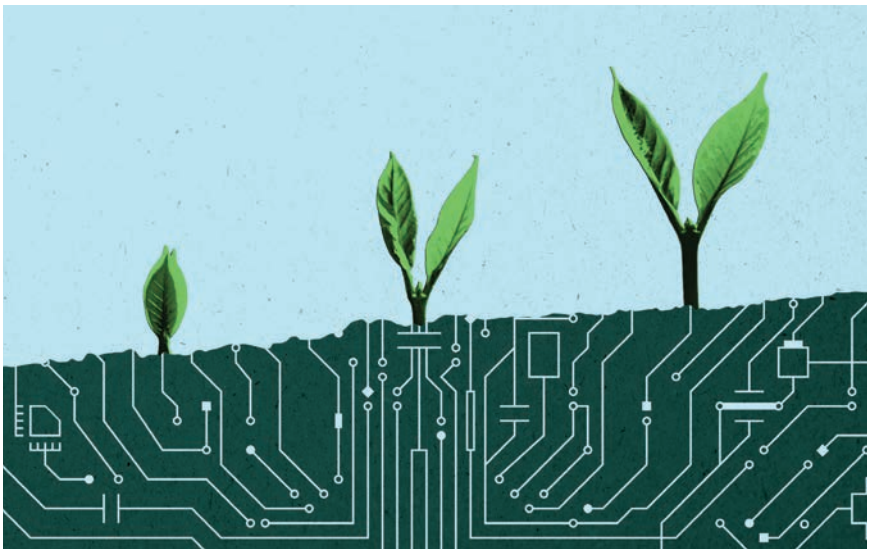

AI Can Lift Global Growth

Marcello Estevão

But lasting productivity benefits depend on how fast we learn to measure, finance, and govern it

Artificial intelligence is the defining driver of global economic conversation—and, increasingly, of economic growth itself. In the United States, AI-related investment now accounts for a large share of GDP growth, fueling new demand for servers, data centers, software, and power infrastructure. Policymakers are scrambling to understand what this means: Is the world witnessing a short-lived investment bubble or a lasting productivity boom comparable to the IT revolution of the 1990s?

The US economy, the world's largest and still at the center of the global business cycle, has entered a two-speed expansion. AI-intensive sectors are racing ahead, while construction, manufacturing, and industries that are sensitive to interest rates are falling behind. According to the Bureau of Economic Analysis, investment in information-processing equipment and software grew by 16.5 percent from a year earlier in the third quarter of 2025. Stripped of AI, GDP would have been markedly weaker.

This pattern has global echoes. Growth in Europe and Japan has stabilized but remains dependent on loose monetary policy. Emerging markets have benefited from lower yields and a weaker dollar, but their growth impulses increasingly depend on technology-related investment and capital inflows. Global growth has not collapsed—but it's increasingly concentrated in narrow sectors and regions.

What makes the current AI wave unusual is its capital intensity. Training large language models and deploying generative systems require vast computing power and physical infrastructure. AI is more like electricity—an enabling technology that requires continuous investment in grids, hardware, and complementary assets—than other recent innovations such as social media or digital commerce, which grew on preexisting networks. To match global demand, data centers worldwide may require $6.7 trillion in capital expenditure by 2030, estimates suggest.

Measuring immeasurables

This investment boom is transforming the structure of the economy—but also revealing how poorly our measurement systems capture intangible capital. National accounts were designed for an industrial age when factories and machinery dominated. Today, value increasingly resides in data, algorithms, proprietary models, and cloud infrastructure.

Official statistics record part of this shift—software and R&D, for example—but miss much of what drives productivity. The costs of training large models, refining datasets, and creating new applications are often expensed rather than capitalized. Even semiconductors, central to the AI ecosystem, are treated as intermediate goods rather than as carriers of embedded intellectual property.

As a result, GDP data simultaneously overstate the immediate contribution of AI (by counting massive capital outlays) and understate its broader economic impact (by missing the productivity spillovers). This is the same statistical paradox that masked the early productivity gains of the IT revolution. When measurement lags reality, policymakers risk misreading the economy—tightening too much because apparent slack seems small or easing too soon because

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Illustration by Chantal Jahchan

"Data centers worldwide may require $6.7 trillion in capital expenditure by 2030."

inflation looks demand-driven, when it may reflect structural change.

