Fintech, Financial Inclusion, and The Future of Finance*

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ABSTRACT

This paper explores the impact of financial technology (fintech) on financial inclusion, focusing on the cost of accessing essential financial services as a metric for financial inclusion. Fintech innovations, from digital payments to automated investment platforms, have reshaped traditional finance and show promise in expanding affordable access. However, assessing fintech's impact on financial inclusion is challenging due to the limitations of common metrics, like bank account ownership, which often overlook affordability barriers. This study leverages data to analyze costs of accessing basic services and assess the impact of fintech on costs of accessing basic financial services. Findings reveal a significant association between fintech engagement and reduced banking costs, particularly benefiting lower-income communities with greater internet connectivity.

Keywords: Household finance, Fintech, Unbanked and Underbanked, Financial Inclusion

JEL classification: G51, G53, D14, G28, G23, O33, L86

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I. Introduction

The rapid evolution of financial technology (fintech) over the past decade has significantly reshaped the financial services industry. Fintech innovations, from digital payment platforms to automated investment tools, are believed to hold great promise in expanding access to financial products that were once dominated by traditional banks. These advancements have the potential to enhance financial inclusion by offering affordable and useful financial services to all individuals, regardless of socioeconomic status.

However assessing whether fintech is fulfilling its promise to improve financial inclusion remains challenging. For one, measuring financial inclusion itself is complex: commonly used metrics, like the number of banked individuals, provide limited insight because bank accounts, for some, can be extremely costly, making "being banked" an imperfect proxy for having access to truly affordable financial services. Second, since financial inclusion is difficult to measure in the first place, assessing fintech's impact on it is even more challenging. Another key obstacle is the lack of a clear framework for identifying frictions that prevent universal access to affordable financial services in the U.S., despite the country's highly developed financial system. Without understanding the frictions preventing access to affordable and useful financial products, it is challenging to assess whether or not fintech effectively addresses or can address unmet needs.

This paper aims to add to the current understanding of financial inclusion by building on current work from regulators and industry that focuses on the affordability of basic financial services as a metric for financial inclusion. Financial inclusion can be measured by two primary factors: whether people have access to a suite of essential financial products that support their ability to manage daily needs and plan for the future[1], and whether these products are affordable. Assessing the costs associated with accessing a defined set of core services—such as deposit, transaction, and credit services – offers a practical way to measure inclusion. While it's true that almost everyone has some level of access to financial services – such as receiving a physical paycheck, cashing it at a check-cashing service, paying bills in person with cash, and storing cash at home—these methods are inefficient and expensive, particularly in today's digital economy. By contrast, individuals who receive paychecks via direct deposit, use bank accounts with no monthly fees by maintaining a minimum balance, pay bills through automatic payments, and use debit or credit cards for transactions enjoy a far more cost-effective financial experience. This system, typically enjoyed by wealthier Americans, demonstrates the stark contrast between

[1]For example see work by the OCC on financial health vital signs here https://www.occ.gov/news-issuances/speeches/2024/pub-speech-2024-60.pdf

those who can leverage digital financial tools and those who must rely on costly, manual methods. This paper examines the affordability of these basic financial products in order to evaluate the degree of financial inclusion.

I begin my analysis by presenting data from the Financial Health Network on the costs associated with accessing basic transactional and credit services. While this work provides critical insights and covers a broad spectrum of U.S. consumers and services[2], it relies on aggregate data to estimate the costs of these services. Building on this foundational research, I take a new approach by leveraging detailed bank account and credit card transaction data to measure the costs of accessing deposit and transactional services at banks. This granular data allows me to analyze who bears the highest fees and identify the characteristics of these individuals and the communities in which they live. While my dataset includes only individuals who *already* have a bank account, it offers a more detailed view of costs across geographic and demographic dimensions, enabling the calculation of per-user costs.

The findings across both datasets reveal predictable patterns: even among banked individuals, those with lower incomes, greater financial vulnerability, and those living in predominantly minority areas tend to pay more for basic banking services. Interestingly, the data suggests that these higher costs are not primarily driven by factors such as limited internet access or a lack of access to bank branches or large-scale banks, shedding light on the possible mechanisms affecting financial inclusion and disparities in the U.S. financial system.

