

Defining Households That Are Underserved in Digital Payment Services

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The views expressed here are solely those of the presenter and do not necessarily reflect the views of the Federal Reserve Bank of Kansas City or the Federal Reserve System.

Motivation

- The economy is becoming increasingly digitized
- Households that lack access to safe and affordable digital payment services may not be able to fully participate in the economy
- Collecting data on these households is critical for measuring the scope of the problem and informing policies
- To do so, a definition for it means to be underserved in digital payments is needed
- Traditional definitions of underserved households in payments (unbanked and underbanked) are not well-suited
- Definition should also consider digital payment services provided by nonbank/fintech providers

Goal of Paper

Define **digital payments inclusion** and **households that are underserved in digital payments** with the end goal of measurement in mind

Presentation Outline

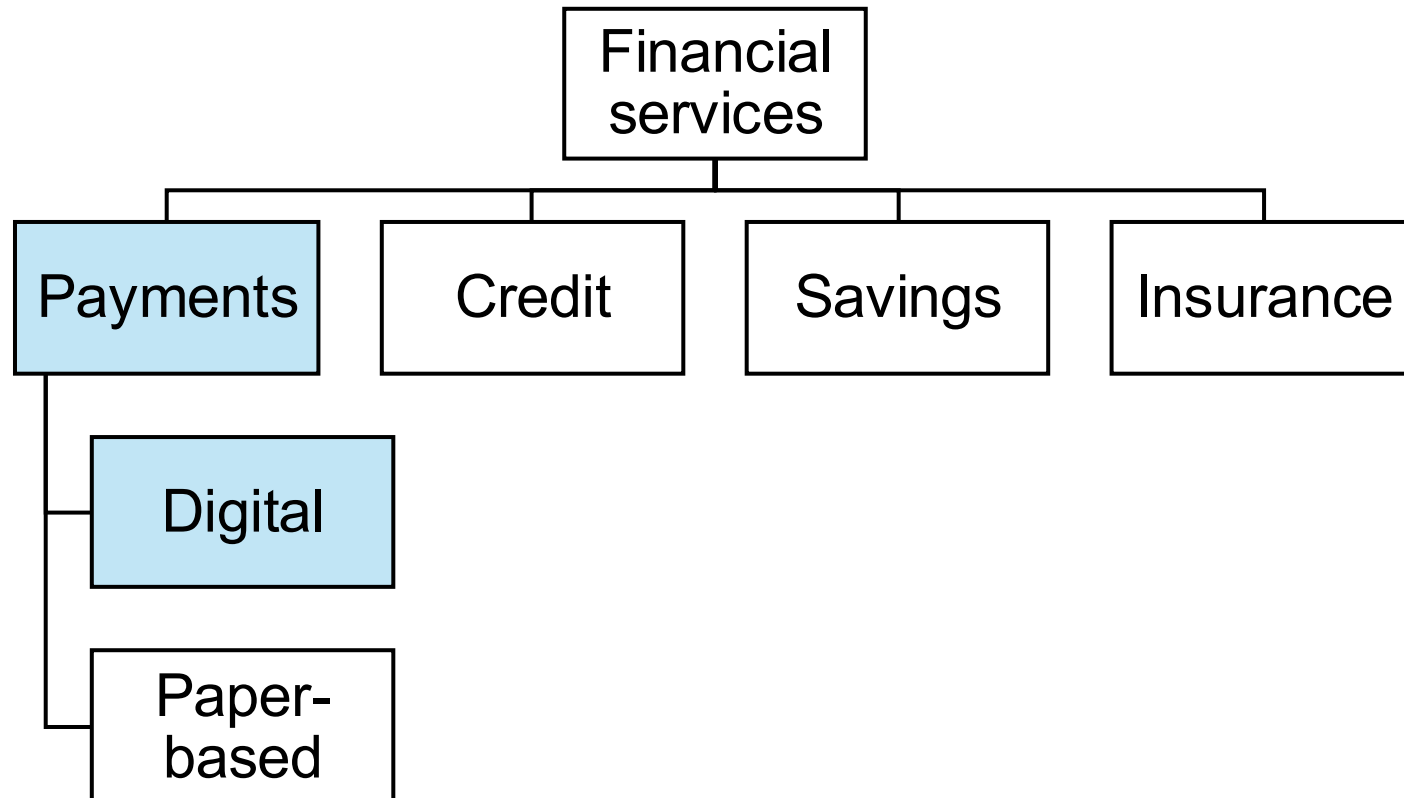
1. Existing definitions of financial and payments inclusion
2. Our definitions
3. Assessing access, use, safety, and affordability (four elements included in our definitions)
4. Data collection

