The Economics of Artificial Intelligence

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Thank you for inviting me to take part in this conference.

Let's start with Schumpeter and the theory of Creative Destruction.
As science and technology progress, new technology replaces old technology.
We don't have to go to Manchester in the Industrial Revolution or Silicon Valley today to see creative destruction. We can see it here in Angers.

Thomson – started in Angers in 1957. By 1971 there were 2,800 workers building televisions then television digital boxes, then it closed in 2012.

Bull, which opened in Angers in 1961, was Europe's largest computer producer.
In 2002 about 650 people lost their jobs when the factory closed down – but Bull survived and now produces super computers.

Between 2002 and 2012, Angers lost 72% of its employment in electronics and computer manufacturing.
Despite Thomson, Motorola and other manufacturers disappearing, the city's electronics sector didn't vanish. By 2016 the broader Angers electronics ecosystem again represented about 7,000 jobs, increasingly centred on professional electronics, connected objects and newer technologies.

Schumpeter called this creative destruction. New technologies destroy old activities, but they also create new ones. Historically, the new activities have eventually created sufficient employment to replace what disappeared. The question with AI is whether this will happen again — and how quickly.
That is almost a textbook illustration of Schumpeter: the jobs and companies disappear, but the accumulated skills, knowledge and industrial ecosystem can be recombined into new activities.

Marx uses the term historical dialectical materialism. It sounds complicated, but it's simply a spiral. Man acts according to his environment. Man changes his environment – for example during the industrial revolution he leaves the cottage industry where he is autonomous to work in a factory for wages. Man changes the environment and the environment changes man in a continuing – hence

historical - spiral. AI will perhaps be the biggest paradigm shift that man has known since learning the use of fire.

I have been invited to talk about the economics of AI. An economic analys is obviously based upon many unknowns since the projections are for 2030, 13 years from now. We will see in the future the gap between making forecasts and reality.
So how can we synthesise in ten minutes what is going on? New technology leads to higher productivity which leads to lower costs and new products. Some jobs disappear but new activities and jobs emerge. The losers – the unemployed, obviously need economic and social protection as well as retraining.
For Europe, the ECB estimates that rapid AI adoption could increase the level of productivity by 4% over a decade.
Now lets move on from Schumpeter and Marx to my hero, John Maynard Keynes.
Keynes wrote a short book in 1930 entitled 'Economic Possibilities for my Grandchildren'
Keynes argued that technological progress and capital accumulation would produce an enormous increase in labour productivity. He predicted that, within a century, living standards in advanced economies could become four to eight times higher.

That was surprisingly prescient. In countries such as France, Britain and the United States, real output per person has indeed multiplied several times since 1930.

He was remarkably accurate.

But Keynes then made another prediction. He thought that once we could produce much more with much less labour, we would choose to work less. He famously imagined a working week of perhaps only fifteen hours. On that, he was much less accurate.

The problem was not his prediction about technology. It was his assumption about what we would do with the productivity gains.

Higher productivity can give us higher wages and shorter working hours. But it can also produce higher profits, higher asset prices and greater inequality. That is what has happened within our capitalist system. Greater productivity and greater inequality.

And this brings us directly to artificial intelligence.

AI may produce exactly the kind of productivity revolution that Keynes anticipated. But the important economic question is not simply: “Will AI make us more productive?”

It is: “Who will receive the gains?”

The steam engine mechanised production and transport. Electricity transformed factories and everyday life. The internal combustion engine revolutionised transport and agriculture. Later, computers and automation enormously increased our capacity to process information, while the internet reduced the cost of communication and gave almost instantaneous access to information throughout the world.

Each technological revolution initially created fears about employment. Machines replaced agricultural workers; mechanisation displaced craftsmen; robots replaced some factory workers; computers eliminated many clerical jobs.

Yet historically, technological progress has not produced permanent mass unemployment. Instead, it has increased productivity, created new industries and occupations, raised real incomes and dramatically improved living standards.

