COMPETITIVENESS AND STABILITY IMPACTS OF TECHNOLOGY

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Harnessing the power of artificial intelligence for financial services

If there has been one megatrend in 2023, it is certainly the rise of artificial intelligence. The emergence of artificial intelligence chatbots such as ChatGPT or Bard has shown many people how powerful artificial intelligence software can be for certain applications. However, they have also shown how flawed such technology can be and it has also become apparent how problematic such tools can be in the hands of malicious actors. In that sense, the public debate we are having these days about how to deal with AI is a healthy and important one.

As with every newly emergent technologies, there are risks, but also chances involved. In order to avoid the risks, but to harness the chances, it will be key to get the regulatory framework right. The European Union intends to take the leadership on that issue with the first regulation on artificial intelligence, the AI Act, for which the European Parliament passed its negotiation position only a few weeks ago. The key idea is to go for a risk-based approach and tailor the regulatory requirements to the risks inherent to the technology involved. While this sounds good in principle, it is a somewhat problematic approach for a nascent technology.

Given that many of the chances and risks related to artificial intelligence are not immediately clear at this early stage in the life the technology, there are natural limitations based on a simple categorisation of applications into "high risk" or "low risk". We should in any case be very careful not to close the door on any technology or application purpose that might come with both chances and drawbacks too early. Otherwise, we can never be sure what kind of innovation we will prevent from happening.

For precisely that reason, a principles-based and not overly restrictive approach towards regulating AI is warranted, particularly when it comes to financial services. After all, dealing with the digitalisation of finance is nothing new per se. Financial markets have learned how to harness the power of big data and regulators have learnt how to reign in algorithmic trading - most notably through the framework in the revised Markets in Financial Instruments Directive (MiFID II). In that sense, EU financial services legislation seems well equipped to handle the challenges of AI and will only get better once the pending proposals on the Digital Finance framework are adopted and eventually implemented.

In the financial services sector, there are some obvious applications for artificial intelligence in terms of data processing, modelling, fraud prevention, improvements and standardisation of customer interactions and process automation. We should be careful not to deprive European financial services firms of such opportunities by applying an overly restrictive regulatory frame. Other jurisdictions are certain to make the most of the powers of artificial intelligence and we should be careful not to create any unnecessary competitive disadvantages for European players that are active in international markets and are already facing tough competition anyway.

At the same time, it will be key that if new rules dealing with AI aspects are introduced at any time, this is done on a European level. After all, the most disadvantageous scenario would be a plethora of 27 competing national rules that would make cross-border business even more difficult. In that sense, the AI act is a useful development as it comes early in the life of the technology, but firmly establishes the supremacy of European law in that space. That means, however, that getting the details right, matters.

A principles-based and not overly restrictive approach towards regulating AI is warranted.

Artificial intelligence will cause disruptions in certain markets and the precise impact is still difficult to assess at the early stage we are in. However, there is reason to be optimistic about artificial intelligence given the productivity gains that will come along with this technology. While the doomsayers already predict the end of life as we know it, history tells us that even the most disruptive innovations end up to be a net positive over the medium to long term.

Had mankind not embraced innovation every time it came along, our most sophisticated tools would still be sticks and stones. Therefore, there is no reason to fear innovation and change and there is no reason to fear AI.

BARBARA NAVARRO
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Exponential technologies and the future of the financial sector

Banks are natural born innovators. From Middle Ages to nowadays we have been trailblazing the avenues of technologies. Historically banks have built solutions leveraging on new technologies to anticipate consumer habits and facilitate progress. Contributing to prosperity of communities and society has been at the front and center of our strategy through decades. This can only be done embracing technology.

The quest for seeking value and delivering it to shareholders have pushed banking top management teams to explore the so-called digital transformation. Exponential technologies have already become a must for banks to compete and have already transformed the way we do banking. The financial industry is leading this digital transformation.

