SOAS Development for Transformation Centre

DEVELOPMENT VIEWPOINT

June 2024

Addressing the Intersecting Double Calamity of Climate Deterioration and Technological Advances

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Ominous Trends

We are currently confronting the likely double calamity of rapid job-displacing technological change, in combination with significantly worsening climate conditions.

Making matters worse, governments are also currently confronting a near-record peak of USD 305 trillion of global debt(namely, 333% of GDP in quarter one of 2024), and the prospect of even higher debt later in 2024 (IFF 2024).

Borrowing was on the rise before the onset of COVID-19, but the combination of the pandemic and the war in Ukraine has caused even more pervasive and higher levels of indebtedness—a trend that could dramatically restrict policy responses.

The combination of COVID-19, the Ukraine conflict and destabilising debt levels have pulled focus from the growing impact of the fourth industrial revolution (FIR)—and yet, its economic influence continues to spread significantly. Among many others, prime examples of the FIR include artificial intelligence (AI) and robotics; for more, see Hyseni 2023.

AI has been enabling machines to analyse data and learn relevant lessons. Such mechanisms have already begun to showcase their own decision-making powers, based especially on their capacity to both boost productivity and enhance quality. Likewise, robotics has already started playing an important role in performing a wide range of economic tasks. In repetitive or hazardous tasks, robots can work rapidly and accurately—and, unlike humans, tirelessly.

A New Perspective

Such important innovations could be more explicitly directed towards addressing worsening environmental trends. Perhaps there is the possibility of a new perspective—dealing effectively with both worsening environmental trends, and the potentially job-displacing impact of FIR?

Instead of viewing them as two independent negative trends (environmental degradation and job elimination in a precarious economic climate), there is a vital conversation to be had about how FIR might be deployed to actually improve environmental conditions (e.g., see Corfe 2020, as an initial source of some of the following examples).

CO2 emissions are a major source of global concern. The emerging FIR technology of the **Internet of Things** could be designed to play a prominent role in the environmental monitoring of air and water pollution.

At the turn of the decade, about a fifth of UK carbon dioxide emissions had been linked to road travel—the widespread deployment of the technology of affordable **electric vehicles** could help significantly mitigate this trend.

Smartphones could utilise live web services (such as Google maps) for **smart navigation**, to help individuals minimise their exposure to air pollution, while **robotic internet-connected CO2 scrubbing devices** could be deployed to actually clean up pollution by sucking carbon dioxide out of the air.

The increasing use of **virtual meetings** using internet video conferencing has already helped to substantially reduce travel for business meetings. Wider use of **3D printing** could also enable the local reproduction of globally generated designs, thus reducing physical transportation of goods.

Targeted Technological Innovation

These are just a few concrete examples of how FIR technologies could be explicitly deployed to mitigate environmental degradation. A comprehensive and systematic effort to explicitly direct such technological innovations is urgently required to achieve major environmental goals such as Net Zero emissions by 2030, alongside intensive evaluation of the net impact of cutting-edge technology on employment.

References

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