

Discussion of:

The Payment-Credit-Privacy Trilemma

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The views expressed here are those of the authors and do not necessarily reflect the position of the Federal Reserve Bank of New York or the Federal Reserve System.

Overview

- ▶ Part of an interesting research agenda focusing on:
 - ▶ digital ledgers, platforms, information and market power

My plan:

- ▶ Summarize some of the ideas
 - ▶ paper covers a lot of ground; I will focus more narrowly on the privacy issues
 - ▶ start with some basic background, then bring in ideas from the paper
 - ▶ suggest a way of reframing some questions and results
- ▶ Ask about:
 - ▶ optimal policy
 - ▶ privacy: what do we care about?

Unsecured credit

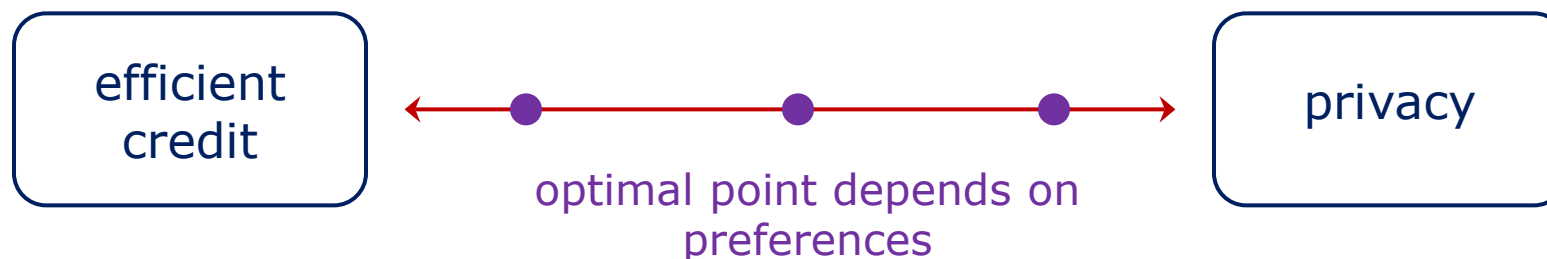
- ▶ Starting point: It is difficult for people with few assets to borrow
 - ▶ think of someone running (or starting) a small business
 - ▶ lenders are wary of making a loan because:
 - ▶ it is difficult to evaluate the borrower's likely ability to repay, and
 - ▶ it is relatively easy for the borrower to default even if they are able to repay
- ▶ Digital platforms and payment ledgers have the potential to change this
- ▶ Idea: if the business receives payments through the platform/ledger
 - ▶ operator gets information that is useful for evaluating ability to repay, and ...
 - ▶ exclusion from the platform/ledger may be costly → incentive for borrowers to repay
 - ▶ examples: Alibaba & Tencent (China), Paytm (India), Mercado Credito (Argentina), Amazon Lending (U.S.)

Privacy

- ▶ The operator is able to grant credit because the business is using the platform/ledger
 - ▶ which gives the operator transaction-level data about the business
- ▶ Suppose privacy = ability to disassociate transactions from one's identity
 - ▶ i.e., to make transactions that are not monitored by a third party (like the operator)
 - ▶ potentially valuable for both merchants and consumers (more on this point later)
- ▶ One way to get privacy: transact off the platform and settle off-ledger
 - ▶ example: sell direct and do payments in cash
- ▶ But if a merchant can operate just as well without the platform/ledger ...
 - ▶ ... then being excluded following default is not costly
 - ▶ so the incentive to repay is undermined → less unsecured credit is viable

A dilemma

- ▶ Dilemma: cannot have the efficient level of unsecured credit and perfect privacy
- ▶ More generally, a tradeoff:
 - ▶ there are degrees of privacy : less costly to transact off-ledger \equiv more privacy
 - ▶ more privacy means less unsecured credit (and vice versa)
- ▶ Policymakers can choose a point along this tradeoff
 - ▶ if the private payment option is cash, by making cash more/less attractive to use
 - ▶ or by choosing design features of a digital currency
 - ▶ if multiple private ledgers, by regulating information sharing, interoperability



Payments and market power

- ▶ Key feature of the paper: focus on the IO of the platform/ledger operator(s)
- ▶ If exclusion from the platform/ledger is costly ...
 - ▶ which is necessary to incentivize repayment ...
- ▶ ... the operator likely has market power
- ▶ The operator will tend to use this market power to generate monopoly rents
 - ▶ can charge higher fees to process transactions
 - ▶ these higher costs will discourage economic activity
- ▶ Add another policy objective: **low-cost payments**
 - ▶ ask: how does this interact with the tradeoff between efficient credit and privacy?

