Macro Implications of the AI Revolution: Is the Market Right?

The market is already anticipating the impact of AI, but many questions still remain unclear.

In my view, advances in artificial intelligence (AI) could alter the macro environment meaningfully by raising both expectations and growth trends of long-term real interest rates, but by how much and when is less clear. Below I set out an initial framework to help answer those questions within the context of deglobalization and demographic change.

How Could AI Transform the Macro Backdrop?

Generative AI technologies offer the promise of human-like output, with high usability thanks to natural language and a wide range of potential applications.

If successfully implemented, AI-driven automation could boost productivity growth by improving efficiency and freeing up resources for more productive tasks. Such an outcome would be welcome in a world where one of the most prevalent market themes over the past decade has been the fear of secular stagnation, where trend growth and R* (the real interest rate[1] that is neither expansionary nor contractionary when the economy is at full employment) are so low that interest rates cannot fall far enough to stimulate investment.

How Big Could the Macro Impact Be?

The lack of data makes it difficult to predict the likely macro impact of AI. Some academic studies (**FIGURE 1**) have attempted to do so based on a bottom-up breakdown of automation potential by sector and the speed of adoption of past technological advances. Understandably, the range of estimates about the potential boost to productivity are large and depend on assumptions about the level of task automation, associated structural worker displacement, and timeline of adoption.

In summary, these studies estimate that productivity growth could be raised by anywhere between 0.2% and 3%, with obviously very different implications. If we take the average across the six studies, the estimated boost to productivity is as much as 1.5%, while potential trend growth—inferred from the share of labor in production—could increase between 0.1% and 2%, with an average of 1%. Those estimates are very large.

FIGURE 1
Potential Boost to Productivity Growth From Generative AI: Estimates From Different Studies

Study	Annual % Boost	Range
McKinsey	0.5	0.3-1.5
Briggs et al	1.5	0.3-2.9
Bessen et al	1.7	-
Acemoglu et al	1.9	-
Behrens et al	2.5	0.5-4.0
Czarnitzki et al	2.6	-
Alederucci et al	6.8	-

As of 10/23. Source: Wellington.

Insight from sub-adviser Wellington Management

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Key Points

- AI-driven automation could boost productivity growth by improving efficiency— a welcome outcome in a world where one of the most prevalent market themes over the past decade has been the fear of secular stagnation.
- We still have little clarity on the speed of transition, the degree of automation possible, and the proportion of jobs that are likely to be displaced.
- The potential of AI should be assessed in the context of deglobalization and demographics since both are likely to constrain trend growth and long-term real rates.

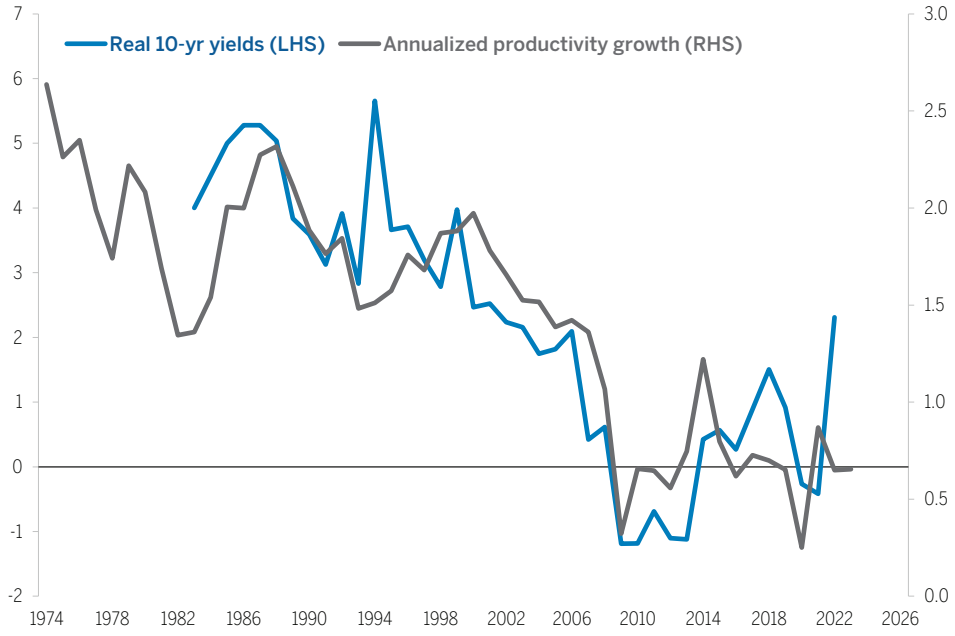
What Does This Mean for Bond Yields?

Since the Global Financial Crisis (GFC), we've seen a steep decline in real bond yields, mostly because of two forces:

- **A big squeeze in risk premia**,[2] which dropped from an average range of +100 to +200 basis points (bps)[3] before 2008 to -100 to 0 bps for most the ensuing period.
- **A sharp fall in estimates of R*** from 200 bps before 2008 to between -100 and +100 bps afterwards.

