

## BOX I.1:

### **Effects of artificial intelligence on the global economy**

Enthusiasm for artificial intelligence (AI) and its importance in global strategic competition has sparked heavy investment in infrastructure, given rise to ambitious plans for future development, and pushed the market valuation of tech companies to historic highs. This box analyzes the main macroeconomic and financial effects of the AI boom, along with its associated risks.

#### **Boost to activity, demand, and financial markets**

The rise of AI is a major driver of investment, trade, and financial markets around the world. In the U.S., since the launch of ChatGPT in November 2022, spending on building data centers has tripled. During the first half of this year, investment in information processing equipment has seen a real annual variation of more than 20%—well above the average of 1.2% between 2015 and 2023. [Álvarez et al. \(2025\)](#) estimate that the direct effect of investments in AI would have contributed more than a third to U.S. GDP annual growth in the second quarter of 2025 (Figure I.19) and its impact is expected to remain significant in the coming quarters. In Asia, global demand linked to AI has boosted exports of semiconductors and machinery, with substantial year-on-year increases in economies such as Taiwan (+50%), Malaysia (+29%), South Korea (+12%), and Japan (+8%). In Europe, the effects remain modest, although positive signs are beginning to be seen in tech companies<sup>1/</sup>. In its latest [economic report](#), the European Central Bank highlighted that the pick-up in the services sector “reflects the fact that many firms have stepped up efforts to modernise their IT infrastructures and integrate artificial intelligence into their operations.”

The impact of AI on financial markets has also been significant. Since early June, the stock market valuation of AI-related firms has surged nearly 25%, while other S&P firms have risen 7.7%. This implies that AI directly contributed around 55% of the total S&P variation (Figure I.20), plus potentially significant indirect effects on top of that. This dynamic has led to a substantial increase in the wealth of US households—[according to Fed figures, around 30% of which is held in stocks](#)—which would translate into an estimated rise in consumption of between 0.2% and 0.3% in 2026<sup>2/</sup>.

#### **Risks**

Beyond the enthusiasm and valuations, the sustained development of AI faces challenges. Notably, there is a clear need to transform technological advances into concrete productivity improvements that facilitate their adoption by businesses and individuals. Recent surveys on AI adoption in the business sector suggest that it remains incipient and concentrated in a limited group of firms. According to a [survey by the U.S. Census Bureau](#), although the use of these technologies to produce goods and services has increased significantly since 2023, only 10% of companies have

<sup>1/</sup>The AI boom has boosted companies such as ASML (€360 billion, chips), Siemens Energy (+125% due to electricity demand), and Schneider Electric (AI infrastructure), while Infineon, STMicro, and ABB have moved forward with semiconductor and automation plans.

<sup>2/</sup> Own calculations based on data from the Federal Reserve ([Financial Accounts Z.1](#)) and the FRB/US model methodology ([Aladangady and Feiveson, 2018](#)), assuming a long-term marginal propensity to consume of 0.035 on net wealth in stock indices, considering the evolution of the current S&P compared to its historical trajectory (1990-2019).

adopted them to date (Figure I.21). This has attracted market attention<sup>3/</sup>, in a context where current investments require sales of AI-related services to increase 15-fold to be profitable<sup>4/</sup>. The “circular” nature of some investments—schemes in which hardware manufacturers and infrastructure providers invest in AI developers and, at the same time, are the main recipients of purchases of computing equipment and services—would also indicate that final demand for this technology has yet to develop for investments to be profitable<sup>5/</sup>. [Álvarez et al. \(2025\)](#) estimate that, of the AI investment plans announced in 2024 and 2025 for the next five years, approximately US\$700 billion correspond to “circular” investments between AI developers and their suppliers (slightly more than 20% of total AI investment needs through 2030, according to [Goldman Sachs estimates](#)).

The valuation of financial assets and the central scenario of this IPoM incorporate a favorable evolution for the demand for AI services and the consolidation of investment profitability. However, the sensitivity of asset prices to negative news about expected returns—with declines of up to 10% in specific stocks on unfavorable days—reflects the market’s attention to the associated risks. As noted in our [Financial Stability Report \(IEF\) for the second half of this year](#), if the market were to turn more pessimistic about expected returns on investments, significant corrections in asset prices could occur. Apart from negative wealth effects, which would be high given that these companies are heavily concentrated in stock indexes, the macroeconomic impact would depend on companies’ funding structure, among other things. Lately, this structure has been shifting from using their own funds to resorting to debt, thus increasing risks on the margin (Figure I.22).

Artificial intelligence seems to be establishing itself as a core element of global strategic competition, which not only explains some of the current enthusiasm but also mitigates the associated risks. For example, the United States is promoting [Genesis Mission](#) and measures to ensure control of the production chain; China has prioritized it in its five-year plan with massive investments; and the European Union launched the [AI Continent Plan](#) along with the [Chips Act](#) to reduce its external dependence. This geopolitical interest suggests that investment and development could be sustained even if some of the latent risks materialize.

## Conclusion

The AI boom is proving to be a significant driver of activity and demand globally, which explains part of the upward revision in the activity projections for our trading partners in the central scenario of this IPoM. However, significant risks remain that, if materialized, would tighten financial conditions, reduce commodity prices—especially for copper—and slow down global growth. The lower bound of the MPR corridor reflects this type of scenario.