Artificial intelligence may therefore be simply the latest stage in a process that has been taking place for more than two centuries.

But there may be one important difference.

Previous machines principally replaced or augmented physical labour. Computers increasingly replaced routine information-processing tasks. AI can potentially replace or augment cognitive labour itself.

And that raises the question: is AI simply another technological revolution—or is this time different? This is a philosophical question that does not concern me today.

Suppose AI increases productivity by 20%.

That doesn't tell us whether society becomes 20% better off.

The gains could go to workers having higher wages and shorter working hours or the gains could go to the owners of capital earning higher profits, dividends and asset prices. Given the current neo-liberal economic paradigm we are living in, this second possibility is unfortunately more likely.

What about the massive current investment in AI?
In the real economy - even before we know how productive AI will eventually be, companies are spending enormous amounts of money building the infrastructure needed for it: data centres, semiconductors, electricity generation, networks and software.
This spending itself boosts aggregate demand, investment and GDP.

The present AI build-out is already one of the largest technology-driven investment booms in US history.

Economists currently foresee worldwide AI spending of about $2.67 trillion in 2026, up almost 50%

in a single year, and reaching about $3.64 trillion in 2027.

More than half of current AI expenditure is in infrastructure — chips, servers, networks and data-centre capacity. What is the return on investment?

To justify that investment with a 10% return, the US AI sector would need to generate roughly $3.55 trillion of annual revenue by 2032.

Marx clearly explains that capitalists are in competition with each other, and that there is a problem of over-production as different manufacturers try to gain market share to make future profits.

Some of you may have heard of the threat of a new financial bubble – the AI bubble.

So the question we need to ask is, is 2.7 trillion dollars an investment or a speculative bubble?

Let's look back in time to other technological leaps with railways, electricity, and internet. The important lesson is that an investment bubble and a genuine technological revolution are not mutually exclusive. Railways and the internet really did transform productivity — some investors made fortunes, other investors lost fortunes during the associated speculative booms.

I think that there is no doubt that there will be big winners and big losers –but to what extent will this hit the US and the European economy depends on where EU banks are investing. There is currently a frenzy – like before the 1929 Wall Street crash. The current European debt crisis is almost exclusively due to European banks investing in American subprimes – and the resulting subprimes crisis which saw French debt rise from 65% GDP to 95% GDP as the French government spent billions to save the banks.

This is already happening: competition between AI companies can produce over-investment, because every company fears being left behind.

What is France's position? There are two vulnerabilities – firstly European AI companies, and secondly French banks and investment trusts. France has another particularly interesting exposure: Mistral

Mistral AI is probably Europe's clearest direct equivalent to OpenAI or Anthropic, and this year it crossed an important threshold: it began using debt to finance AI infrastructure.

In March, Mistral raised $830 million to finance 13,800 Nvidia GPUs (Graphics Processing Units) for its data centre at Bruyères-le-Châtel near Paris.

And look at the lenders:

Bpifrance
BNP Paribas
Crédit Agricole CIB
HSBC
La Banque Postale
MUFG
Natixis

At present, this French bank investment is very small, less than a half percent.

So how do AI companies make a profit?

The business model is roughly:

Free users → advertising
Individuals → subscriptions
Businesses → subscriptions to provide specialised services

OpenAI projects 2026 revenue at $36bn and 2030 revenue at $350bn. A ten-fold increase in 4 years!
The cumulative revenue from 2026 to 230 is therefore about $840bn
Infrastructure spending through to 2030 is estimated at about $856bn.
If the projected trevenue targets are wrong, and investors pull out of AI investment and speculation, the whole house of cards might come tumbling down.
Then there is speculative investment. This is different. It is investors buying:

AI shares, venture-capital stakes, private equity, bonds and other financial claims because they expect their value to rise.

For example, global venture-capital investment into AI companies was already $258.7 billion in 2025, representing an extraordinary 61% of all global Venture Capital investment.