Cash

- ▶ A first thought: perhaps low-cost payments and privacy go hand-in-hand
- ▶ Reason: cash naturally provides both
 - ▶ option to use (low cost) cash limits the fees private providers can charge
 - ▶ this is perceived to be an important role of cash in practice
 - ▶ ... and cash by its nature provides privacy
- ▶ In the digital economy, a privacy-preserving digital currency can play this role



Smart CBDC or Co-opetition

Q: Do payments concerns necessarily push us toward choosing more privacy?

A: No.

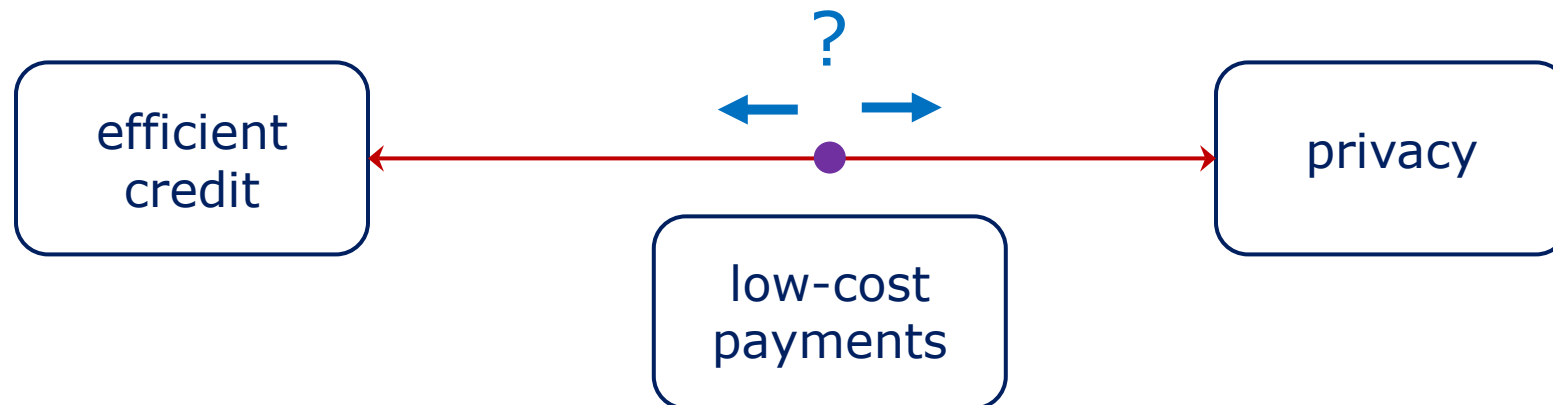
- ▶ Paper shows: we can also have low-cost payments and efficient unsecured credit
- ▶ Two routes:
 - ▶ smart CBDC: a public ledger that supports contract-contingent settlement
 - ▶ co-opetition: private providers compete on fees, but share relevant credit information



Reframing the question

- ▶ Paper presents this result as a *trilemma*
 - ▶ we cannot have efficient unsecured credit, perfect privacy, and low-cost payments
- ▶ Alternatively: promoting competition in payments does not *resolve* the tension between unsecured credit and privacy
- ▶ I might ask:

Does the desire for low-cost payments shift the optimal point? If so, how?

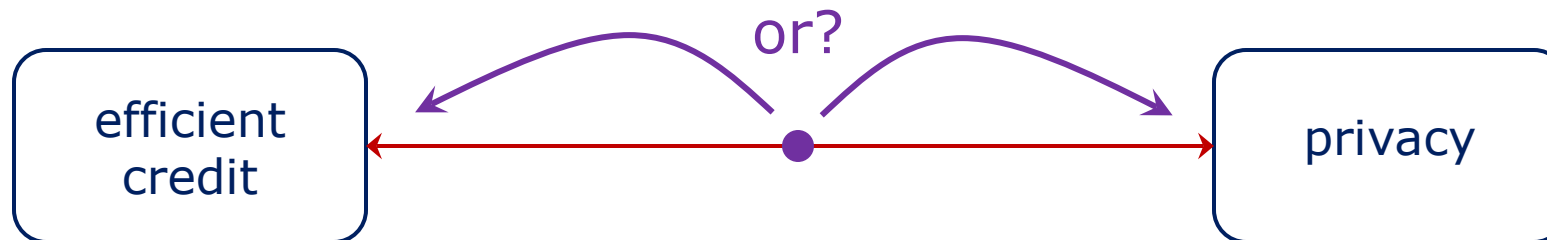


Optimal policy (1)

- ▶ Suppose the optimal point was initially in the middle

Q: Does market power and the desire for low-cost payments push us to an extreme?