The Federal Reserve, for example, now faces a more complex policy landscape. If AI adoption quietly raises potential output, the economy may be running less hot than headline data imply. Conversely, the surge in electricity demand and infrastructure bottlenecks could set a new floor for inflation. Misjudging either side could mean policy errors in both directions.

New geographies

AI's rise is also redrawing trade and capital-flow patterns. Imports and exports of computers, servers, and semiconductors have surged, signaling a global reallocation of supply chains. Manufacturing and assembly are shifting toward Southeast Asia, India, and specialized US hubs such as Texas and the Gulf Coast.

This re-regionalization is not de-globalization; it's a new geography of interdependence. The US and China remain dominant players, with Europe seeking to catch up through industrial policy and investment incentives. For many emerging markets, AI demand is already translating into exports and foreign direct investment—particularly in energy and component manufacturing—but also into vulnerability to technological and geopolitical shocks.

Capital flows increasingly follow the map of AI infrastructure. Equity markets have rewarded hyperscalers—the handful of firms building and financing the global computing backbone—with valuations and cash flows unseen since the dot-com era. As a result, a small group of tech giants now accounts for a disproportionate share of global AI-related capital expenditure and productivity expectations.

Research by the Institute of International Finance reveals a distinction between digital participation (the use of imported digital tools) and digital depth (the ability to produce and export digital goods and services and embed them in domestic value chains). Emerging markets with digital depth—China, India, Korea, and a smaller group of specialized hubs—are attracting more stable foreign direct investment linked to AI-era production. Their export profiles show rising shares of information and communications technology services, royalties, and digital content. Others remain primarily consumers of imported technologies and therefore rely more heavily on volatile portfolio flows driven by global liquidity cycles.

As AI becomes central to economic activity, digital depth may play a role in capital flow dynamics comparable to fiscal credibility or exchange-rate regimes—an underappreciated channel that global policymakers will need to monitor closely.

The scale of computing power required for AI training and inference has made electricity generation and grid capacity critical macroeconomic variables.

The macroeconomic implications are profound. Energy bottlenecks could delay AI diffusion, anchor a higher level of core inflation, and generate localized overheating even as other sectors remain weak. Grid investment is becoming a central supply-side constraint, blurring the line between industrial and macroeconomic policy.

Diffusion or concentration?

The deeper question is whether the AI boom will translate into broad-based productivity growth or remain confined to a narrow set of businesses and industries. History suggests that the payoff from general purpose technologies comes only after years of complementary investment—in skills, management practices, and institutional adaptation. Electricity and IT took decades to diffuse widely enough to raise aggregate productivity.

If AI adoption remains concentrated among hyperscalers and specialized service providers, the returns may plateau quickly, leaving the economy vulnerable once the investment cycle peaks. But if AI applications spread across industries, the potential for a sustained lift in potential output becomes real. Corporate surveys suggest diffusion is underway but uneven. While many firms are experimenting with AI, only a smaller group is implementing it at scale.

The risk is that diffusion will collide with inadequate infrastructure and outdated statistics. The mismatch between rapid technological change and slow policy adaptation could make the next few years unusually volatile. Growth could oscillate between bursts of investment and pauses for adjustment while policymakers struggle to interpret what the numbers mean.

Behind the numbers

The AI boom is unfolding against a backdrop of global uncertainty. Tariff wars, immigration restrictions, and fiscal imbalances have left the world economy more fragmented and less predictable. In this environment, AI stands out not just as a technological story but as a macroeconomic stabilizer—one of the few genuine sources of incremental demand and optimism.

Yet this narrow engine cannot carry the entire global economy indefinitely. The US expansion remains capital-heavy and employment-light. Europe risks missing out unless it retools its industrial and digital policy. Emerging markets must balance opportunity with prudence, ensuring that cheap energy or favorable regulation does not substitute for long-term competitiveness.

Policymakers and statisticians must move faster. Measurement frameworks must evolve to capture intangible capital; fiscal and monetary tools must account for sectoral divergence and new supply constraints; and international cooperation must ensure that the benefits of AI diffusion are not confined to a few economies. F&D

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