

– *Discussion* –
Cashless Payment and Financial Inclusion
by Shumiao Ouyang

André F. Silva

Federal Reserve Board

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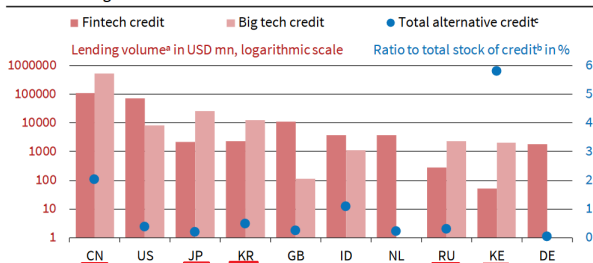
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*The views expressed are solely my own and do not necessarily represent the opinions of the
Board of Governors of the Federal Reserve System*

Background

- ▶ *Innovation in the last decade: rapid growth of **Fintech and Bigtech credit**, which use digital technologies to compete with banks*

Fintech and Big Tech Credit Are Sizeable in Some Economies



Note: ^a Data for 2019. ^b Domestic credit provided by the financial sector. Data for 2018.

^c Total alternative credit is defined as the sum of fintech and big tech credit. Data for 2019.

Source: Cornelli et al. (2020).

- ▶ Use of nontraditional data (e.g., payment flows, mobile money) to develop **alternative credit scores** → possible to extend credit to underserved individuals without collateral or traditional scores
 - ▶ 24% of adults worldwide are still unbanked, but the majority of unbanked adults have a mobile phone (World Bank, 2022)

Background

Research Questions

1. Can the adoption of cashless payments improve access to credit?
2. Is the effect concentrated on the underserved population?
3. Can the incremental information value of cashless payment data lead to positive real effects?

- ▶ **SETTING: Alipay**, the largest digital payment provider in China + **Huabei credit line**, a virtual credit card product provided by Alipay
 - ▶ 72% of Alipay users have access to a Huabei credit line, of which 95% have used it
- ▶ **IDENTIFICATION STRATEGY: IV** → staggered placement of Alipay-bundled shared bikes across different Chinese cities
- ▶ **DATA: 41,485** randomly-selected Alipay users, 2017 to 2020

Background

Main Results

1. Can the adoption of cashless payments improve access to credit?

Yes → the use of in-person cashless payment leads to a 56% increase in the likelihood of getting access to (digital) credit provided by Alipay

→ For those with credit access, a 1% exogenous increase in a consumer's in-person payment flow leads to a 0.4% increase in the credit line

2. Is the effect concentrated on the underserved population?

Yes → effect mainly for the less educated and older population

3. Can the incremental information value of cashless payment data lead to positive real effects?

Yes → relative to a counterfactual scenario where the lender does not observe payment data, the availability of payment data increases credit line size and usage, consumer welfare, and lender profits

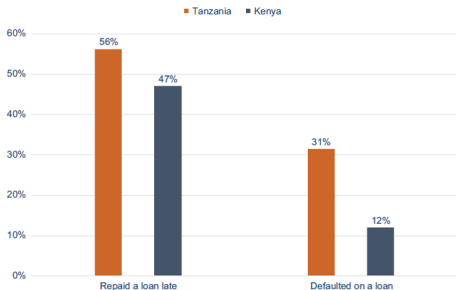
MAIN TAKEAWAY: “Payment data can serve as valuable digital assets that facilitate credit provision to the relatively disadvantaged”

Assessment

- ▶ Excellent paper on a very policy-relevant topic!
- ▶ Convincing identification strategy with battery of tests to validate it
- ▶ Few comments → not on what's in the paper but on what I think it's missing:
 1. Is such a rapid expansion of digital credit sustainable? e.g., do previously underserved borrowers have higher delinquency rates on digital loans ex-post?
 2. Do previously underserved individuals graduate to traditional commercial bank loans after getting access to digital credit provided by Alipay?

1. Too much of a good thing?

- ▶ Digital loans can indeed be important in improving financial access
- ▶ But is such a rapid expansion of digital credit sustainable?
→ There are reasons to be concerned e.g., CGAP, 2018:



Source: National phone survey of N=3,150 in Kenya, of whom 1,037 have used digital credit, and national phone survey of N=4,574 in Tanzania, of whom 1,132 have used digital credit. Both surveys were conducted June-August 2017 and were weighted to be representative of phone owners.