Next, I assess to what extent fintech has impacted the costs of accessing basic banking services. The rationale behind this analysis is that if financial technology has indeed improved access to basic affordable and useful financial services, we should observe increased access to fintech correlating with lower costs of all financial services. There are several reasons why we might expect to see a reduction in costs of basic banking services. First, financial technology is utilized not only by fintech firms but also by traditional banks. Fintech utilized within the banking system allows banks to reduce operational costs, which can, in turn, lower fees for consumers. Second, fintech could increase the range of products and services available, thereby intensifying competition in the financial services sector. More competition can pressure both fintech companies and traditional banks to lower fees and offer more affordable services to retain customers. Finally, fintech – whether inside or outside of the traditional banking system – could provide more user-friendly and tailored financial products, enabling consumers to better manage their financial lives. For instance, fintech apps frequently offer tools for budgeting, automatic

[2]From those living and working in the cash economy to the very wealthy

savings, and low-fee transactions, which help users avoid costly fees such as maintenance fees, overdraft fees, and ATM fees. Put differently, as fintech integration grows, consumers are more likely to save money by operating more effectively within the digital economy and pay lower fees to do so.

One of the key challenges in assessing to what extent fintech has impacted the costs of accessing basic banking services is how to effectively measure the prevalence of "fintech" and capture variation across regions and over time. To address this, I draw on methods used in other literature, such as political science, epidemiology and marketing, and use Google search interest for key terms related to financial technology as a proxy for real fintech integration over time and by geography.

Existing studies demonstrate that web search volume can accurately track real-world outcomes in near real time, such as unemployment levels, auto and home sales, and even disease prevalence (see D'Amuri and Marcucci (2017), influenza epidemics using search engine query data (2009), Moat, Curme, Stanley, and Preis (2014)). Similarly, it has been used to measure public attentiveness to various topics (see Ripberger (2011)). Furthermore, work by Goel, Hofman, Lahaie, Pennock, and Watts (2010) shows that search behavior can also be predictive of future consumer actions, reinforcing the value of search interest data as a tool for assessing fintech adoption and its broader economic impacts. Hence I use google search interest of key financial technology terms by U.S. county/month as a catch all, for local fintech integration[3].

In a strong first stage, I demonstrate that Google search interest in fintech-related terms is a strong predictor of the actual use of fintech apps observed in bank account transaction data. In the second stage, using a two-stage least squares (2SLS) approach, I find that increased fintech usage instrumented for by search interest in fintech terms is associated with lower costs for accessing banking services, such as deposits and transactions services, especially for lower-income individuals living in likely high internet access areas. Although these findings are preliminary, they suggest that financial technology may be helping to improve consumer access to basic banking services by making them more affordable, but only in areas where digital accessibility is already present.

I conclude by discussing the potential channels through which these effects might occur. I explore persistent challenges in today's financial system, and how fintech could be reducing these barriers and highlight examples of key industry players making notable progress in addressing these challenges. I also discuss key emerging regulatory

[3]Meaning it likely represents the confluence of both supply factors (i.e. local digital infrastructure, availability of high-speed internet, local competition from banks and fintech firms) as well as consumer demand factors (attentiveness to financial technology, trust in digital financial products, financial literacy, and preferences for online banking versus traditional banking)

challenges associated with fintech advancement.

The paper is organized as follows: Section II defines financial inclusion, and identifies the financially excluded – using data from the FHN and transactions level bank account data. Section III defines fintech, and assess its impact on financial inclusion, Section IV contains a discussion of barriers, how fintech is overcoming them, and notable examples from industry. Section V concludes, and the Appendix contains descriptions of all data sources used in this study.

II. Defining financial inclusion

Financial Inclusion is the goal of ensuring that all individuals and businesses, regardless of income level or location, have access to affordable useful financial products and services. This includes access to payment systems, savings and investment, credit, and insurance, enabling people to participate fully in the economy and manage financial risks. Payments – enable the secure and efficient transfer of money to conduct everyday transactions, such as receiving income and paying bills. Credit – allows individuals and businesses to borrow money for various needs—such as investing in opportunities, or smoothing out consumption. Liquid savings products, like bank accounts or certificates of deposit, offer a secure place to store and grow money, helping people build financial reserves and plan for the future. Investment products provide opportunities to grow wealth through investments in assets like stocks, bonds, or retirement funds, supporting long-term financial security. Finally, insurance products provide protection against unexpected financial risks, such as illness, accidents, or property loss, helping individuals and businesses manage uncertainty and maintain financial stability.