R* over time is highly correlated with the trend in productivity and real GDP growth (**FIGURE 2**), so it's not surprising that the drop in estimates of R* coincided with the steep decrease in productivity post-GFC. Investors believed that R* in developed economies had fallen to zero because of the faltering supply-and-demand picture driven by factors such as a lack of innovation, aging populations, falling education standards, and unequal income distribution. As a result, central banks struggled to get interest rates down far enough to stimulate spending and investment, which prompted discussions about removing the lower bound on rates and, in some instances, rate cuts into negative territory.

FIGURE 2
G7 Productivity and Yields Over Time (%)



As of 10/23. Sources: OECD, Wellington, and select data provided and copyrighted by Refinitiv.

If AI could reverse this downward trend in productivity, the level of interest rates that would have been enough to slow the economy over the past 15 years may no longer be sufficient. Higher rates may go hand-in-hand with increased valuations of risks assets[4] as these rate rises mostly reflect higher estimates for long-term return on capital. There's tentative evidence that markets may have started to price in some expectations that AI will raise productivity and trend growth.

What Is the Counternarrative?

We still have little clarity on the speed of transition, the degree of automation possible, and the proportion of jobs that are likely to be displaced. In my view, the two most critical questions that still need answering are:

If AI could reverse downward trends in productivity, previous levels of interest rates that would have been enough to slow the economy may no longer be sufficient.

1. **Where is the investment?**
   Higher productivity growth is usually correlated with higher capital expenditure[5] (CapEx). Yet, since the global economy reopened after the COVID-19 lockdowns, global CapEx has been disappointing in aggregate, particularly outside of the US, with global capex intentions even starting to trend down recently.
2. **How will governments respond?**
   AI could bring significant job displacement—a Goldman Sachs report estimated that 300 million full-time jobs could be displaced worldwide over a 10-year period.[6] Historically, innovation has always created new sectors and new jobs. For instance, a significant proportion of the jobs that exist today didn't exist 50 years ago. However, the accompanying uncertainty represents a major challenge for governments. The correct response from a macro point of view is to focus government policy primarily on reskilling workers to allow them to adapt rapidly and shift to more productive outputs. But given the potential for a significant political backlash, the government response may focus mostly on improving safety nets and reducing the associated cost of unemployment, which would reduce the positive impact on R* and potentially lead to much higher inflation.

AI development could displace 300 million full-time jobs worldwide over the next 10 years.

What About the Wider Context?

Another important consideration is that AI isn't happening in isolation. In some ways, the incentive to adopt these new technologies is higher because several other structural forces, most notably demographic changes and deglobalization in high-income countries, are raising the cost of labor and lowering productivity.

- **Demographics** – AI could help offset the negative implications of the expected drop in available workers in high-income countries, but the extent to which it will do so is unclear.
- **Deglobalization** – Our research suggests that we're likely to see deglobalization intensify, which could work in the opposite direction to AI by lowering productivity. Alternatively, the incentive to adopt AI may increase because deglobalization has made labor more expensive. In turn, successful adoption of AI may encourage countries to accelerate the process of deglobalization even further as it lessens the need for access to foreign workers and supply chains. At this stage, it's impossible to tell which trend will prevail.

Bottom Line

We think that AI has the potential to alter the macro landscape and counteract the secular stagnation theme, and we see tentative evidence that markets have started to anticipate this potential recently.

While markets need to anticipate and price the future, it's still early given the lack of investment to date and the lack of clarity on governments' response to potential job displacement, which could entail more inflation on the journey to AI implementation.

Moreover, the speed of implementation, scope of applications, and level of usage are important factors to consider. The potential of AI should also be assessed in the context of deglobalization and demographics as both are likely to constrain trend growth and long-term real rates.

On balance, I think investors should prepare for meaningful adjustments in rates and asset prices as market participants seek to gauge the extent to which AI can lift productivity and trend growth.

To learn more about the potential impacts of AI, talk to your financial professional.

[1] A real interest rate is an interest rate that has been adjusted to remove the effects of inflation. Once adjusted, it reflects the real cost of funds to a borrower and the real yield to a lender or to an investor.

[2] Risk premia is the investment return an asset is expected to yield in excess of the risk-free rate of return.

[3] A basis point is a unit that is equal to 1/100th of 1%, and is used to denote the change in a financial instrument. The basis point is commonly used for calculating changes in interest rates, equity indexes and the yield of a fixed-income security.

[4] Risk assets refers to assets that have a significant degree of price volatility, such as equities, commodities, high-yield bonds, real estate, and currencies.

[5] Capital expenditures are funds used by a company to acquire, upgrade, and maintain physical assets such as property, plants, buildings, technology, or equipment

[6] S. Briggs and D. Kodnani, "The potentially large effects of artificial intelligence on economic growth", Goldman Sachs, March 2023.

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