Existing Definitions

- No consensus definition, but common elements
- **Financial inclusion:**
Goal economic state, or the process to get to that state, in which financial services meet certain conditions in terms of access, use, quality, and cost
- **Access and use:** everyone can access and use financial services they need
- **Quality:** safe, responsibly provided, convenient, useful
- **Cost:** affordable, reasonably priced

Our Definitions

- Our focus is on digital payment services, a subset of financial services

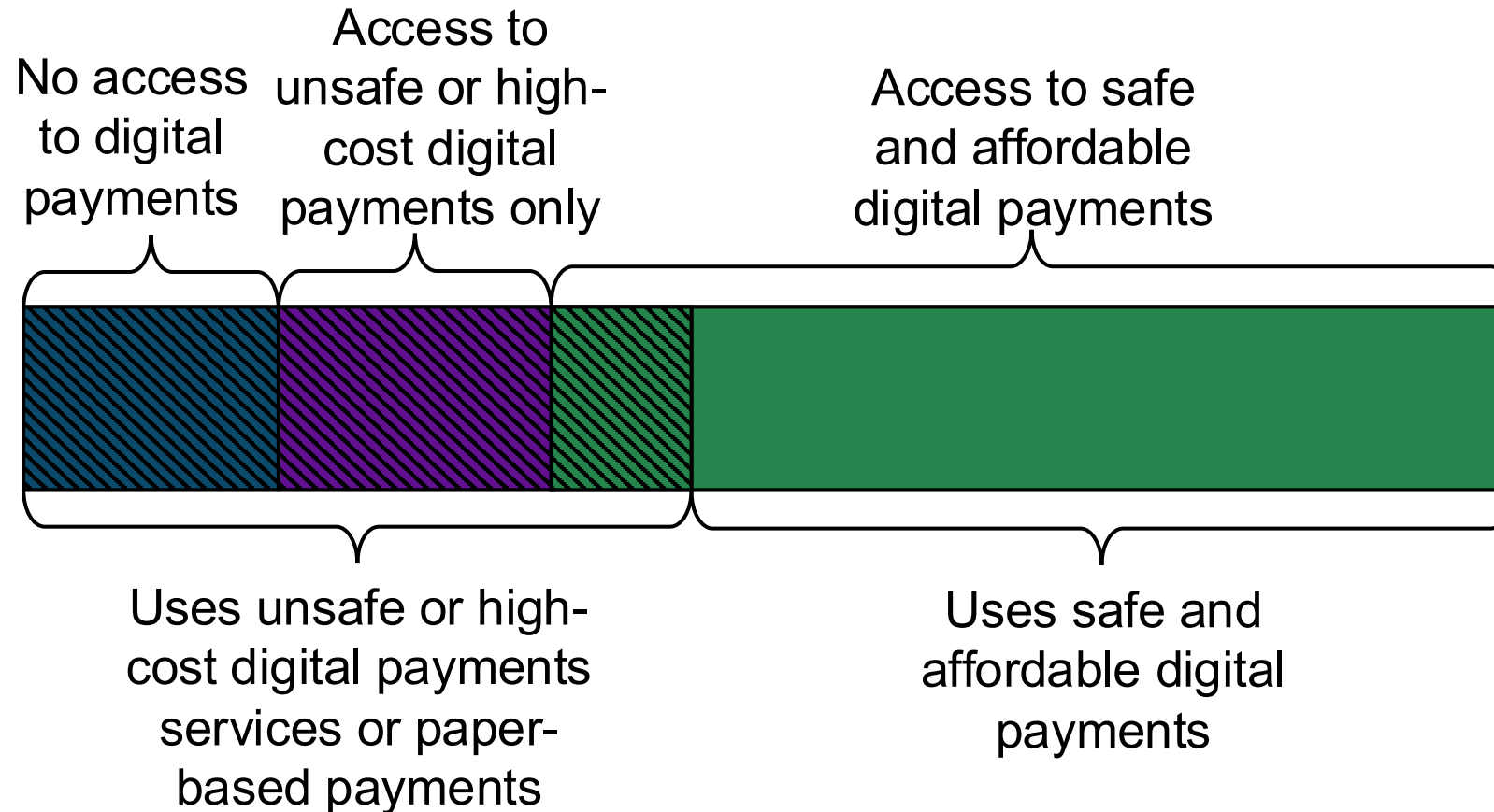


Our Definitions

- Consider four elements of digital payment services

Element	Condition
Access	High level
Use	High level
Quality	Safe
Cost	Affordable

