"From Virus to Vitamin"
Newsletter

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Artificial intelligence: silver bullet in a Pandora's box
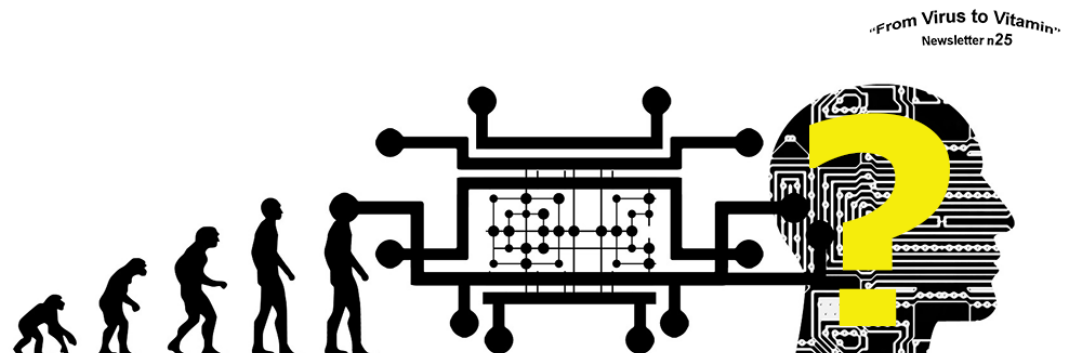
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QUESTION UNDER DISCUSSION

"What to expect from the accelerating progress of artificial intelligence (AI) in manufacturing as well as in services and public administration. How to prepare for it, does AI deserve - and if yes why - specific regulation, guidance or taxation ?"

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Artificial intelligence: silver bullet in a Pandora's box

Advances in computing power, the availability of data and of new algorithms have led to rapid progress in the field of Artificial Intelligence (AI), "the single most influential human innovation in history" (Archana Sinha). Deployed wisely, AI holds the promise of addressing some of the world's most pressing challenges, but it may also have destabilising consequences on some key dimensions of economic and social life.

In manufacturing, AI promises to increase productivity by extending the capabilities of humans and by helping businesses achieve more efficiency, including through direct automation, predictive maintenance, reduced downtime, 24/7 production, etc. However, as Ezekiel Kwetchi Takam rightly points out, "this automation will be deployed at the expense of some human labour whose skills will be deemed irrelevant".

In public administration, the adoption of AI can contribute to better public services, for example by interacting with service users through virtual assistants or by enabling smarter analytical capabilities and better understanding of real-time processes. There is a risk, however, when using data, to amplify existing biases and produce discriminatory and unethical outcomes for different individuals. Moreover, as Etienne Perrot explains, "by developing algorithms based exclusively on computation and stochastic data, AI substitutes statistical correlations for (human) causal relationships. The lack of conflicting interpretations inherent in AI creates a human cost that can already be observed in predictive justice."

To mitigate these risks, Domingo Sugranyes argues, regulation is needed both "on input (quality of data, bias avoidance, data ownership, purpose of automated processes) and output (reasonability of results) rather than on software itself." In addition, as pointed out by Etienne Perrot, "any regulation in AI must aim to keep the human factor and its responsibility at the heart of all economic, judicial and political decisions".

While AI can have positive impacts for humanity, it seems to have raised at least as many questions as it has answered, opening Pandora's box. To ensure that the costs, benefits and risks generated by AI are equitably shared among citizens and stakeholders while respecting democratic values and human rights, public authorities have a crucial role to play to set up such a regulatory framework. One way to do so could be "to define a specific taxation of AI that will serve to: 1). Guarantee an unemployment income to those who could be called the "economic neglected by the technological evolution"; 2). Finance their training and their professional conversion." (Ezekiel Kwetchi Takam)

Virgile Perret & Paul H. Dembinski

"… the lack of conflicting interpretations inherent in AI creates a human cost …"