Together, these services equip people with the tools to manage their day to day and long term financial lives and improve their economic prospects.

Everyone has access to some form of financial services, whether it's cashing a physical paycheck at a check-cashing service, transacting in cash, and storing savings under the mattress, or receiving a paycheck directly into a bank account, using credit and debit cards for transactions, and holding savings in liquid or illiquid accounts. However, the ease of accessing and using these services can vary greatly depending on individual circumstances, such as income, location, and access to/preferences for formal financial institutions. These examples illustrate that to be financially included a person or household must have affordable, useful financial products easily accessible.

A. Who are the financially excluded?

A.1. The unbanked and underbanked

While it is challenging to pin down exactly who has limited access to affordable and useful financial products, one commonly used method is to measure how many people do not have a bank account or alternatively do have a bank account but also routinely use alternative financial services. The idea behind this measure is that bank accounts are thought to be the gateway to the traditional financial system, which is in turn assumed to provide safe and affordable financial products more generally[4]. The most widely cited source of statistics on individual under/un-banked status is the FDIC National Survey of the Unbanked and Underbanked[5], which has been conducted biennially since 2009 in partnership with the U.S. Census Bureau.

The most recently published 2021 survey documents that there are an estimated 5.9 million households in the United States where no-one in the household has access to a bank account. Additionally, there are an estimated 18.7 million households in the United States who are classified as underbanked, where someone within the household was banked within the last 12 months but household members also routinely use non-bank transaction or credit services such as money orders, check cashing, international remittances, prepaid debit cards, rent-to-own services payday, pawn shop, tax refund anticipation, or auto title loans.

The Federal Reserve Board collects additional data on the banking status of U.S. households through various surveys. Since 2013, it has conducted the Survey of Household Economics and Decisionmaking (SHED), which assesses the economic well-being of households and identifies risks to their financial stability. SHED covers topics such as credit access, savings, retirement, economic fragility, and student loans[6]. 2022-2023 survey results show that unbanked rates are significantly higher among low-income adults: 17% of those earning less than $25,000 were unbanked, compared to just 1% of adults with incomes between $50,000 and $99,999. Additionally, results show that unbanked rates were also higher among younger adults, Black and Hispanic adults, and adults with disabilities[7].

[4] Research shows that this is not always the case – see for example Di Maggio, Ma, and Williams (2024)

[5] Federal Deposit Insurance Corporation (FDIC), 2021 FDIC National Survey of Unbanked and Underbanked Households

[6] The Board also conducts the Survey of Consumer Finances (SCF) every three years, which provides insights into household finances

[7] Please see https://www.federalreserve.gov/publications/report-economic-well-being-us-households.htm, and https://www.federalreserve.gov/econres/scfindex.htm for more details on these surveys including easy access to historical data and reports

However, bank account access alone may not be the best way to measure financial inclusion. Although having a bank account is often seen as a gateway to the formal financial system, maintaining one can be costly, especially for individuals with low incomes. For example monthly fees, unexpected overdraft charges, and minimum balance requirements can make traditional bank accounts prohibitively expensive for these populations[8]. In contrast, alternative services such as check cashing, prepaid debit cards, and money orders, while often considered signs of financial exclusion, might actually be more affordable and desirable for certain individuals, as they can avoid high fees and the complexities associated with bank accounts. Indeed, in the FDIC National Survey of the Unbanked and Underbanked, some of the most commonly cited reasons for not having a bank account are that individuals are unable to meet minimum balance requirements, there are unexpected fees, and there is a lack of trust in banking institutions[9].

A.2. Households and individuals for whom financial services are unaffordable

Given these nuances, a more comprehensive way to measure financial inclusion or exclusion, could be to assess the fraction of income spent on financial products—including payments, credit, savings, investment, and insurance. This would provide a clearer picture of whether individuals are accessing financial services in an affordable and sustainable way, regardless of whether they have a traditional bank account or use alternative services. Measuring affordability and the financial burden on households can offer deeper – or even just simply additional – insights into how inclusive the financial system truly is.

With this in mind, I use two data sources to document the costs of accessing basic financial services in the United States, each with their own benefits and downsides.

First, using data collected by the Financial Health Network (FHN), a nonprofit financial services consultancy, I document spending on financial services from the FHN spend reports that have been generated since 2011[10].

