ossiam

Flash Economics

N° 141
November 19, 2025

The great uncertainty surrounding the effects of the development of Artificial Intelligence on the economy

We identify three major uncertainties concerning the effect of Artificial Intelligence on the economy:

- What is the weight of the sectors in which AI will have a major impact on production technologies and productivity? Estimates range from 5% of the economy (for Daron Acemoglu) to 41% of the economy (for the International Labour Organisation);
- Is AI complementary to employment or a substitute for it? If it complements employment, it increases labour efficiency and leads to productivity gains; if it is a substitute for employment, it leads to job losses, and if the employees whose jobs are destroyed find work in low-productivity, unsophisticated sectors, there may be stagnation or a fall in productivity[1];
- This will depend on how competition is organised: if AI producers are in a competitive situation, the surpluses generated will be retained by the users; if AI producers are few in number, they will be able to extract monopoly (oligopoly) rents to the detriment of the users.

(1) Philippe Aghion and Simon Bunel show that companies that use AI create jobs. But this is a consequence of the fact that they gain market share, and this result says nothing about the effect of AI on employment at macroeconomic level.

Patrick Artus
Senior Economic Advisor
patrick.artus-ext@ossiam.com
@PatrickArtus
Patrick Artus

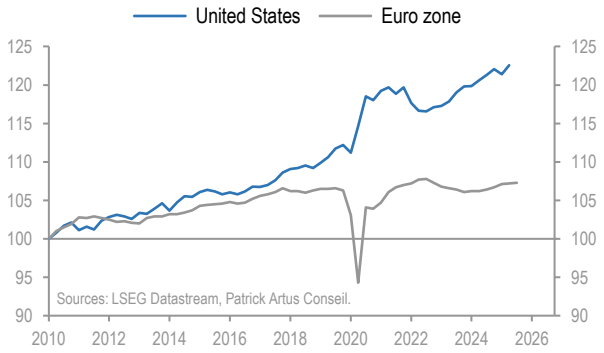
Marketing communication: this document is a marketing presentation. It has not been prepared in accordance with legal requirements designed to promote the independence of investment research; and it is not subject to any prohibition on dealing ahead of the dissemination of investment research.

First uncertainty: the weight in the economy of the sectors most affected by the development of Artificial Intelligence

Estimates of this weight vary considerably. For Daron Acemoglu, the proportion of tasks affected by AI is around 5% of all tasks in the United States, which is very low. This implies that, even if AI significantly increases the productivity of the people performing these tasks, the overall effect on labour productivity of the development of AI will be small (just over 1% in 10 years).

On the contrary, the International Labour Organisation estimates that, in the most developed countries, 41% of tasks will be modified by AI, and 15% strongly modified; Philippe Aghion and Anne Bouverot in their report (Notre ambition pour la France) estimate that the additional GDP provided by the development of AI will represent 8% to 14% of current GDP in 10 years.
There are therefore widely divergent estimates of the effect of AI on employment and labour productivity (**Chart 1**; the extra productivity in 10 years can range from 1% to 14% depending on the estimate).

Chart 1
Productivity per head (2010.Q1 = 100)



Second uncertainty: are AI and employment complementary or substitutable?

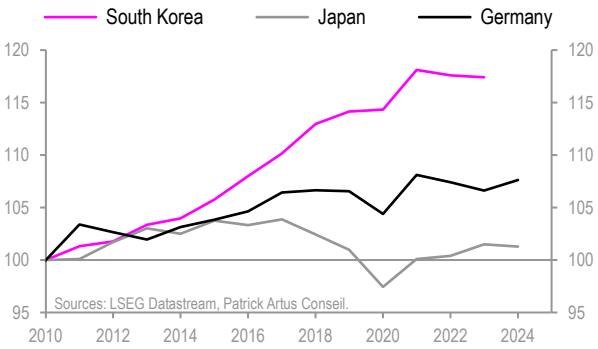
If AI and employment are complementary, the development of AI will lead to an enrichment of jobs and an increase in their quality and skills.
There will probably be no job destruction and productivity gains. Philippe Aghion, Céline Antonin and Simon Bunel show that companies that implement AI create jobs; but this is an effect of market share gains, which says nothing about the nature of the relationship between jobs and AI, and does not allow us to know what is happening at the level of the economy as a whole.
If AI and jobs are substitutable, the development of AI will lead to job losses ; if employees who lose their jobs in companies that use AI find new, less skilled jobs in less sophisticated sectors, there may be an overall drop in productivity despite productivity gains in sectors that use AI.
We know that the development of the Internet has created a lot of low-skilled jobs in logistics and passenger transport, which has contributed to the slowdown in productivity.
Moreover, we can see that the countries that have introduced the most robotics (Japan, South Korea, Germany; **Table 1**) are also experiencing a decline in their productivity gains (**Chart 2**).