Access to and Use of Digital Payments

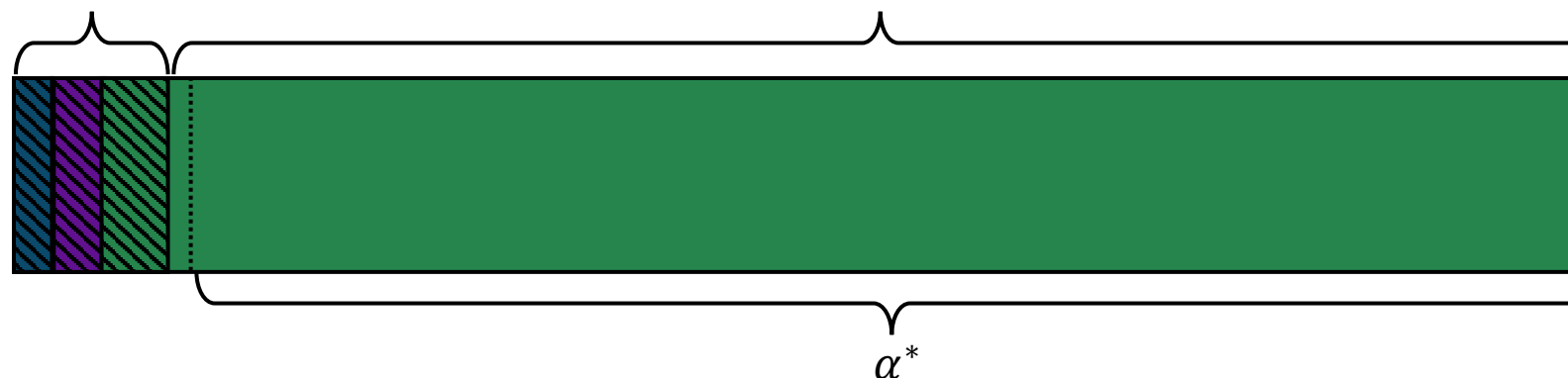


Digital Payments Inclusion

A **goal state** in which **all households** have **access** to and **use safe and affordable** digital payment services for a **sufficiently high share** (α^*) of their transactions

Uses unsafe/high-cost
digital payments or
paper-based payments

Uses safe and affordable
digital payments



Fully Served Households in Digital Payments

Households that use safe and affordable digital payment services for at least a share α^* of their transactions

Digital payments
inclusion is achieved



All households are
fully served

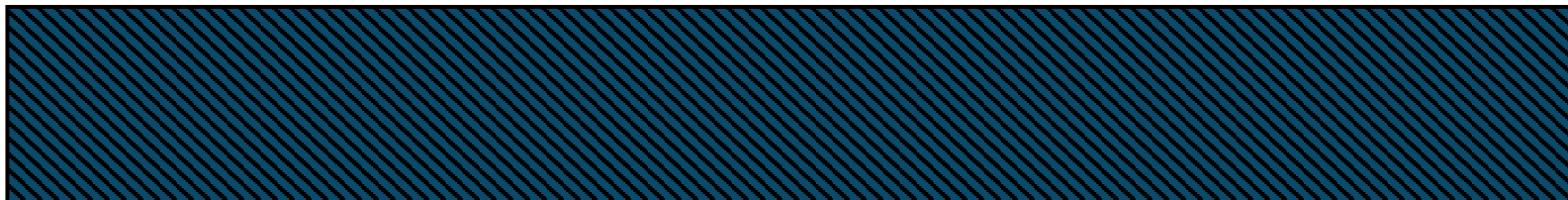
Underserved Households in Digital Payments

