerging as a key driver of economic growth.**
 - Exports in May totaled \$87.8 billion, representing a 53.4% increase compared to the same month of the previous year.
 - Cumulatively, exports from January to May increased by 43.5% year-on-year (YoY), reaching the highest level on record.
 - Of the 3.8% YoY GDP growth recorded in the first quarter, the growth contribution of net exports was 1.8%p, accounting for approximately 47.4% of Korea's economic growth.
- **The primary driver of this performance has been the surge in semiconductor demand resulting from the expansion of global AI investment.**
 - As investments in AI data centers and AI training and inference have expanded, demand for high-value-added memory products (HBM, DRAM, and SSDs) has increased substantially.
 - In May, semiconductor exports increased by 169.4% compared to the same month of the previous year, accounting for 42.3% of total exports.

[Figure 1] Trends in Growth of Total and Semiconductor Exports

(Unit: Year-on-year, %)



Source: Korea Customs Service, Korea International Trade Association

- **Under this background, this report examines how robust exports driven by AI investment have contributed to economic growth.**
 - Unlike the previous semiconductor booms, which were primarily driven by memory products, the current surge in semiconductor exports reflects a structural expansion centered on high-value-added products.
 - As export performance has significantly exceeded expectations, this report aims to examine the link between global AI investment and Korea's exports and to analyze the growth contribution effect of robust exports to economic growth.

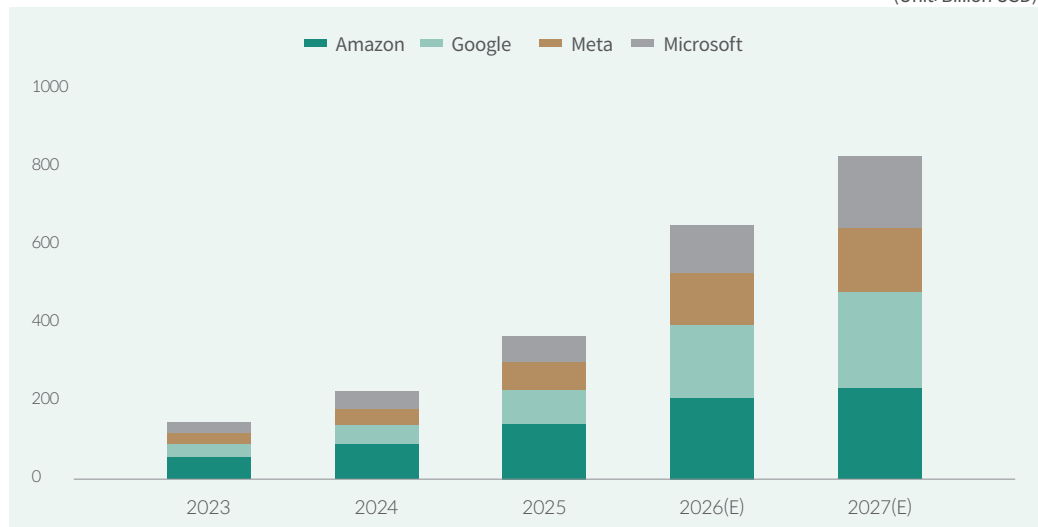


Current Status of Global AI Investment

- In 2026, capital expenditures (capex) by big tech expanded significantly, leading global AI industry investments.
 - Big tech's capex is projected to reach \$687.7 billion in 2026, representing an 81.5% increase from the previous year.¹⁾
 - The annual capex of individual companies, including Amazon, Google, Meta, and Microsoft, is expected to exceed the \$100 billion mark in 2026.
 - In 2025, the ratio of capex to revenue of big tech reached 25%, substantially higher than both their past investment levels (10–15%) and the manufacturing industry average (8–12%).

[Figure2] Current Status and Outlook of Capex of Major Big Tech

(Unit: Billion USD)



Note: Capex estimates are Bloomberg Consensus figures

Source: Bloomberg

- As competition among big tech for AI leadership intensifies, the global AI investment trend is expected to continue in the near term.
 - Some big tech companies are reinvesting nearly all of their operating cash flow into AI infrastructure, with the ratio of capex to cash flow from operating activities²⁾ approaching 90% in 2026, reflecting their strategic commitment to securing AI infrastructure and markets.
 - As of 2026, the ratio is projected to reach 98.3% for Meta, 94.4% for Amazon, 90.1% for Google, and 64.8% for Microsoft.³⁾
 - Emerging technologies such as Agentic AI, which performs autonomous tasks, and Physical AI, which expands AI applications to robotics and autonomous driving, are generating additional demand for AI infrastructure.
 - However, as the monetization of AI infrastructure investment has yet to materialize, some analysts argue that the momentum of AI investment by big tech could slow down in the future if financial pressures intensify, including rising depreciation expenses and declining free cash flow resulting from the surge in capex.

1) Refers to Bloomberg Consensus (as of June 16, 2026)

2) The ratio of capex to cash flow from operating activities (CAPEX/OCF) measures the proportion of internally generated cash flow allocated to facility and infrastructure investment. It reflects both ① the intensity of market competition and ② a firm's internal financial resource capacity. The recent increase in this ratio to nearly 90% among big tech indicates an aggressive growth strategy in which most internally generated cash is reinvested in AI infrastructure, underscoring the intensity of competition for AI leadership. It also suggests that although investments are currently financed primarily through internal resources, additional investment must be supported by external borrowing or profit generation from the AI business.