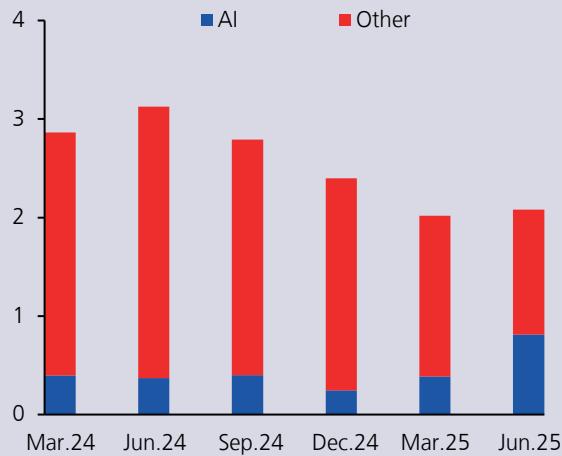
<sup>3/</sup> See, for example, [“Investors expect AI use to soar. That’s not happening”](#) (The Economist); [Financial Policy Committee Record – October 2025](#) (Bank of England); [“Experts cut through the noise to clarify AI’s actual economic impact”](#) (Stanford Report).

<sup>4/</sup> For example, [Sequoia](#) estimates that annual sales of around US\$600 billion will be required, and JP Morgan estimates US\$650 billion by 2030 ('AI Capex – Financing the Investment Cycle: Implications of the Upcoming AI/Data Center Funding Surge, 2025'), up from the current US\$45 billion according to JP Morgan. [Álvarez et al. \(2025\)](#) also provide estimates in this regard.

<sup>5/</sup> See for example the reports by [Goldman Sachs](#) and [JP Morgan](#).

**FIGURE I.19**

AI contribution to U.S. GDP (1)  
(contribution to annual change, percentage points)

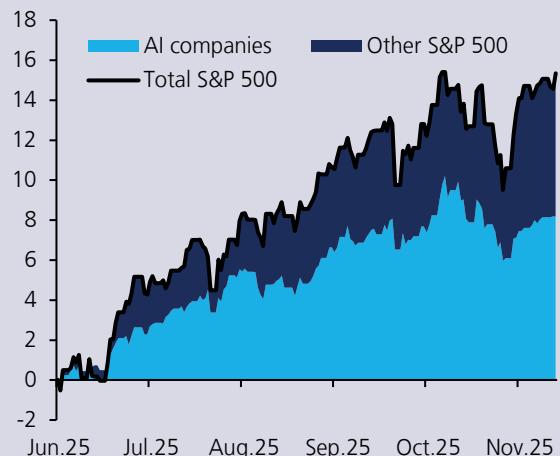


(1) AI includes investment in information processing equipment, software, R&D, data centers, energy infrastructure, and net exports of goods related to these areas. See details in [Álvarez et al. \(2025\)](#). (2) IA companies include: NVIDIA Corporation, Microsoft Corporation, Apple Inc., Amazon.com Inc., Meta Platforms Inc., Broadcom Inc., Alphabet Inc. (Class A), Alphabet Inc. (Class C), Tesla Inc., Oracle Corporation, Palantir Technologies Inc., Advanced Micro Devices Inc., ServiceNow Inc., Adobe Inc., Micron Technology Inc. Cumulative percentage change from June 3 to December 10.

Sources: Bloomberg and [Álvarez et al. \(2025\)](#).

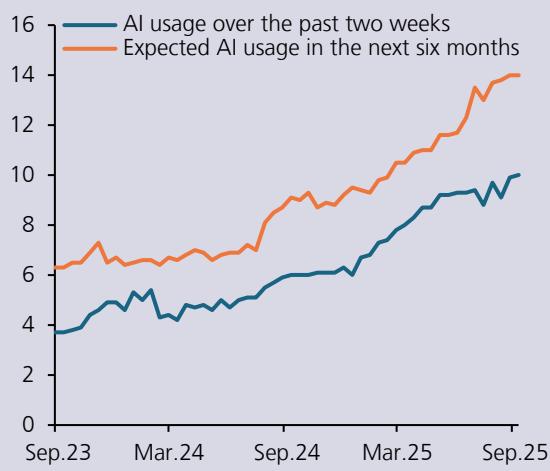
**FIGURE I.20**

Contribution to the S&P 500 by AI exposure (2)  
(cumulative percentage change)



**FIGURE I.21**

AI adoption in the U.S. (1)  
(percentage of companies)



(1) [Business Trends and Outlook Survey \(BTOS\)](#) conducted by the Census Bureau every two weeks, with the following questions: *In the last two weeks, did this business use Artificial Intelligence (AI) producing goods or services? and During the next six months, do you think this business will be using Artificial Intelligence (AI) in producing goods or providing services?* (2) Data obtained from BofA and SIFMA, including company data: Oracle, Meta, Alphabet, Microsoft, and Amazon. The orange bar represents IG bond issuance only during the September–October 2025 period. No issuance data are available for 2018 and 2019.

Sources: BofA, Census Bureau and SIFMA.

**FIGURE I.22**

IG bond issuance by AI companies (2)  
(US\$ billion; percentage)