Households that use **unsafe/high-cost digital payment services or paper-based payment methods** for a significant share ($> 1 - \alpha^*$) of their transactions

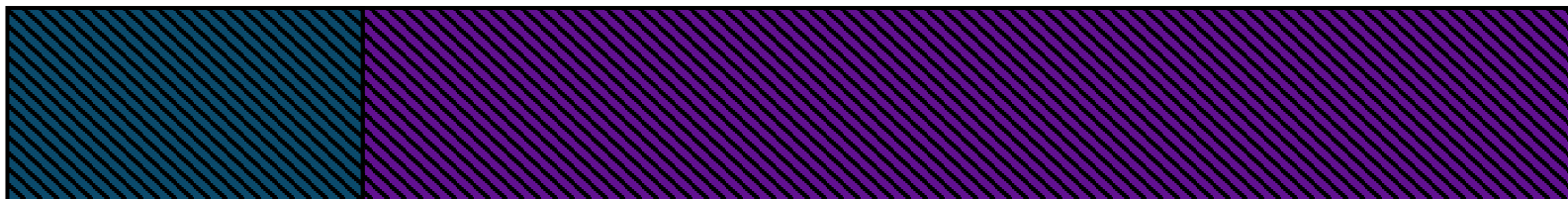
Households may be underserved in terms of access to or use of safe and affordable digital payments

Types of Underserved Households

(a) No access to digital payments

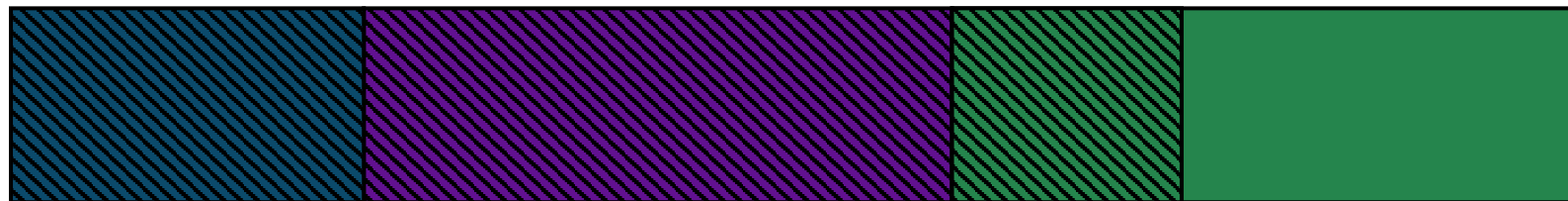


(b) Access to unsafe or high-cost digital payments only

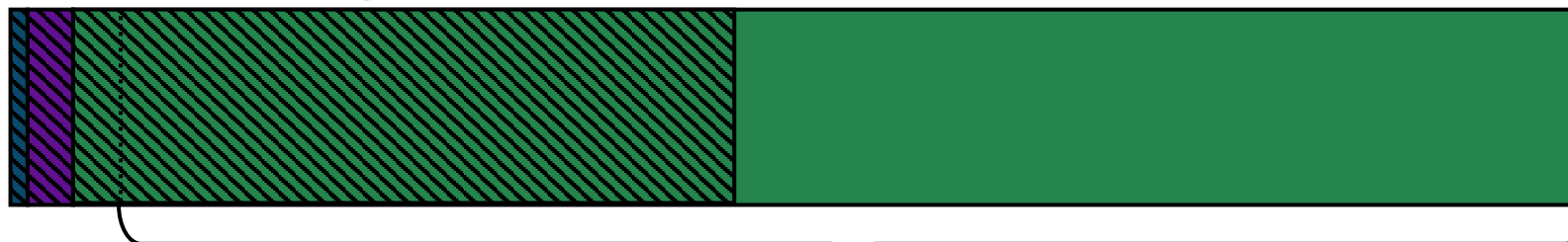


Types of Underserved Households

(c) Limited access to and use of safe and affordable digital payments



(d) Adequate access to but limited use of safe and affordable digital payments



α^*

Framework to Assess Access, Use, Safety, and Affordability

- For each of the four elements (access, use, safety, and affordability):
 - Define the element
 - Discuss how researchers may try to measure/assess the element