The reports use a variety of secondary data sources combined with a nationally representative proprietary survey, to construct an estimate of actual spending on two broad categories of financial products: Transaction and Deposit Services and Credit Services. More specifically, for transaction and deposit services, the reports document spending on transaction account fees, such as overdraft/NSF, account maintenance fees, ATM fees, international remittances fees, non-bank check cashing fees, money order fees, payroll

[8] See for example Valenti (2022) and Beale (2021)

[9] See https://www.fdic.gov/household-survey for access to the most recent and past surveys, with summaries of findings highlighting these points.

[10] Ultimately I will focus on the period 2020-2023 only as the method of data collection has changed over time but remains consistent for this period.

prepaid card fees, government prepaid card fees, and general purpose reloadable cards fees. For credit services the reports document spending on fees and interest on most non-mortgage consumer credit, such as: General purpose and private label credit card revolving accounts, secured cards, auto loans and leases, including new; used; and buy here, pay here (BHPH) loans, Federal and private student loans, unsecured installment loans, alternative credit products, such as pawn loans, rent-to-own, title loans, payday loans, and refund anticipation checks and loans, earned wage access (EWA) products and buy now, pay later (BNPL) services. The reports utilize secondary research to estimate national spending on each financial product and leverage survey data to allocate spending among different demographic groups. Please see Appendix A for a detailed description of the methodology used by the FHN.

The benefit of this data is that it covers a broad set of individuals, and the coverage itself does not depend on whether the individual has a bank account or not[11]. The downside is the estimates are derived from broad aggregate spending in many cases, which lacks granularity. Additionally the methods of collection have changed over time, giving rise to only a short window of observable trends for many products.

Notwithstanding these limitations, the data show some important facts. Panel A in Figure 1 documents that while overdraft fees have declined over the recent years, other account fees such as maintenance fees have risen to almost completely offset this decline. Overall, fees paid by consumers to access and use bank accounts has remained relatively steady between $17.9b in 2020 to $16.4b in 2023. Compare these fees those documented in Panel B of Figure 1 which document similar transaction type fees but charged by non-bank institutions. Panel B shows that remittance fees and pre-paid debit card fees account for a large proportion of these non-bank transaction fees. While impossible to compare costs on a per-user basis, Panel A and B demonstrate that total costs for transaction type services at banks and non-banks are in the same ball park. Some back of the envelope calculations on potential numbers of users for each of these products can give us some further clarity. The CFPB states that prior to the pandemic, 33 million households overdrew their checking account, but that overdraft and NSF fees are not evenly distributed across households that overdraft: nearly 80% of overdraft/NSF fees were shouldered by under 9% of account holders who had more than 10 overdrafts annually[12]. Studies by Bankrate show that more than 1 in 4 checking account holders pay monthly maintenance fees[13]. There are fewer total prepaid debit card holders than bank account holders in the

[11] Put differently this data likely covers unbanked, banked as well as banked individuals in the U.S.
[12] See Offices of Consumer Populations and Markets (2023)
[13] See Foster and Sims (2023)

US – approximately 12 million according to a 2021 study by Pew[14]. Additionally the FDIC documents 7% of US households – roughly 9m households – used non-bank remittance services in 2021[15].

While the Financial Health Network doesn't calculate an annual cost per user for different products, it does construct an overall affordability measure of basic financial services for different segments of the population, by drawing on proprietary survey evidence. Table I documents these statistics for the years 2020-2023[16]. Table I illustrates that for those classified as financially vulnerable[17], expenditure on basic financial services is an incredibly large portion of total income, and this percentage has been increasing over recent years. According to the 2023 survey, approximately 43 million people in the United States are estimated to be financially vulnerable. These numbers are comparable to the number of un/under-banked individuals in the US and shed light on the potential large costs these households face to access basic financial services.

The second dataset I use to document affordability of financial services is transactions level data from bank accounts from a data aggregator. While this data limits the study to populations who *already* have a bank account and hence will not capture the most severely financially excluded in the U.S.[18], the benefit of using this data is that it allows for a granular look into the fees and interest paid for a wide variety of financial services, over a longer period of time, and by geography and various demographics. I start by studying a relatively small sample of individuals, who are sampled representatively across the US according to the ACS along income and geography dimensions. In this early analysis, I focus on Transaction and Deposit Services fees (as described above) and specifically on those paid to banks. Please see the Appendix for more details on the data, including a discussion of how the data and sample are constructed as well as summary statistics.