3) Refers to Bloomberg Consensus (as of June 16, 2026)

The Link with Korea's Exports

- **The expansion of global AI investment has significantly increased demand for memory semiconductors, directly boosting Korea's export demand.**
 - As the AI industry has evolved from the training stage to the inference stage, demand for memory semiconductors has expanded substantially.
 - During the training stage, computational power is important, driving demand for computing devices such as Nvidia's GPUs. In contrast, inference stage has increased the importance of high-performance and high-capacity memory semiconductors capable of storing and retrieving vast amounts of data, making them core components.⁴⁾
 - The transition has simultaneously increased demand for DRAM, NAND, and High Bandwidth Memory (HBM), resulting in structural expansion of demand across the entire memory semiconductor sector.
 - With world leading technology and production capacity in memory semiconductors, including HBM, Korea is well positioned to directly benefit from the global expansion of AI investments.
- **Korea's exports have expanded significantly, driven by high-value-added core AI components, including semiconductors and SSDs.**
 - From January to May, semiconductor exports increased by 153% YoY, while exports of computer and peripheral products, including SSDs, rose by 248% YoY.
 - Among memory semiconductors, DRAM exports increased by 304% YoY, while composite structure chips such as HBM also rose by 153%. Demand for SSDs used in AI servers also expanded greatly, increasing by 306% YoY.

[Table 1] Korea's Semiconductor and Computer Export Volume and Growth in 2026

Items	Amount (100 Million USD)	Growth Rate(%)
Semiconductors (MTI831)	1,476	153
Electronic Integrated Circuits (HS8542)	1,154	140
Memory Semiconductors (HS854232)	945	223
DRAM (HS8542321010)	402	304
Composite Structure Chips (HS8542323000)	380	153
Computers and Peripherals (MTI813)	158	248
SSD(HS852351)	148	306

Note: Cumulative figures from January to May

Source: Korea International Trade Association

- Rising export prices for products such as memory semiconductors and high-capacity SSDs have significantly increased the amount of exports.
- As DRAM prices increased rapidly, the growth rate of semiconductor export prices reached 163% in May, while export prices for computers and peripheral devices also rose sharply, recording a 124% increase.
- According to the first quarter GDP results, the export deflator, which measures the overall price level of goods and services exported abroad, increased by 23.5% YoY, primarily driven by higher semiconductor export prices.⁵⁾

4) Demand for memory semiconductors is expanding structurally because they help resolve the so-called "von Neumann bottleneck," which occurs when the bandwidth through which memory semiconductors transfer data becomes relatively slow compared with the rapidly increasing processing speed of GPUs. As Large Language Models (LLMs), such as ChatGPT and Claude, continue to grow in size, the ability of memory semiconductors to store and retrieve large volumes of data at high speed has become increasingly critical.

5) For reference, in the first quarter, the GDP deflator increased by 12.9%, while domestic demand rose by 2.1%, exports rose by 23.5%, and imports rose by 1.6%.

Impact on Korea's Economy

- **The supply structure shifted toward build-to-order long-term contracts, strengthening the structural sustainability of the current export boom.**
 - As the memory supply shortage phenomenon has become more pronounced, Long-Term Agreements (LTAs) with contract periods of one to three years, as well as contracts extending beyond 3 years, have increased.
 - In addition, some AI semiconductors, such as HBM, are conducted through customized build-to-order arrangements in which production and supply plans are finalized during the design stage. Consequently, export continuity is expected to improve compared to the past.
- **Recently, major forecasting institutions have upwardly adjusted their growth projections for 2026.**
 - Major domestic forecasting institutions, including the Bank of Korea (May 29, 2026) and the Korea Development Institute (KDI) (May 13, 2026) have each revised their 2026 growth forecasts upward by 0.6%p, reflecting strong semiconductor exports and supportive government policies.
- **Analysis of the growth contribution effect of robust exports suggests that they could substantially improve both real and nominal GDP this year.**
 - Estimates based on recent increases in semiconductor export prices and export volumes indicate that the growth contribution effect of robust semiconductor exports could raise real GDP by approximately 0.8%p and nominal GDP growth rate by approximately 6.6%p.
 - ※ These estimates assume that the recent semiconductor boom, which has exceeded expectations, continues through the end of the year. They do not incorporate external uncertainties, such as conflicts in the Middle East and changes in tariff policies, or domestic factors, including price instability resulting from higher oil prices, exchange rate fluctuations, or policy changes.
 - The considerably larger increase in nominal GDP than in real GDP primarily reflects the sharp rise in export prices. This improvement in terms of trade, which is the exchange ratio between export and import goods, is expected to lead to an increase in real gross national income (GNI).

[Table 2] Growth Contribution Effect of Robust Semiconductor Exports

	Real GDP	Nominal GDP
Impact of Robust Semiconductor Exports This Year	0.8%p	6.6%p

Note: Refers to the growth contribution effect compared to the previous outlook (2026 NABO Economic Outlook, March, 2026)
Source: National Assembly Budget Office

- **However, external uncertainties remain, such as oil price shocks arising from conflicts in the Middle East and heightened geopolitical risks associated with US tariff policies. Domestically, addressing balanced growth amid widening disparities across economic agents and industries has emerged as an important policy challenge.**
 - The anticipated GDP growth is expected to have a positive impact by increasing the nation's real purchasing power, expanding tax revenues, and easing government financial burdens, such as a reduction in the government debt ratio.
 - However, because growth is concentrated among a few export companies, it is likely that time and policy support will be required for these gains to diffuse more broadly across the economy.