- Technology has opened the way to rethink how traditional businesses work. The development of tokenised securities is one example that shows how markets can be transformed by technology. We have already issued native digital bonds which show that DLTs and smart contracts can drive efficiency gains by automation and disintermediation of this markets, enabling for example more inclusive access of retail investors and providing new financing alternatives to SMEs.
- But we don't need to look so far to feel the change. The payments business is probably the one that has more profoundly changed in the last years. Payment have become instant, contact-less, fully integrated into our digital lives. P2P payments are becoming part of our daily lives. Solutions such as Bizum in Spain are used today by more than half of the Spanish population to make P2P payments every day. And we want to go further by exploring how tokenized deposits could enhance programmability and provide solutions to new payment needs in the economy (M2M, IoT...).
- Technology is enabling also to improve our risk manage capabilities. Thanks to AI we can anticipate better customer needs and help them meet their financial commitments. We are strengthening our AML and cyber security models by identifying new malicious patterns. And at the same time, we can offer new services to our clients, for example to manage their investment portfolios through robo advisors, that until now were available only to high-net-worth clients. And together with technologies such as GPT language models we are exploring new ways to improve efficiency in our operations while reducing our operational risk.
- Finally, technology has also transformed the way we operate. We are migrating our core banking to the cloud, with 80% of our IT infrastructure already on the cloud. This transformation will allow the bank to be more agile developing new services, to access easier and faster to our transactional data, and to be more efficient reducing at the same time IT infrastructure energy consumption by 70%. Cloud has become key to meet the needs of the business in an efficient and flexible way, as well as to be able to scale our services globally.

As this transformation is accelerating, European authorities are in the process of developing and implementing the new regulations that will shape this digital transformation. DORA, MiCA and the DMA have been positive steps forward that now need to be further developed in second-law regulations. New regulations being discussed such as the AI act and the data act or the recently proposed FIDA in the financial sector, will set the framework for the future development of the data economy, and the development of the European industry in strategic technologies such as AI or cloud. Europe is also in the process of developing a European digital identity and *e Digital Euro*, that will provide citizens with public solutions to manage their identity and to pay with public money.

Public-private collaboration is key to ensure that regulation enables the digital transformation.

We are at a decisive moment that will define the role of Europe and of our companies in the future digital world. In this context, it becomes more important than ever to work together, public and private sector, and across sectors, to ensure that regulation and policy action becomes an enabler for this digital transformation, increasing competitiveness and creating new opportunities for economic growth, while building on our European values. The pace of innovation requires this close collaboration to understand opportunities and risk, to identify and fill potential regulatory gaps and solve as well, existing barriers for the successful adoption of these technologies.

At the same time, digital is global. And therefore, global alignment on regulating this digital transformation is also key to enable companies to innovate at scale and on equal foot across-regions.

KSENIA DUXFIELD-KARYAKINA

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AI in financial services - Enabling responsible service innovation

Cloud-enabled artificial intelligence and machine learning can significantly improve services and processes in the financial sector by driving innovation through the automation of tasks, accelerating decision-making, and personalizing customer experiences. Google is a pioneer in AI, and has been investing in the technology for many years. We have made significant open source contributions, and - in line with our Bold and Responsible AI commitments - we continue to evolve our long-standing AI governance processes to ensure we remain global leaders in delivering responsible products to the market.

AI can become a major driver of competitiveness for the EU financial services firms. The technology can help firms accelerate growth and revenue, improve operational efficiency, and manage risks. Remarkably, it can solve data challenges that traditional solutions cannot. For example, Enterprise AI can be used to automate data capture at scale, which can help firms - and governments - improve their efficiency and accuracy. The Google Cloud Generative AI App Builder allows developers to quickly ship new experiences including bots, chat interfaces, custom search engines, and digital assistants. Vertex AI builds, deploys, and scales ML models fast, and with fully managed ML tools for use cases. These solutions can help firms of all sizes adopt AI and reap the benefits of this technology.

One prominent example of AI application at scale is improving regulatory reporting, including anti-money laundering processes. In turn, we need to look at risk management considerations. Google Cloud published a white paper, written in partnership with the Alliance for Innovative Regulation (AIR), which addresses the question whether existing Model Risk Management guidance continues to be relevant for AI/ML models. While this thought leadership aims to foster dialogue, use cases show concrete advantages. Earlier this year HSBC revealed how Google Cloud's AML AI has helped them advance anti-money laundering efforts and improve transaction monitoring: the bank has been able to achieve nearly 2-4 times more confirmed suspicious activities and eliminate 60% of false positives. This is just one example of AI's added value in financial services. Others include BNY Mellon's use of AI to predict settlement failures or Commerzbank's ML application to enhance the customer experience.

AI can become a major driver of competitiveness for the EU financial services firms.

In order to reap the competitive benefits of AI, firms need to address a number of challenges. These include ensuring data quality and standardization, and transforming legacy IT infrastructure. The public debate of generative AI raises questions on how to apply this technology in a responsible and risk-controlled manner. It will augment existing technology as well as create new opportunities for enterprises in delivery of services (customer service, manufacturing, research, product development). It is important for customers to ask if generative AI is actually suitable for their use case. Today, we see use cases for personalized financial recommendations, capital markets research, enhanced virtual assistants, document search and synthesis, and translations of changes in regulatory / business requirements into code.