And it has accelerated dramatically in 2026: Total global Venture Capital investment had already reached $560 billion by mid-2026, heavily driven by enormous AI deals.

Venture capital finances actual companies. What is speculative is the valuation placed on their expected future profits.

So we have

1. Productive investment
Data centres, chips, electricity, R&D leading to potentially increases in future productivity.

2. Over-investment
Too many companies simultaneously building capacity. Some returns will eventually disappoint as some projects will fail.

3. Financial speculation
Investors capitalise extremely optimistic expectations of future AI profits into today's share prices. Normally shares are based on profits over the last few years plus capital value. In this case it's based on estimations of future revenue in over ten years' time. This could easily lead to a bubble and a

possible crash.

“Can AI be both a genuine technological revolution and a financial bubble?”

The answer is yes — and historically that combination is quite common.

We can now change economist. After Marx, Schumpeter and Keynes, let's introduce Pigou. Pigou specialised in social rights what we call negative externalities. Your steel factory might make a good profit, but what about the pollution it creates and the negative effects on people's health and on the environment? Private profit, public damage. Who pays for the negative externalities?
With AI, we have a major energy problem. Data centres need massive amounts of electricity and also massive amounts of water for cooling down the centres.
This can mean less water for the population, higher electricity prices, the need for greater electricity networks etc. They also, after being built, provide very few jobs.
We can see at the moment in the USA a democratic reaction against data centres.
In July 2026, opponents coordinated 142 protests across 42 US states.
Data Center Watch estimates that 45 projects worth nearly $68 billion were blocked or delayed in Q2 2026 alone because of local opposition. It says regulatory scrutiny of data centres is occurring in almost every state.

There are now more than 100 proposed data-centre moratoriums being considered around the country.

The backlash against data centres has now become an explicit issue in the 2026 US midterm campaign, and some Democrats are deliberately trying to use it electorally. This is likely to reduce the revenue predictions, especially if the Democrats win the mid-term elections.

So, to resume
1. Productivity — AI could make the economy substantially more productive.

2. Employment — but it can substitute for certain types of labour.

3. Distribution — who receives the productivity gains: labour or capital?

4. Investment boom — trillions are being committed to AI infrastructure.

5. Bubble/overinvestment — are expectations running ahead of economically justified returns?

6. Negative externalities — electricity, water, emissions and grid infrastructure.

7. Conclusion: Private profitability of AI ≠ social profitability of AI.

Questions?

Annexe 1

The main AI model companies

- OpenAI — ChatGPT / GPT. One of the leading frontier-model companies and currently generating roughly $50bn annualised revenue, although still spending extraordinarily heavily.
- Anthropic — Claude. OpenAI's major independent US competitor, particularly strong in business and coding applications.
- Google DeepMind — Gemini.
- Meta — Llama / Meta AI. spending very heavily on AI infrastructure.
- xAI — Grok, now part of the SpaceX group.
- Mistral AI — the major French/European contender.
- DeepSeek — an important Chinese competitor, particularly significant because of its emphasis on relatively efficient/open models.

TSMC

manufactures chips

↓

Nvidia

designs AI processors

↓

Microsoft / Amazon / Google

cloud + data centres

↓

OpenAI / Anthropic / Google / Meta / xAI / Mistral

AI models

↓

ChatGPT / Claude / Gemini / Copilot etc.

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Businesses + consumers

“In a gold rush, sometimes the safest business isn't finding gold. It's selling the picks and shovels.”

Annexe 2

EU support

The **European Investment Bank** is currently assessing a €1 billion financing package for Mistral AI, towards a roughly €3 billion project to develop GPU computing infrastructure in France and Sweden.

President von der Leyen's InvestAI programme aims to mobilise €200 billion of AI investment, including €20 billion initially intended for AI gigafactories.

In April 2026 the Commission awarded a framework contract worth up to €180m for sovereign cloud services; one of the successful consortiums includes Mistral alongside Proximus, S3NS and Clarence.