- ▶ Brailovskaya et al. (2022): focus on digital loans in Malawi and show that the majority of borrowers fail to repay on time and incur high late fees

1. Too much of a good thing?

- ▶ With a well-functioning credit information system, digital borrowers with late payments or defaults on their digital loans could be unable to access traditional commercial bank loans
 - ▶ ...they would be flagged in the credit registry as late or non-payers

Tech / Big Tech

 South China Morning Post

Ant Group microcredit service Huabei feeds vast credit data to China's central bank

• Consumer credit data gathered by Huabei are now included in the financial credit information database run by the People's Bank of China

Published: 8:00pm, 22 Sep, 2021

Ant Group launched Huabei and Jiebei, both of which offer unsecured small loans, in 2014 and 2015, respectively.

Jiebei, a service for larger consumer transactions, tapped into PBOC's credit reporting system since its launch. Huabei, which enables Alipay users without credit cards to make online and offline purchases and repay these on instalment for up to 12 months, had lagged behind in that reporting process.

SUGGESTION: analyze late repayments and defaults explicitly, if possible

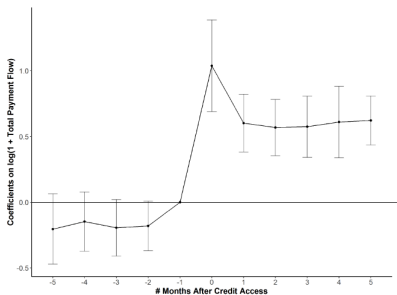
→ Or at least discuss these important issues, even if they cannot be tested explicitly. From a policy perspective, it's important to provide a balanced view of the benefits and costs of digital lending

→ Defaults featured in the structural model, but this is a different exercise → in any case, it shows that default rates increase in the transition to the digital money user case by 13%

1. Too much of a good thing?

Note on the overspending results:

- ▶ "We see a temporary increase and a stable long-term shift in the Alipay payment after the credit access, but we do not observe a significant reversal in the long run. *These findings suggest that the overspending issue might be mild in this setting.*"



- ▶ Difficult to make such a statement without examining the ex-post performance of the digital loan . . .

2. Interaction between digital and traditional bank credit

- ▶ The size of the Alipay granted credit lines is relatively small
- ▶ Small loans (e.g., digital credit, microcredit) can serve as an entry point to the formal banking sector e.g., Beck et al. (2022) in the context of SMEs in China using Alipay services; Agarwal et al. (2022) in the context of microcredit in Rwanda
- ▶ Why? Coupled with the presence of a credit registry accessible by all lenders, small loans allow borrowers to build credit history, and thus facilitate their transition to commercial banks
- ▶ The loans at banks tend to be larger, cheaper, and longer-term, and thus potentially lead to larger transformative effects

2. Interaction between digital and traditional bank credit

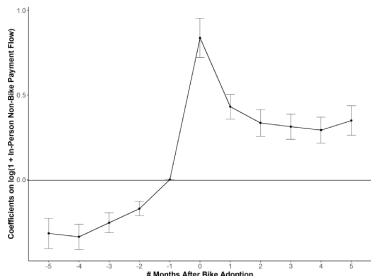
SUGGESTION: examine the interaction between digital and traditional bank credit explicitly, including the transition of borrowers from BigTechs to traditional commercial banks

Many open questions e.g.,

- ▶ What are the frictions preventing BigTech companies to provide larger credit lines?
- ▶ Are BigTech firms constrained in terms of lending capacity as, for instance, microfinance institutions in developing countries? Or is it about interest rates instead?
- ▶ What credit conditions do borrowers obtain when they switch from BigTechs to traditional commercial banks?
- ▶ Do we observe larger transformative effects when previously underserved individuals obtain digital loans or when they graduate to commercial banks?

3. Minor comment on the instrument

- ▶ "Although the **bike-adoption decision itself is endogenous**, this sharp contrast of in-person non-bike payment flow before and after shared-bike adoption suggests that it is the use of Alipay bundled shared bikes that leads to a shift in payment habits."



- ▶ Level of consumption already increasing prior to bike adoption despite the sharp increase at $t=0$. What factors could be driving this pre-trend that the empirical model could control for?
 - ▶ Exclusion restriction requires that bike placement affects credit provision only through in-person cashless payments

Overall

- ▶ Excellent paper on a very policy-relevant topic!
- ▶ Few comments to better balance the narrative

i.e., digital loans could indeed be an important way to improve financial access...but might be far from a panacea
- ▶ Very polished paper: ready for the job-market but difficult to discuss
- ▶ Looking forward to seeing it published and read related follow-up work!

References

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