

6. Artificial Intelligence: a policy approach

Artificial Intelligence is one of the buzzwords of the moment. It is fairly clear that this disruptive technology will noticeably affect the economy and society. Although the exact impact remains to be seen, authorities are trying to understand the potential effects of this technology and devising their initial regulatory strategies.

Artificial Intelligence, the debate

Artificial Intelligence (AI) is defined as the theory and development of computer systems able to perform tasks that normally require human intelligence⁸, such as knowledge, representation, reasoning, perception, learning, predicting and interaction with the environment.

AI technology is becoming ubiquitous thanks to improvements in computation and to the wide availability of data, the true raw material for this technology. Moreover, AI seems to be evolving exponentially, and now masters tasks that require strong analytical skills but also shows capabilities that have been traditionally associated with humans, such as creativity⁹.

Some experts argue that AI can lead to a Keynesian “life of leisure”¹⁰ by increasing the productivity of factors and reducing the number of dull, dangerous, and dirty activities performed by humans. It could also provide new tools to face global issues such as climate change, food shortage or diseases.

On the other hand, critics believe that an “uncontrolled” adoption of AI could increase unemployment rates, discrimination and social inequality.

Even high-profile personalities such as [Elon Musk](#), [Bill Gates](#), [Mark Zuckerberg](#), [Larry Page](#) and [Stephen Hawking](#) have engaged in a lively debate on the ethical implications, risks and opportunities of AI.

Policy approaches to AI

In spite of some perceived risks, AI is in most cases just a set of technologies that can be applied to solve a given problem, but it does not entail any special drawback. In those cases, AI should not be regulated differently from other technologies and its adoption should be driven by market forces.

Regarding the applications of AI whose social impact is not neutral, given the global nature of this technology, its assessment should not be undertaken by a country or a region in isolation, but rather be carried out in cooperation with national governments, international organizations and private actors.

8: Schatsky, David, Muraskin, Craig, Gurumurthy, Ragu. 2014. "Demistifying Artificial Intelligence." Deloitte University. November 04, 2014.

9: Last October Google unveiled Alpha Go Zero, an AI system that learnt to play an ancient Chinese board game from scratch and was able to develop innovative play strategies in days.

10: Economic Possibilities for our Grandchildren. John Maynard Keynes.

International organizations such as the [UN](#), the [OECD](#) and the [WEF](#) have already pointed out the potential risks of this technology and are facilitating the dialogue among international players. At the same time, private partnerships and associations such as the partnership on AI and openAI **are making calls to have ethical issues at the centre of AI developments.**

At a national level, most organizations and governments acknowledge the disruptive potential of AI, but some of them are showing resistance to this technology. This might turn out to be a great mistake, since countries taking a reactive approach could find themselves becoming uncompetitive compared with those leading AI adoption.

Nevertheless, the majority of policymakers are trying to find the right balance between AI promotion and control. There seems to be a consensus also on some topics such as the **ethical concerns** associated with AI, the **potential impact of AI on the economy and the labour market** and the need to **develop new skills related to AI.**

Simultaneously, pioneer regulations are focused mainly on **data privacy and availability, transparency, liability** of AI systems and **the proper functioning of the market** with a significant presence of automated agents. Nevertheless, AI is being tackled at different paces among national governments.

In 2016 the US Artificial Intelligence Task Force, an interagency group promoted by the Obama administration, was arguably the most prolific working group in any administration, producing two papers in [October](#) and [December](#) 2016 and a [strategic plan](#).

In Europe, the European Parliament issued a [report on AI](#) at the end of 2016 and **approved a resolution based on this report which recommended the European Commission and the Council to:**

- **submit a Directive on civil laws on robotics,**
- **create a European Agency on robotics**
- **adapt rules on liability** to the specificities of automated systems

Countries such as Canada, China, Japan and South Korea have established AI strategies which share some common features:

- They intend to become world leaders in AI deployment,
- making use of similar tools: cooperation, education, support (either legal or financial) and research.

As part of these first movements, **some countries/organizations have already allocated funds to develop AI**, although with disparate amounts of funding and objectives. For instance, [South Korea](#) and the [European Union](#) have assigned almost US\$[1 billion](#) to public-private partnerships, while Canada and the UK have allocated US\$[100 million](#) and US\$[20 million](#) respectively to further investment and research.

Regulation of AI in Financial Services

Regarding the financial sector, controls on robo-advisors and automated trading systems are spearheading the financial regulatory framework.

In particular, the SEC issued some [guidance on robo-advisors](#) in February 2017 and the UK is actively giving guidance on robo-advice through the [FCA's Advice Unit](#). The two authorities are optimistic on the potential of robo-advice but underline the need to ensure customer protection and transparency.

As for automated trading, the Futures Commission of Hong Kong published a [circular](#) in December 2016 pointing out areas for improvement in algorithmic trading, mainly asking for enhanced controls and more formalization of some processes.

The European Supervisory Authorities ran a consultation on the [use of Big Data by Financial Institutions](#) during the first quarter of 2017 and the EBA published a report on [innovative uses of data](#) in June 2017. The main conclusion was that no specific action from financial authorities is needed at this moment.

Artificial Intelligence was also part of the consultations on FinTech launched by the [European Commission](#), [EBA](#) and [BCBS](#) during the year. In those consultations, authorities requested opinions on the need for specific approaches to AI in finance.

Moreover, it is felt that open banking initiatives such as the [UK Open Banking Standard](#) and the revised [EU Payment Services Directive \(PSD2\)](#), which allow third parties to access data of customers' accounts, in combination with more far-reaching regulations such as the [EU General Data Protection Regulation \(GDPR\)](#) could facilitate access to and sharing of financial data. This will expand the data sources available to develop AI systems and, consequently, the rate of adoption of this technology by the financial sector.

Finally, on 1 November 2017 the Financial Stability Board published a [paper on the impact of AI and Machine Learning on financial services](#) which brings AI into the spotlight of financial stability policies.

In conclusion, although Artificial Intelligence is still a nascent technology, its wide availability and growing adoption by companies, financial institutions and public authorities make an assessment of its future social and economic impact necessary. This assessment should be undertaken in cooperation among national governments, international organizations and private actors.

Nevertheless, governments should devise their own AI strategies to become familiar with the challenges that this new technology poses and support the development of AI within their borders so that they are well positioned to compete internationally if AI becomes a widely adopted technology as is expected.

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