- ▶ is it easier to get low-cost payments if we have perfect credit or perfect privacy?
- ▶ if so, does it make one of these extremes more attractive than the other?
- ▶ Or can we achieve low-cost payments with any point along the tradeoff?

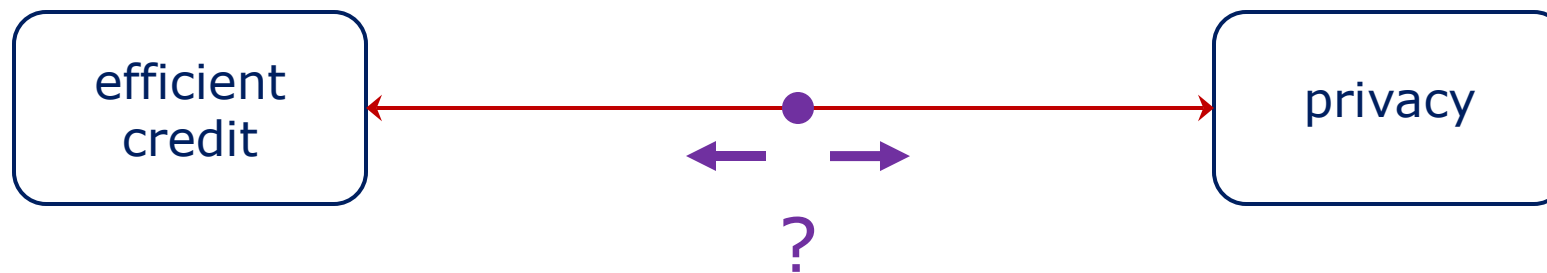


Optimal policy (2)

- ▶ If low-cost payments are consistent with many combinations of credit/privacy ...

Q: Does the desire for low-cost payments 'tilt' the tradeoff in some way?

- ▶ For a given level of privacy, do policies that promote low-cost payments:
 - ▶ decrease the equilibrium quantity of unsecured credit?
 - ▶ meaning privacy becomes more costly → may want less of it
 - ▶ or do they make privacy less costly at the margin?
 - ▶ or do they have no effect on the tradeoff and the optimal balance?



What is privacy?

- ▶ Answers to these questions may depend on why, exactly, we care about privacy
 - ▶ Easy to think of examples:
 - ▶ merchants might worry about others learning the details of their business model
 - ▶ consumers might worry about others learning their preferences → increased price discrimination
 - ▶ Here: privacy = ability to transact without being monitored by any third party
 - ▶ Perhaps that definition is too strict/coarse
 - ▶ for consumers: perhaps privacy = no one party sees too many of my transactions
 - ▶ then 2 private ledgers with $\chi = 0$ may jointly offer privacy if I can split my transactions
 - ▶ and they are not allowed to share data
- ⇒ interesting interaction between interoperability, regulation, and privacy
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- ▶ Put differently:
 - ▶ efficient credit does not require that everyone observe all transactions
 - ▶ privacy does not require that no third party observe any transaction
 - ▶ Being more explicit about what privacy is can help us:
 - ▶ understand the optimal point on the credit/privacy frontier ...
 - ▶ .. and how it may be affected by market power, desire for low-cost payments
 - ▶ But it also may give insight into the frontier itself
 - ▶ Would like to think more about the information structure: who observes what?
 - ▶ what features are needed for efficient unsecured credit?
 - ▶ what features are needed for privacy?
 - ▶ Can digital technology/regulation ease the credit/privacy tradeoff?
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Summary

- ▶ An interesting paper with many insights
 - ▶ I have only touched on some of them
- ▶ Focuses on highlighting tradeoffs ...
 - ▶ between interoperability and credit, and between privacy and credit
- ▶ ... which clearly is an important first step
- ▶ In future work, it would be interesting to study optimal policy
 - ▶ may require more detail about what we value in terms of privacy
 - ▶ this detail may also help sharpen our view of the underlying tradeoffs as well