Results from analyzing this individual/month level data shed some light on the per user costs possibly driving the aggregate numbers reported in Figure 1.

Figure 3 documents that the likelihood of incurring a bank account fee in any given month has declined since 2014, driven mainly by a sharp drop occurring during the pandemic. However conditional on incurring a bank account fee, the average size of the

[14]See The Pew Charitable Trusts (2014)

[15]See the 2021 FDIC National Survey of Unbanked and Underbanked Households.

[16]Please see the Appendix for a detailed discussion of the mixed methods approach using a proprietary survey combined with secondary datasets.

[17]The FHN classifies survey respondents sing 8 indicators of financial health: spending less than income, have sufficient liquid savings, have manageable debt, have appropriate insurance, pay bills on time, confidence meeting long term financial goals, have a prime credit score, plan ahead financially. Those that answer yes to less than 40% of the questions are classified as financially vulnerable.

[18]For an interesting and helpful studies on this population, please see for example Goodstein (2024) and Greene and Shy (2023)

monthly fee has increased since the pandemic.

Breaking these fees up to overdraft/NSF, account maintenance and ATM fees uncovers more trends. The likelihood of incurring a maintenance fee has dropped overall since 2014, but has been increasing since the Pandemic. Similarly, conditional on incurring a maintenance fee, the size of the monthly fee has increased since 2014 and increased since the Pandemic. On the other hand, the likelihood of incurring an overdraft/NSF fee has dropped substantially since 2014, and has remained relatively flat since. Conditional on incurring an overdraft/NSF fee, the size of the monthly fee has dropped since the Pandemic[19].

Similar to findings from the FHN and the CFPB, we can see that the incidence of Transaction and Deposit Services fees at banks is not uniform: my data indicate that 37% of the sample population do not incur bank account fees at all. Of the remaining 63% split evenly into quintiles the increase in fees incurred as we move across bins shown in Figure 5 panels A and B, grows in an exponential way[20].

Interestingly, we can also see from Figure 5 that those in the highest bank account Transaction and Deposit Services fee quintile are more likely to live in minority areas and earn lower income[21]

Overall, results across both datasets show that people who are lower income/more financially vulnerable and who live in minority areas are more likely to spend more to access basic financial services – even the most basic financial services such as transactions and deposit services.

III. Fintech and its impact on financial inclusion

Assessing fintech's impact on financial inclusion is challenging due to differing interpretations of what constitutes "fintech", and how to measure its impact on financial inclusion. For instance, the term "fintech" is broad and often ambiguous, with various definitions leading to potential overstatements about its impact on financial inclusion, sometimes referred to as "financial inclusion washing" Ozili (2022). Additionally measuring if and how fintech improves financial inclusion is complex: should inclusion be defined simply by increased product adoption, or by assessing the actual impact of that product on users' financial well-being? Uptake alone might indicate that more people

[19] although is picking up again as of 2023.

[20] These findings are consistent with existing extensive work conducted by policy institutions such as Offices of Consumer Populations and Markets (2023) and do not represent any new findings.

[21] Note, the results for minority areas hold even controlling for income and various other demographics.

have access to financial tools, but it doesn't show how effectively these tools improve users' financial stability, reduce costs, or enhance financial decision-making.

I begin by defining financial technology to establish a clear foundation, then conduct an empirical analysis to determine whether fintech access is associated with reduced spending on basic financial services – as one way of measuring its impact on financial inclusion.

A. Defining Fintech

Fintech, or Financial Technology, refers to the use of (advanced) technologies to enhance and automate financial services and processes and represents a fundamental shift from traditional banking methods, which have long depended on physical infrastructure and manual workflows. Fintech makes use of innovations such as artificial intelligence (AI), machine learning, data analytics, blockchain, and mobile technology with the goal of delivering faster, more secure, and more easily accessible financial services.

The use of this technology can impact the provision and use of financial services through a number of different channels: reduced operating costs and better risk measurement/ management for institutions providing financial services, the ability of these institutions to expand access using mobile technology, and personalization of services[22]. Each one of these factors has the potential to aid financial inclusion.