Access

- Definition: Having the **ability to use** digital payment services for the transactions that households make
- Common types of household transactions
 - Receiving income
 - Paying bills
 - Making purchases
 - Sending and receiving P2P payments
- To achieve digital payments inclusion, all households need to have access to digital payments for at least α^* of their transactions

Access

- Households have access to digital payments for a transaction if
 - (1) They own transaction (or credit card) accounts that offer digital payment services for the transaction type
 - (2) At least one digital payment method offered by their accounts is accepted by the transaction counterparty
 - (3) They can easily fund their transaction accounts and have timely access to funds for making the transaction

Access

- Assessing whether households have access to digital payments each transaction they make is likely impractical
- Researchers could focus on the types of transaction accounts households own
- Transaction accounts:
 - Deposit or cash balance accounts that can be used to make and receive digital payments and store funds
 - No limit on the number of transactions
 - Relatively easy and immediate access to funds in accounts

Access

- A household has (broad) access to digital payments if
 - (i) The accounts they own offer digital payment methods that are widely accepted by the types of counterparties the household has
 - (ii) The household can easily fund their accounts and access funds in a timely manner

Access

	Payment methods offered by account			
	<i>Credit, debit, or prepaid card</i>	<i>ACH</i>	<i>Instant payments (RTP, FedNow)</i>	<i>Providers' closed-loop payment services</i>
Bank checking account	✓	✓	Varies by provider	×
Fintech deposit account (e.g., Chime)	✓	✓	×	Varies by provider
Nonbank online PSP account (e.g., PayPal)	✓	✓	×	✓
GPR prepaid card	✓	✓	×	Varies by provider
Government prepaid card (EBT)	✓	✓*	×	×
Government prepaid card (EPC)	✓	✓*	×	×
Credit card	✓	×	×	×

*For receiving only

Access

	Wide acceptance of digital payment methods offered by account			
	<i>Receive income</i>	<i>Purchases</i>	<i>Bill payments</i>	<i>P2P payments</i>
Bank checking account	✓	✓	✓	Limited
Fintech deposit account	✓	✓	✓	Limited
Nonbank online PSP account	✓	✓	✓	Limited
GPR prepaid card	✓	✓	✓	Limited
Government prepaid card (EBT)	Gov't benefits only	Limited	Limited	n.a.
Government prepaid card (EPC)	Gov't benefits only	✓	✓	n.a.
Credit card	✗	✓	Limited	n.a.

Access

	Easy funding of account and timely access to funds	
	<i>Deposit cash</i>	<i>Quick access to direct deposits</i>
Bank checking account	✓	✓
Fintech deposit account	✓	✓
Nonbank online PSP account	✓	✓
GPR prepaid card	✓	✓
Government prepaid card (EBT)	No	No
Government prepaid card (EPC)	No	Typically, no
Credit card	n.a.	n.a.

Access

- Types of accounts likely to provide households with access to digital payments for most, if not all, of their transactions
 - Bank account
 - Fintech digital deposit account
 - Transaction account with online PSP
 - GPR prepaid cards
- Types of accounts that only provide limited access to digital payments
 - Government administered prepaid card (esp. EBT cards)
 - Credit cards

Use

- Households only benefit from digital payments to the extent that they use them
- Measure use in terms of share of transactions a household makes with digital payments
- Higher use → fewer barriers to access and use → better served in digital payments
- Fully served households use (safe and affordable) digital payments for at least α^* of their transactions
- How large should α^* be?