Table 1: Robots installed per 10,000 employees in fhe manufacturing industry (2023)

Country	Robots installed per 10,000 employees
South Korea	1012
China	470
Germany	429
Japan	419
United States	295
Italy	228
France	186
Spain	174

Source : World Robotics 2024

Chart 2
Labour productivity per worker (2010.Q1 = 100)



Third uncertainty: who will benefit from AI to increase profits?

There are two candidates to benefit from the increase in profits made possible by the use of AI: **AI producers/developers and AI users**.
Everything will depend on **the competitive organisation of the AI market**. If there are still many companies offering AI models (whether large language models or small specialised models) and the **AI market is therefore competitive, the profits generated globally by AI will be made mainly by AI users**.

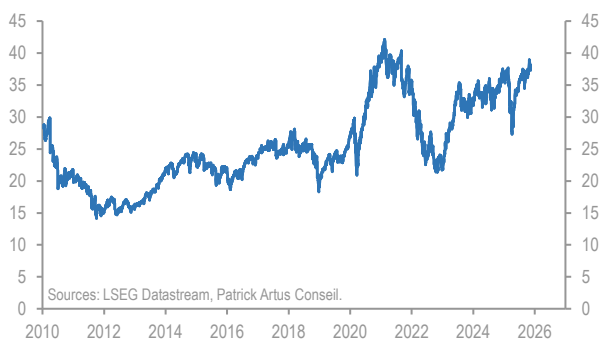
On the other hand, if there are few companies offering **AI models and the AI market is oligopolistic or monopolistic, it will be the companies that produce the AI models that will capture the surplus to be generated by the use of AI**, since these companies will be able to charge high selling prices.

Note that **equity investors favour the second solution**: the valuation of technology companies is very high (**Charts 3A/B**), which is only compatible with a situation where they capture the profits from the use of AI.

Chart 3A
United States: Nasdaq stock market index
(01.01.2010 = 100)



Chart 3B
United States: Nasdaq P/E ratio



However, if there are few winners, the fact that all the new technology companies have very high valuations seems inconsistent.

Summary: there is a great deal of uncertainty about the effects of Artificial Intelligence

It is clear, therefore, that it would be very presumptuous to say what the effects of the development of Artificial Intelligence will be in the future, because of the high level of uncertainty surrounding :

- The weight of the business sectors where work methods will be strongly impacted by AI ;
- Whether AI and employment are complementary or substitutable, and the nature of the jobs created to bring the labour market back into equilibrium if they are substitutable;
- Which side of the market (AI producers or users) will benefit the most from the profits linked to its development.

The least favourable situation is one where few tasks are modified by AI, or where AI and employment are substitutable (which may lead to a loss of productivity for the economy as a whole if employment shifts from sectors using AI to sectors using low-skilled workers), or where few companies capture the surplus generated globally by the use of AI.

The most favourable situation for the macroeconomic situation is one where many tasks are modified, where AI and employment are complementary (hence an increase in the quality of jobs) and where the gains linked to the use of AI remain the property of AI users.

Disclaimer

Ossiam, a subsidiary of Natixis Investment Managers, is a French asset manager authorized by the Autorité des Marchés Financiers (Agreement No. GP-10000016). Although information contained herein is from sources believed to be reliable, Ossiam makes no representation or warranty regarding the accuracy of any information of which it is not the source. The information presented in this document is based on market data at a given moment and may change from time to time. This material has been prepared solely for informational purposes only and it is not intended to be and should not be considered as an offer, or a solicitation of an offer, or an invitation or a personal recommendation to buy or sell participating shares in any Ossiam Fund, or any security or financial instrument, or to participate in any investment strategy, directly or indirectly. It is intended for use only by those recipients to whom it is made directly available by Ossiam. Ossiam will not treat recipients of this material as its clients by virtue of their receiving this material. All performance information set forth herein is based on historical data and, in some cases, hypothetical data, and may reflect certain assumptions with respect to fees, expenses, taxes, capital charges, allocations and other factors that affect the computation of the returns. Past performance does not predict future returns. Any opinions expressed herein are statements of our judgment on this date and are subject to change without notice. Ossiam assume no fiduciary responsibility or liability for any consequences, financial or otherwise, arising from, an investment in any security or financial instrument described herein or in any other security, or from the implementation of any investment strategy. This information contained herein is not intended for distribution to, or use by, any person or entity in any country or jurisdiction where to do so would be contrary to law or regulation or which would subject Ossiam to any registration requirements in these jurisdictions. This material may not be distributed, published, or reproduced, in whole or in part.