The main challenge of Artificial Intelligence is twofold: on the positive side, the optimisation of industrial and commercial processes (with the elimination of human intermediaries); on the negative side, on the one hand, the weakening of intra-systemic information and the concealment of risk, and on the other hand, the deshumanization of administrative and judicial relations. **By developing algorithms based exclusively on computation and stochastic data, AI substitutes statistical correlations for (human) causal relationships. The lack of conflicting interpretations inherent in AI creates a human cost that can already be observed in predictive justice. Any regulation in this area must aim to keep the human factor and its responsibility at the heart of all economic, judicial and political decisions.**

Etienne Perrot

Jesuit, Dr. Economics sciences, editorial board of the magazine Choisir (Geneva), editorial adviser of the journal Études (Paris)

"… it is urgent to define a specific taxation of AI …"

Artificial intelligence will increase the productivity in manufacturing while developing new areas of employment and expertise. **Unfortunately, this automation will be deployed at the expense of some human labour whose skills will be deemed irrelevant for this new market. It is therefore urgent to define a specific taxation of AI that will serve to:**

1. **Guarantee an unemployment income to those who could be called the "economic neglected by the technological evolution"**
2. **Finance their training and their professional conversion.**

In public administration, AI will contribute to develop a new "algorithmic governance", defined by Müller-Birn and al. as a form of governance that integrates algorithmic systems. It is therefore important to regulate this new governance dynamic by involving citizens in the process: through democratic participation, the citizen must be the evaluator and co-constructor of this new form of public service.

Ezekiel Kwetchi Takam

PHD candidate in theological ethics of artificial intelligence at the University of Geneva.

"… there is a need to educate a capacity for discernment in digital environments …"

AI and big data are transforming areas like advertising, media, finance, insurance, manufacture, health and medicine, weather forecast, catastrophe prevention, justice administration… It is a universal purpose technological revolution with huge impact on work, culture, civil life and social structures. **Regulation is needed on input (quality of data, bias avoidance, data ownership, purpose of automated processes) and output (reasonability of results) rather than on software itself. Public intervention is needed to protect competition against monopolistic practices, which is difficult because tech markets work in ways which differ from classical ones. Above all, there is a need to educate a capacity for discernment in digital environments at all levels and age groups, and to promote universal access to digital services.**

Domingo Sugranyes
Director of a seminar on ethics and technology at Pablo VI Foundation, past Executive Vice-Chairman of MAPFRE international insurance group

"… it is vital to avoid the exclusive focus on economic efficiency …"

AI comprises forms of intelligence demonstrated by machines in three different areas: 1). Advanced automation; 2). Computer-based central-nervous-system research; and 3). Bridging 1 and 2 through the use of neurophysiological models in designing machines to perform practical tasks, mostly robots (see the well-known classification of James Lighthill). Already important parts of social and economic organization have been affected by AI, and this process can be expected to continue. **In addressing institutional design it is vital to avoid the exclusive focus on economic efficiency as narrowly understood, in particular replacing mostly but not exclusively semi-skilled and unskilled labour with machines. Innovations can already be conceived that increase the tasks ordinary workers are able to perform, for example, through new technologies allowing workers to perform tasks previously performed by more skilled people or enabling the provision of more specialized services by existing workforces.**

Andrew Cornford
Counsellor, Observatoire de la Finance; past staff member of UNCTAD, with special responsibility for financial regulation and international trade in financial services

"… AI may become the single most influential human innovation in history …"

Artificial intelligence is raising important questions for society, economy, and governance. The world is on the cusp of revolutionizing many sectors through AI, but the way AI systems are developed need to be better understood due to the major implications these technologies will have for society as a whole. **In order to balance innovation with basic values, recommendations include improving data access, increasing government investment in AI, promoting AI workforce development, creating a civic advisory committee, engaging with state to ensure they enact effective policies. These processes need to be better understood because they will have substantial impact on general masses soon, and for the foreseeable future. AI may become the single most influential human innovation in history.**

