



Toulouse  
School of  
Economics

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# FIT IN Initiative

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## Policy papers

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### Should mobile money agents work for multiple networks?

Matthieu Bouvard and  
Catherine Casamatta

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Economics for the Common Good

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# Should mobile money agents work for multiple networks?

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**Mobile money – the possibility to hold a bank account via a mobile phone – has been a major driver of financial inclusion over the past two decades. Supported by the Bill & Melinda Gates Foundation, TSE's FIT IN Initiative seeks to help developing countries make the most of this revolution by analyzing the optimal design and regulation of interoperable digital financial services. At this project's final conference in May, Toulouse researchers Matthieu Bouvard and Catherine Casamatta explained the benefits of allowing mobile money agents to contract with multiple operators.**

## *Why do we need research on the role of mobile money agents?*

With mobile money markets reaching maturity, new questions arise about the next phase of development.

**Agent are pivotal in on-boarding and educating consumers on the use of mobile money. They also play a vital role in providing the ability to convert digital balances into cash. This is particularly important in economies where cash transactions are common**

In particular, the issue of interoperability between mobile payment systems has been at the forefront of the agenda for regulators and industry players. Interoperability generally refers to the ability for users to perform transactions across mobile payment providers, but it is a multi-layered concept (see Bianchi et al., 2023). Our paper zooms in on agent interoperability. This is the possibility for mobile money agents to perform services for consumers on behalf of multiple providers.

Agent networks are key infrastructures in the functioning of mobile money networks. For example, they are pivotal in on-boarding and educating consumers on the use of mobile money. Agents also play a vital role in providing consumers with the ability to convert digital balances into cash and vice versa. This is particularly important in economies where cash transactions are common.

## *Why is it difficult to help everyone benefit from cash conversion services?*

To service consumers, mobile money agents need to maintain a float of both digital and cash balances. Evidence suggests that this service faces significant frictions. For example, a 2023 report estimates that in Bangladesh, Tanzania and Uganda, the physical costs for consumers to access the liquidity provided by agents (including the probability that the agent may not be available or have enough liquidity) are up to 10 times higher than the transaction fee itself. These costs are particularly significant given that most transactions are small.

Another challenge is that agents perform their services on behalf of mobile money providers, sometimes in very remote areas and with very little scope for oversight. This implies agents need to be properly incentivized to perform in a reliable manner. Again, evidence suggests that agency frictions impair the service received by consumers.





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### *How do you analyze operators' efforts to ensure agents have sufficient liquidity?*

# 76%

**In 2022, 76% of the world's adult population had a bank account. The number of adults without access to an account almost halved over the previous decade, falling from 2.5 billion in 2011 (to 1.7 billion in 2017) to 1.4 billion in 2021.**

Source: [www.worldbank.org/en/topic/financialinclusion/overview](https://www.worldbank.org/en/topic/financialinclusion/overview)

In our model, agents need to hold a float to enable consumers to convert their digital balances into cash. To maintain that float, agents can use their own resources and supplement them by borrowing. A key assumption is that lending involves moral hazard: the lender cannot directly verify that the agent uses the borrowed capital for cash-out services rather than for other activities that might increase the risk of default. This misuse of capital is less likely when cash-out services are more profitable for the agent. Consequently, a higher fee mitigates the moral hazard problem of the agent which facilitates access to credit, and ultimately enhances the reliability of cash-conversion services.

When each operator is paired with just one agent with little incentive to divert funds, the operator will fully insure consumers against liquidity shocks by paying fees that induce the agent to hold a large float. However, worsening moral hazard will cause the operator to cut these fees, inducing a smaller float. Consumers may then be unable to withdraw cash, reducing the quality of the service and the price the operator can charge. Severe moral hazard could threaten the service's viability.