Fintech is not limited to new novo type financial institutions: traditional financial institutions can and do incorporate fintech into their operations. However a key difference between legacy financial institutions and fintech companies as a whole lies in their approach to infrastructure. Traditional financial institutions often bear the weight of substantial IT operating costs due to outdated systems, accumulated over years, with multiple layers of code and one-time regulatory patches. These incumbents have also bolted on solutions for fraud prevention and cybersecurity, further complicating their infrastructure[23]. In contrast, fintech firms, built on newer technologies, can operate with greater agility and lower fixed costs, unburdened by the legacy systems that often slow down incumbents.

In the following subsections, I provide a new way of exploring if and how fintech has impacted financial inclusion in the U.S. I start with an empirical analysis, using Google web searches of keywords related to financial technology such as "finance app", and "mobile banking" as a measure of fintech awareness in order to instrument for fintech usage.

[22] see for example Hill (2018), Boot, Hoffmann, Laeven, and Ratnovski (2021) and Scardovi (2017)
[23] see Hill (2018)

I demonstrate that Google search of fintech related terms provides a valid instrument for fintech usage using bank account transactions level data. I then provide evidence that fintech usage through awareness leads to a reduction in the costs of accessing basic transactions and deposits services in the U.S.

B. *Is greater access to financial technology associated with lower expenditure on basic financial services?*

To assess whether fintech influences the cost of accessing financial services, a seemingly straightforward approach would be to analyze transaction-level data to identify fintech usage and correlate it with consumer expenditures on financial services. However, this method presents challenges. Fintech usage does not equate to fintech access: the decision to use fintech is endogenous, influenced by factors like personal preferences or unobservable characteristics, which can independently affect financial behavior and costs. Thus, simply comparing fintech users with non-users may not accurately reflect fintech's impact on financial service expenditures.

To address this, I employ an instrument for fintech awareness (which influences access). Specifically, I use Google search interest data for fintech-related terms from 2014 to 2023, initially focusing on the term "fintech app." In subsequent analysis, I expand this list using multiple sources, including S&P Global's annual report on popular U.S. fintech firms and the top 100 fintech firms identified from transaction data, where these firms represent consumer spending debits from bank accounts. All firms included are verified as fintech companies through manual inspection.

I use Google search interest in "fintech app" by county and month as a proxy for local fintech awareness, which reflects both consumer interest and local digital infrastructure, as well as fintech presence. Google search interest serves as a regional indicator of fintech awareness, capturing local dynamics that may drive adoption. Additionally, this county-level measure of fintech awareness, combined with state-year fixed effects, helps isolate regional variations while controlling for broader state-level economic trends and policy changes. See Figure 6 for a visual representation of how search interest varies by geography and through time.

In the first stage reported in column (1) of Table III, I document that variation in Google search interest for " fintech app" over time and across geographic regions correlate with increased consumer use of fintech products. Specifically, I run an individual/year level regression of the annual sum of the count of the number of fintech related debits from the

bank account[24], on an indicator variable which takes a value of 1, if Google search interest for the term "fintech app" was greater than 90 at any point within the year in any given county. The idea is that this variable flags county/years with high fintech search activity. I find that when fintech search activity has been high as defined above, the number of fintech transactions increases by approximately 4, which represents an increase relative to the mean of around 19%. I include individual as well as state by year fixed effects in the regression specification. The resulting variation is capturing county level differences in fintech search activity and fintech use, whilst absorbing time varying state level variation.

The reduced form estimates are recorded in column (2) of Table III and show that high search interest is associated with a reduction in bank account fees as a fraction of total income. As documented in Table II the mean bank account fees are small relative to income earned. Note that these bank account fees are only transactions and deposits fees and so we would expect them to be small as a fraction of total income[25]. Notwithstanding the small absolute magnitude of the coefficient in the reduced form regression, the coefficients suggest that high search activity for fintech related terms is associated with a reduction in bank account fees/total income of roughly 10% relative to its mean. The second stage results tell the same story, fintech use instrumented for by high web search interest is associated with a reduction in bank account fees incurred relative to total income.