The financial services industry has long been a leader in risk management. The incoming regulatory framework for AI, such as the EU AI Act, will be a decisive factor for adoption of AI innovation to the benefit of consumers and financial institutions. Google supports the development of a responsible AI framework that encourages innovation while protecting consumers.

Our CEO Sundar Pichai is very clear: "AI is too important not to regulate, and too important not to regulate well." This requires a technology-neutral, proportionate, and flexible framework. And legal requirements should not act as barriers to the adoption of general-purpose or generative AI solutions by financial institutions. The AI Act should therefore focus on high-risk applications only. Potential benefits and harms are best managed by experts in financial services. National financial services regulators are best placed to assess matters related to AI in their industry. Importantly, many existing rules and standards in financial services already apply to artificial intelligence. The AI Act should complement where needed without increasing uncertainty.

As generative AI technology continues to develop, it is likely that we will see even more innovative and creative applications for this technology in the years to come. Getting the regulatory framework right, Europe has a chance to distinguish itself as a leader in digital innovation.

TSVETELINA PENKOVA

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The transformative impacts of AI and new technologies in finance

In recent years, the financial landscape has been undergoing a seismic shift driven by rapid advancements in technology. The convergence of artificial intelligence (AI), cloud computing, distributed ledger technology (DLT), and central bank digital currencies (CBDCs) is reshaping the way financial services are delivered, accessed, and regulated. These innovations have the potential to revolutionize competitiveness, bolster resilience, and transform the regulatory landscape. However, with the rewards come potential risks, prompting a critical evaluation of existing frameworks and policies.

The integration of AI, cloud computing, DLT, and CBDCs into financial systems promises profound impacts on competitiveness and resilience. AI enables institutions to process and analyze vast volumes of data with unprecedented speed and accuracy, thus enhancing decision-making and risk management. This technology enables the creation of more sophisticated algorithms for portfolio optimization, fraud detection, and credit scoring, ultimately leading to improved financial services and products.

Cloud computing, on the other hand, offers agility and scalability to financial institutions. It allows them to streamline operations, reduce costs, and access computational power on demand. This flexibility is particularly valuable in times of crisis, enabling institutions to adapt swiftly to changing market conditions and maintain business continuity.

DLT, commonly known as blockchain, has the potential to transform the way financial transactions are recorded and verified. Its distributed and immutable nature can mitigate risks associated with fraud and enhance transparency. In trade finance, for instance, DLT can streamline cross-border transactions, reducing the time and costs involved.

CBDCs introduce a novel form of digital currency issued by central banks. They can improve payment efficiency, reduce settlement times, and enable financial inclusion. Additionally, CBDCs can serve as a resilient alternative to traditional payment systems, ensuring access to funds even during disruptions. The interconnectedness of financial systems, coupled with the reliance on digital infrastructure, makes them susceptible to cyberattacks. Data breaches, unauthorized access, and system failures could have catastrophic consequences. Moreover, the use of AI in decision-making processes poses ethical challenges, such as bias in algorithmic decisions and lack of accountability.

The decentralized nature of DLT, while enhancing transparency, also presents regulatory challenges. The cross-border nature of many DLT applications necessitates international cooperation and consistent regulatory frameworks to address issues like jurisdiction and legal enforceability.

Collaboration between regulators, financial institutions, and technology providers is crucial.

CBDCs introduce both opportunities and risks. While they can enhance payment systems, the widespread adoption of CBDCs could potentially lead to bank disintermediation, impacting monetary policy transmission. Additionally, privacy concerns arise as central banks gain access to granular transaction data.

Existing financial regulatory and oversight frameworks, as well as digital policies, are facing the challenge of adapting to the fast-paced evolution of technology. The Digital Finance Package, horizontal data policies, and AI frameworks introduced by various jurisdictions aim to strike a balance between innovation and risk mitigation. These frameworks often focus on consumer protection, data privacy, and market integrity.

However, the dynamic nature of technology requires ongoing reassessment of these frameworks. Regulators must collaborate with industry stakeholders to develop agile regulations that foster innovation while addressing emerging risks. International coordination is vital, given the borderless nature of many technological applications.

To ensure that the benefits of digitalization outweigh potential risks, a multi-pronged approach is necessary. Strengthening cybersecurity measures, promoting responsible AI development, and enhancing data privacy protection are essential steps. Institutions should also prioritize robust contingency plans to ensure operational resilience in the face of cyber threats or system failures.

Collaboration between regulators, financial institutions, and technology providers is crucial. Regular dialogues can foster a deeper understanding of technological implications and enable the development of responsive regulatory frameworks. International standard-setting bodies play a pivotal role in harmonizing regulations across jurisdictions.