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PRIVATBANK

Why generative artificial intelligence is an important topic

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The field of artificial intelligence is becoming ever more prominent in people's minds this year in light of the emergence of increasingly sophisticated chatbots. It is undoubtedly a very important topic. Technological developments in the realm of artificial intelligence, which is now also able to generate content, are likely to lead to massive changes in the global economy. Changed and, in some cases, new ecosystems that are more adept at creating value are set to emerge. This statement can be applied equally to the levels of hardware, infrastructure and software, where new applications and services are being created. It will be possible to achieve productivity gains for both creative and routine tasks, providing potential for greater growth both in the global economy and in the area of corporate earnings.

Technological developments are entering a new and particularly exciting phase. Generative artificial intelligence has a great deal of potential. Awareness of this technology has exploded this year off the back of the emergence of so-called chatbots, which are effectively able to enter into conversations in response to prompts from humans and can also generate answers to questions formulated by people, be they in text or image form. The ChatGPT chatbot, which was developed by OpenAI and cooperates with Microsoft, and the Google-developed Bard chatbot, to name but two examples, work thanks to large language models (LLMs). These are gigantic neural networks which, just like the human brain, search for answers. They do so on the basis of questions and input provided to them, effectively using nerve nodes (neurons) that communicate via many nerve connections (synapses) to make associations in a similar manner to that employed by our own cerebral matter. Through training by programmers and thanks to the billions of pieces of data sourced from the big data libraries of websites (texts and images), these networks gain the ability to learn by drawing on the enormous computer processing power, allowing them to improve and generate even more output via their algorithms.

These are applications of machine learning, which can now generate a wide variety of content thanks to generative pre-trained transformers (GPTs). For instance, Google's MusicML has the capacity to compose music based on text input, OpenAI's DALL-E is able to create images and videos are now also easier to produce. These are just a few examples of applications. There are others already available as well as many more still in the development stage. As the required data volumes and cloud storage are gigantic in scale, the high costs involved generally favour the well-known major IT and communication firms, which possess the corresponding financial and research resources.

“As was the case with the emergence of the PC and the Internet, artificial intelligence is boosting productivity, growth and profitability.”

Gérard Piasko, Chief Investment Officer

Over time, new ecosystems will emerge, ranging from the necessary hardware (semiconductors and chips), infrastructures and platforms to software, applications and other services that will each create new value. The political debate surrounding the regulation of the oligopolies enjoyed by the major IT and Internet giants, which to all intents and purposes almost constitute monopolies, will then increase, as will the discussions about ethics, copyright and plagiarism protection and the safeguarding of data and consumers. In Europe (and for political reasons also in China), regulation is more likely than in the US, a fact that may once again present US firms with an advantage.

It is possible to talk of a real new phase of technological evolution, as was seen with the establishment of the personal computer (PC) during the 1980s, the spread of the Internet in the 1990s and the development of the cloud and smartphones from around 2010. As generative arti-

cial intelligence can be used as a tool to foster faster work and reduce costs in connection with routine tasks, productivity is generally improved. Similar to the introduction of the PC, the Internet and the cloud, generative artificial intelligence thus has the potential to bring more growth and greater profitability to the economy. According to PricewaterhouseCoopers (PwC), generative artificial intelligence could give rise to additional growth in the global economy in the region of USD 16 trillion by 2030. International Data Corporation (IDC) also estimates that the global business volume of generative artificial intelligence will already hit USD 900 billion by 2026. Many areas will be able to benefit from this, including technology hardware and software and cyber security (Internet security, as data volumes and their vulnerability to hackers are increasing).

Conclusion: In summary, generative artificial intelligence offers considerable potential to increase corporate earnings. This is not only true for the firms developing the technology, but also for the global economy as a whole via improvements in productivity. A similar situation was

observed following the development of the PC and the Internet in the 1980s and 1990s, respectively. It would come as no surprise if the positive factors associated with this greater potential for growth in the economy and corporate earnings are first seen in more developed and service-driven countries rather than in many emerging markets.

Gérard Piasko

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