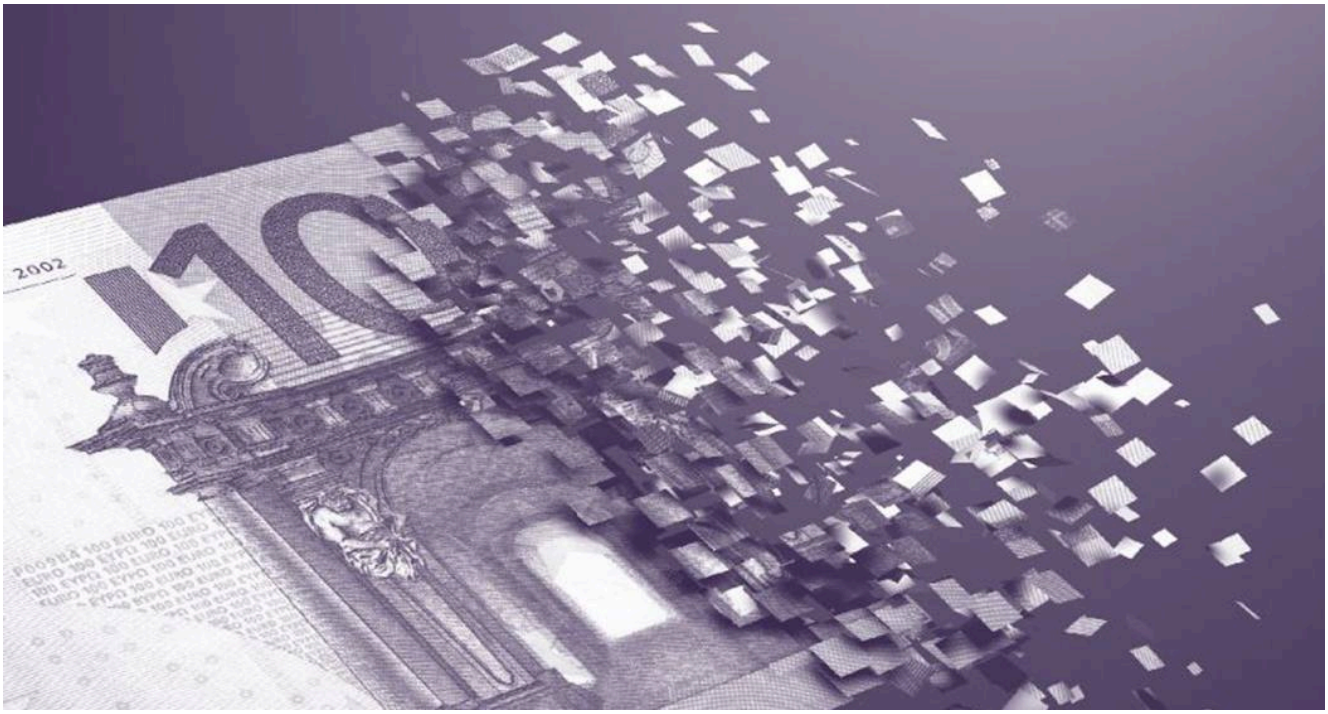
How to balance the bright and dark sides of technology to inform banking regulation

Technology and Finance, the fourth report in the Future of Banking series, examines how new digital technologies can be beneficial and disruptive to the financial industry. Issues include the emergence of digital currencies and the use of big data.



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- **According to the fourth report in the Future of Banking series, _Technology and Finance_, the development of a central bank digital currency (CBDC) technology should be targeted primarily to overcome market failures and should not be rushed without careful thought.**

- **The increasing use of consumer data for the provision of financial services allows for efficiency gains but also involves potential risks in terms of privacy issues, diminished competition and increased income inequality.**
- **The electronification of market securities has policy and economic consequences that should be addressed.**

Recent cutting-edge technologies — such as machine learning and artificial intelligence (AI), as well as the expansion of fintech and Big Tech companies into finance — have accelerated the digitalization of financial services. The fourth report in the Future of Banking series from IESE Business School and the Centre for Economic Policy Research (CEPR), with support from Citi, focuses on three aspects of tech's impact:

- The disruption of **payment systems** due to the emergence of **digital currencies**, with a particular focus on central bank digital currencies (CBDCs);
- The benefits and risks of the use of **big data** for the provision of financial services; and
- The **electronification of securities trading** and its effect on trading costs and market quality.

Coauthors Darrell Duffie, Thierry Foucault, Laura Veldkamp and Xavier Vives explore regulatory and policy responses to harness the potential benefits of technologies in these areas while protecting consumers and ensuring market stability.

1. Payment system disruption

With the primary goals of improving the efficiency and inclusiveness of their payment systems, most central banks are now exploring the development of central bank digital currencies (CBDCs). Many are also grappling with other fintech payment approaches such as stablecoins, neo-banks and "fast payment systems," which are based on real-time gross settlement of bank-railed payments.

CBDCs have several potential benefits, such as improving the efficiency and competitiveness of payments systems and fostering financial inclusion. However, the report argues that in many countries, especially the United States, it is premature to commit to deploying a CBDC. The costs and benefits are large and will remain uncertain until revealed by technology and policy exploration. The greatest challenge for the design of a CBDC is how to protect privacy while controlling money laundering and illegal activities.

2. The use of big data

The report analyzes how data-driven decision-making and new data technologies offer the promise of extraordinary efficiency gains, but also threaten our economic and social order. Data can alleviate mismatch problems that lead to finance being directed to poor ideas, resources being stockpiled where they are not needed, and goods sold to consumers that would value other products more. Resolving such mismatches can unleash a powerful productivity boost. However, firms' use of data also risks compromising consumer privacy, leaving them vulnerable to manipulation; it risks fueling monopoly power, which erodes consumer surplus; and it further exacerbates income inequality, which may undermine support for liberal democracy.

There are no easy answers to resolve these trade-offs. However, any thoughtful approach must be grounded in data measurement.

3. The electronification of securities trading

Securities trading is increasingly taking place on electronic platforms run by for-profit companies that, like other fintech firms, use algorithms to match buyers and sellers, develop innovative pricing schemes, and monetize the massive amount of data generated by trading activity on their platforms. Overall, this evolution has intensified competition between trading platforms and between securities dealers, resulting in lower trading costs for investors.

The report identifies four areas that deserve policymakers' attention: (1) issues of trading platforms' market power over their data, (2) latency arbitrage, (3) growing volumes of dark trading, and (4) the danger of extreme price changes to financial stability. Among their policy proposals, the report's authors argue for the need of a consolidated tape in EU stock markets.

The Future of Banking series

The 2022 report, *Technology and Finance*, is the fourth installment in the Future of Banking series, which is part of IESE's Banking Initiative.

Read about the three previous reports here:

Banking on resilience: Preparing our financial system to face natural disasters (2021)

COVID-19 crisis to alter banks' business models (2020)

Is our banking system sound at last? (2019)