

BIG DATA & ALGORITHMIC FINANCE



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Marianne Verdier is a Professor of Economics at the University Paris Panthéon Assas and a researcher at CRED (<http://cred.u-paris2.fr/verdier>). She is responsible for the Master Assas Finance and of a Research Chair on Digital Finance at the University Paris 2 with Telecom ParisTech. Her fields of research include the economics of platforms, the regulation of digital technologies and banking regulation. She has published on payment platforms in many academic journals and participated to several debates about the regulation of interchange fees in Central Banks. She is a member of the High Council for Financial Stability (HCSF) and the Scientific Council for the ACPR.

CYBERSECURITY AND CLOUD OUTSOURCING OF PAYMENTS

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We study the incentives of competing banks to outsource their payment services to a cloud-based common infrastructure, managed by a private third-party provider (TPP). The TPP stores depositors' information in the cloud and offers compatibility services, but is exposed to cyber risk. Without cyber risk, banks outsource excessively to the TPP compared to the first-best because network effects soften competition for deposits. We show that cyber risk and security costs may sometimes reduce banks' incentives to build interoperable payment systems. We discuss several policy options to improve payment system security and interoperability: security standards, the authorization of cloud outsourcing agreements, a common liability regime, a shared-responsibility model, a common public infrastructure.

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