### *Does agent interoperability improve cash-conversion services?*

Consumers are likely to welcome the freedom to convert cash from other operators' agents. There is also a diversification benefit as each agent can use their float to serve consumers from multiple operators. When moral hazard is mild, this non-exclusivity provides a more viable system that can deliver the same level of liquidity to consumers with less overall liquidity, reducing the need for agents to hold a large float and for operators to pay fees. However, consumers will be better off without interoperable services if operators exploit the efficiency gains from diversification to overeconomize on agents' fees.

Interoperability can also enhance the provision of liquidity when moral hazard is acute. If paired with just one agent, the operator will find it too costly to incentivize this agent to hold more liquidity. But interoperability reduces this cost as agents will also receive fees from other operators. Operators' fees are then complementary, allowing for higher, welfare-enhancing levels of liquidity.



**Consumers are likely to welcome the freedom to convert cash from other operators' agents. There is also a diversification benefit... However, consumers will be better off without interoperability if operators exploit the diversification gains to overeconomize on agents' fees**

# 5.6 M

**The world had 5.6 million mobile money agents in 2021, converting over \$700 million per day**

Source: [www.gsma.com/mobilefordevelopment/programme/mobile-money/mobile-money-agents-sustainability-in-a-digital-era](https://www.gsma.com/mobilefordevelopment/programme/mobile-money/mobile-money-agents-sustainability-in-a-digital-era)

These complementarities lead to the existence of multiple equilibria, as the fees chosen by one operator depend on the other operator's strategy. If operators are unable to coordinate on high fees, this will be detrimental to consumer welfare and to the profitability of the mobile money industry. This can occur because operators consider the rent paid to the agent to be a cost rather than a transfer; and because they fail to internalize that higher fees, by expanding agents' capacity to hold liquidity, benefit consumers from other operators.

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## KEY TAKEAWAYS

- If mobile money agents have little personal wealth, operators need to pay them fees to ensure agents hold enough liquidity to provide reliable cash conversion.
- When moral hazard is mild, consumers will be better off without interoperability if it induces operators to economize too much on agents' fees.
- When moral hazard severely constrains liquidity, allowing agents to work with multiple operators may be particularly valuable.
- Despite the potential for miscoordination, interoperability can provide higher liquidity, more efficient use of liquidity, and increase the service's viability.

### FURTHER READING

Document based on "*Mobile money agent interoperability and liquidity management*", Matthieu Bouvard and Catherine Casamatta, FIT IN Initiative Working Paper, n. 20, September 2024.



#### Catherine Casamatta

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Catherine is a Professor in Finance. Her research focuses on corporate finance and governance, venture capital, socially responsible investment and digital finance. She has been published in international journals. She co-leads the Sustainable Finance and Responsible Investment research initiative with TSE and Ecole Polytechnique. She has been a member of the Board of Directors at Actia Group since 2017, a member of the Scientific Council of Autorité des Marchés Financiers since 2020 and a fellow of the Institut Bachelier since 2021.



#### Matthieu Bouvard

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Matthieu's research focuses on financial intermediation. His research investigates how information technologies affect the design and delivery of financial products and the implications for risk and stability in financial systems. His current research studies the entry of e-commerce platforms into the payment and the credit market and the role of mobile money agents in developing countries. His paper on blockchains published in the *Review of Financial Studies* has received the Swiss Finance Institute Outstanding paper award in 2017.

## About the FIT IN Initiative

In November 2020, the Toulouse School of Economics launched the Financial Inclusion Through INTERoperability Initiative to catalyze new research to constructively influence the design and regulation of interoperable digital financial services systems in low- and middle-income countries.

The main objective of this four-year research initiative is to better understand the implications of alternative competition and regulatory policies and ultimately inform policies to expand the scope, improve the quality and reduce the cost of digital payment systems for impoverished users.

The FIT IN Initiative receives support from the Bill & Melinda Gates Foundation's Financial Services for the Poor program.

For more information: [www.tse-fr.eu/groups/FIT-IN-Initiative](http://www.tse-fr.eu/groups/FIT-IN-Initiative) / [fitininitiative@tse-fr.eu](mailto:fitininitiative@tse-fr.eu)

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