Archana Sinha

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LIST OF CONTRIBUTORS

Andrew Cornford (Counsellor, Observatoire de la Finance; from 1977 until 2003 staff member of UNCTAD, latterly with special responsibility for financial regulation and international trade in financial services)

Paul H. Dembinski is the initiator and Director of the Foundation of the Observatoire de la Finance. In parallel, he is partner and co-founder of Eco'Diagnostic, an independent economic research institute working for both government and private clients in Switzerland and elsewhere. Paul H. Dembinski is also Professor at the University of Fribourg.

Dr. **Virgile Perret** holds a Ph.D in Political Science from the University of Lausanne and he is specialized in the study of monetary innovation from an interdisciplinary perspective. He collaborates with the Observatoire de la Finance where he is responsible for managing the global Prize "Ethics & Trust in Finance for a Sustainable Future".

P. **Etienne Perrot**, Jesuit, Doctor in Economics sciences, member of the editorial board of the magazine Choisir (Geneva), editorial adviser of the journal Études (Paris).

Dr. **Archana Sinha**, a doctorate in Agricultural Economics, currently is Head, Department of Women's Studies, Indian Social Institute, New Delhi, India. She is responsible for implementing research on various women issues, rural and urban based issues on gender and development, agriculture related rural economy, livelihood, gender and social exclusion, women workers, food security, nutrition, health promotion, SDGs related issues.

Domingo Sugranyes Bickel, KCSG. Graduated from the University of Fribourg, Switzerland. Secretary General of UNIAPAC, Brussels, from 1974 to 1981. With MAPFRE international insurance group from 1981, Executive Vice-Chairman until 2008. From 2009 to 2019, Chairman of Vatican-based Foundation Centesimus Annus Pro Pontifice. Knight Commander of the Pontifical Order of Saint Gregory the Great (April 2019).

P. **Ezekiel Kwetchi Takam** Jis a PHD candidate at the University of Geneva and the president of the "Observatoire Euro-africain de l'intelligence artificielle", a think tank that works for an ethical culture of AI.

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"FROM VIRUS TO VITAMIN" – JOIN THE DISCUSSION

The Observatoire de la Finance intends to seize this period of pandemic to step back and take a fresh look at our global economic system, dare to ask new questions which the current crisis brings to the fore and propose innovative ways to rebuild a more resilient and sustainable economy and society. In brief, we want to turn the virus into a vitamin for the future.

Our Discussion Board "From Virus to Vitamin" focuses on commenting issues relevant to finance and economy in relations to society, ethics and the environment from a variety of perspectives, of practical experiences and of academic disciplines. It has been designed to share and discuss information and opinions expressed in a short and concise manner.

Contributors (Discover the list of contributors) are invited to react on a question/ issue that is submitted in parallel to a limited group of experts. This happens on a regular basis, through a dedicated mailing list. After the deadline for submission, the reactions are edited and published with signatures in one document on the website of the Observatoire de la finance and on its Linkedin page. If you would like to join the discussion, you may send an email to the editor, Dr. Virgile Perret <perret@obsfin.ch>.

OF Discussion Board – Questions addressed so far

- Question 24 : Inflation on the horizon: cloud or dragon?
- Question 23 : Standing up to new challenges
- Question 22 : Who wants to foot the bill?
- Question 21 : Rowing together to trim down the Gini coefficient
- Question 20 : Turning up the heat: can private insurance alone mitigate climate change damages?
- Question 19 : From the gold window to the global casino
- Question 18 : Turning point for the planet: can the G7 be trusted?
- Question 17 : Sustainable Finance: Hype or Hope?
- Question 16 : Universal basic income – an idea boosted by the pandemic?
- Question 15 : Multi-polarity: the best guarantee against falling (again) into the Thucydides Trap
- Question 14 : Special Drawing Rights: a drop of liquidity in an ocean of needs

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