The identifying assumption of this instrument is that Google search interest for 11fintech app" reflects fintech awareness and access but is uncorrelated with other factors that directly influence spending on basic financial services, except through fintech integration. If local economic shocks independently affected both Google search interest in financial products and the bank fees individuals incur, this assumption would be violated. For instance, localized economic downturns (such as county-specific shifts that aren't captured at the state level) could potentially drive both increased interest in fintech and higher banking fees, undermining the instrument's validity[26]. Similarly, if local changes in the banking landscape, such as branch closures or competition changes, drive both search interest and fluctuations in financial service costs, the instrument may pick up these unrelated factors instead of isolating fintech awareness.

While it is impossible to test this assumption directly, I find no evidence suggesting correlation between Google search interest in "fintech app" and economic shocks within

[24]See the appendix for more details on how these debits are identified

[25]And note for example that these fees do not represent the total fees these individuals are incurring for financial services as more comprehensively documented by the Financial Health Network. We can see from Figure 2 that fees related to credit products make up the majority of all financial services fees incurred.

[26]Although this relationship would be opposite to the one observed.

the transaction data. Specifically, I observe no association between search interest and receipt of Unemployment Insurance or substantial changes in monthly income, which might indicate job loss or economic growth. Additionally, I find no correlation between fluctuations in the number or distribution of local bank branches and Google search interest for fintech, further supporting the instrument's validity.

Subsample analysis reveals that Google search interest for "fintech app" is linked to reduced bank account fees primarily in areas with above-median internet connectivity. This finding implies that reliable digital infrastructure is key to realizing fintech's cost-saving potential, potentially due to improved app performance, greater digital competency among consumers, or a stronger competitive environment for fintech in well-connected areas.

I do not observe fintech-related reductions in bank account fees in counties characterized by larger minority populations, lower median income, higher poverty rates, or greater access to traditional banks and large institutions. This suggests that while fintech awareness may be widespread, the cost-saving benefits are unevenly distributed, depending primarily on local digital infrastructure.

C. *Does lower expenditure on basic financial services signify greater financial inclusion?*

Lower expenditure on basic financial services can be an indicator of greater financial inclusion, but it is not a definitive measure on its own. Cost alone does not define financial inclusion, since true inclusion requires individuals to have access to products that meet their needs, support financial resilience, and foster informed financial choices. Financial inclusion means that individuals not only pay affordable fees but also access comprehensive, high-quality financial tools that align with their unique needs and contribute to their long-term financial health.

Hence the results presented above offer a specific perspective on whether fintech enhances financial inclusion by analyzing fintech's impact on the costs of transaction and deposit services among banked individuals. Focusing on bank account users provides a narrower, controlled view, where certain factors are already held constant, such as baseline access to banking and familiarity with basic financial services. This approach is beneficial since it assesses how broader fintech availability and adoption affect the costs of services that these individuals are already using, isolating fintech's potential to reduce fees in established banking contexts.

However, this approach also limits our understanding of fintech's broader impact. By

focusing on individuals who are already banked, the analysis may overlook the ways fintech could influence unbanked or underbanked populations, who often face the highest barriers to affordable financial services. Additionally, the analysis centers on transactions and deposits, which are only a part of the financial services landscape. A broader approach might consider how fintech impacts costs across other services, such as credit, insurance, and investment, which are crucial for financial resilience and wealth-building but often remain inaccessible or expensive for underserved populations.

While lower costs for basic services can be an indicator of greater financial inclusion, a more comprehensive measure would assess: a full suite of financial products that enable individuals to build stability and resilience, as well as measures of impact of use on overall financial health and resilience. Work by the FHN makes significant strides in this direction.

IV. Why are basic financial products expensive for some segments of the US population?

It is often said that "it is expensive to be poor,"[27] and the analysis above shows that this is especially true when it comes to accessing basic financial services necessary to survive in today's digital economy. The statistics above show that however measured, the cost of simple financial services are higher in both absolute terms and as a percentage of income, for lower income and/or more financially vulnerable individuals.

Why are financial products more expensive for lower-income and financially vulnerable households? To evaluate fintech's impact on financial inclusion, it is crucial to first understand the barriers that prevent affordable access to basic financial services for everyone in the U.S.. Several interconnected reasons likely contribute to the higher cost of financial services for financially excluded populations and below, I explore some of the most commonly discussed challenges. For each challenge I also discuss notable players from industry making strides in overcoming them.

A. High fixed operating costs

High fixed operating costs are often touted as playing a significant role in the inability of financial institutions to offer affordable financial products to lower margin customers[28].