Use

- Survey and Diary of Consumer Payment Choice (SDCPC) provides data on share of transactions consumers made using different payment methods
- Share of transactions higher-income banked consumers made using digital payments can serve as ballpark value for α^*
- Higher-income banked consumers most likely to be fully served
- Bank accounts offer digital payment methods that are widely accepted for common transaction types
- Higher-income consumers less likely to have counterparties that don't accept digital payments

Use

Share of transactions that consumers make using different payment methods

	Bank account owners		Owners of nonbank accounts or credit cards only
	Higher income	Lower income	(All income)
Paper-based instruments	14.6	29.5	50.6
Cash	12.1	26.0	42.5
Check/Money order	2.5	3.5	8.1
Digital instruments	$\alpha^* \approx 0.8$	82.9	68.1
Debit card	28.0	35.4	25.0
Credit card	37.3	18.3	4.3
Prepaid/gift/EBT card	2.2	3.3	11.1
ACH	13.7	9.3	2.3
Other digital payment methods	1.7	1.7	2.3
Other	2.5	2.3	4.4

Sources: Federal Reserve Bank of Atlanta 2023 SDCPC and authors' calculations.

Safety

- Safety encompasses:
 - 1) Avoidance of theft or loss** (e.g., deposit insurance, fraud liability protection)
 - 2) Transparent disclosure** of terms and conditions (e.g., plain language, sufficient large font size)
 - 3) Fair treatment and business conduct** (e.g., not deceptive or abusive)
 - 4) Data protection and privacy** (e.g., obtaining informed consent of consumers for collection and use of data, protecting data against unauthorized access and theft)
- Consumer protection regulations and payment network rules crucial to ensuring safety

Safety

Safety aspect	Relevant regulations, rules, or other protections
Avoidance of theft and loss	<ul style="list-style-type: none"> • FDIC/NCUA insurance • Regulation E • Card network rules
Disclosure of terms and conditions	<ul style="list-style-type: none"> • Regulation E • Regulation Z • FTC Act Section 5 • Dodd-Frank Act
Fair treatment and business conduct	<ul style="list-style-type: none"> • FTC Act Section 5 • Dodd-Frank Act
Data privacy and protection	<ul style="list-style-type: none"> • GLBA • PCI-DSS • NACHA operating rules

Safety

- Safety of digital payments depends on type of transaction accounts that offer these payments
- Bank accounts and bank-managed GPR prepaid cards and credit cards can be considered safe
 - Eligible for FDIC or NCUA deposit insurance
 - Subject to all regulations and payment network rules
 - Examined for compliance with regulations by prudential regulators

Safety

- Safety of fintech and nonbank transaction accounts and payment services is harder to evaluate
 - May be eligible for FDIC/NCAU pass-through insurance
 - Regulatory gray area
 - Not directly supervised by federal regulators
- Safety of government administered prepaid cards varies by product and type of benefits delivered through these cards
 - EPCs may have similar level of safety as bank accounts
 - EBT cards are generally less safe

Affordability

- Affordable: **Cost** incurred by users is **sufficiently low** so that **almost all households have enough money to use them**
- Direct cost:
 - Account opening or maintenance fees
 - Customer service fees (e.g., balance inquiries fees)
 - Fees incurred to fund account (e.g., cash deposit fees)
 - Transaction fees
- Indirect cost:
 - Internet/mobile data subscription fees, transportation costs, time spent

Affordability

- Researchers need to determine which costs to include in assessing affordability
- Easier to collect data on direct cost; typically depend on the type of transaction accounts households use for transactions
- Indirect cost may be harder to measure accurately

Affordability

	Potential fees
Bank checking account – Bank On	Monthly maintenance (capped), out-of-network ATM
Bank checking account – traditional	Monthly maintenance (typically waivable), out-of-network ATM, overdraft/NSF
Fintech account	Cash deposit fee, out-of-network ATM, OTC cash withdrawal
Nonbank online PSP account	Cash deposit fee, out-of-network ATM, OTC cash withdrawal
GPR prepaid card	Monthly maintenance, customer service/balance inquiry, cash reload, out-of-network ATM
Credit card	Annual fee

Affordability

- Bank On-certified bank accounts can serve as benchmark for affordable (and safe) transaction accounts
- Traditional bank accounts are generally affordable for households that have adequate liquidity
- Fintech deposit and nonbank online PSP accounts may be considered affordable for households that aren't cash-reliant

Data Collection

- Some data for assessing the four elements of our definition are already being collected by existing consumer surveys
 - E.g., ownership of different types of transaction accounts
- But data on several aspects are lacking
 - E.g., acceptance of digital payment methods by households' transaction counterparties, extent to which households use digital payments
- Also need better assessments of safety and affordability

Thank you!

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