[27] See Fuhrer (2024)

[28] See for example Rhine and Burhouse (2012), which was a specific pilot conducted by the FDIC aiming to assess whether or not it was economically viable for banks to provide affordable financial products to

Regulated financial institutions such as banks face high fixed costs, such as maintaining branches and compliance systems, and other regulatory and compliance costs such as Know Your Customer (KYC) and costs related to anti-money laundering (AML) requirements[29]. Because of these fixed expenses, serving low-income or low-margin customers is often unprofitable without significant scale. This leads to reduced competition in poorer areas, as many banking institutions may find it unfeasible to offer affordable products with lower profit margins. However results from the FDIC Safe Account Pilot demonstrated that safe, low-cost accounts are valuable to consumers *are* economically feasible for banks, casting doubt on whether or not high fixed operating costs indeed contribute to lack of provision of services to the typically financially excluded populations.

Industry solutions

Reduced operating costs, driven by innovations from new fintech, play a key role in expanding financial inclusion by making financial services more affordable, accessible, and efficient, particularly for underserved populations. Below are some key players making strides in improving efficiency of existing operations in the financial services space today.

BeSmartee is a digital mortgage platform that automates the mortgage origination process, allowing lenders to process applications faster and more efficiently by automating borrower verification, document management, and underwriting.

Docutech specializes in document generation and e-signature solutions for the mortgage industry, digitizing and automating the paperwork required for loan processing to improve speed, accuracy, and compliance.

Both BeSmartee and Docutech for example automate the mortgage origination and document generation processes, and in turn educe the administrative overhead associated with loan processing. This can lower application and maintenance fees, making financial products like mortgages more affordable to a wider audience.

BlueSage offers a cloud-based digital loan origination platform tailored for lenders. It simplifies the loan process by automating tasks related to application, processing, and underwriting, enabling faster decision-making.

Xactus offers verification services, such as credit reporting and background checks, for the mortgage industry. It supports lenders in validating applicants' information to ensure accurate and compliant mortgage lending.

say lower income/un and underbanked consumers.

[29] See Stulz (2019)

Argyle provides a platform for accessing real-time employment and income data, helping financial institutions streamline income verification and assess credit risk for applicants without traditional credit histories, such as gig and freelance workers.

By using technology-driven solutions from firms like BlueSage for loan origination or Xactus for streamlined verification, lenders can extend services to lower-income individuals or those with non-traditional employment (like gig workers), who may not have qualified under traditional cost structures. For example, Argyle's real-time employment data access enables better risk assessment for gig and freelance workers, expanding credit access to a group traditionally excluded from lending.

Class Valuation is a technology-driven appraisal management company that enhances the property appraisal process. It provides quick, accurate, tech-enabled property valuations, making the home-buying process faster and more transparent for buyers and lenders.

Covius delivers tech-enabled services, including document management, compliance, and loan servicing solutions, helping financial institutions streamline and manage back-office processes more efficiently.

Class Valuation and Covius, for example, speed up appraisals and compliance management, reducing wait times and enabling faster approvals for borrowers. This quick, efficient processing is especially valuable for low-income consumers who may need immediate access to funds or fast loan approval for critical purchases.

B. Measuring and managing risk for financially excluded populations

There are millions of individuals in the United States with little or no credit history. These individuals – often referred to as "credit invisibles" – have a "thin" or non-existent credit file, and hence no credit score. A credit score, or FICO score, is a numerical representation of a person's creditworthiness, based on their credit history, and is the main method used by lenders and institutions to assess financial risk. Since FICO scores are the primary method used to assess consumer financial risk for accessing essential services like bank accounts, credit, employment, and rental agreements, those without a robust credit file face significant barriers. Without access to financial products, these individuals can't generate the data needed to build a credit history, creating a catch-22 situation: they can't qualify for financial services due to a lack of credit history, and they can't build a credit history without accessing those services.

These populations – without a formal record of economic activity in a commonly accepted form – have been considered challenging to price from a risk perspective. This

uncertainty leads to either denial of services or the imposition of extremely high fees and interest rates to cover the perceived risk[30]

Industry solutions

Cash flow underwriting—the use of cash flow data to assess and price credit default risk—is considered an emerging technology with the potential to transform traditional credit underwriting especially for people with thin or non-existent credit files.

Cash flow underwriting uses cash flow data – historical and current information about deposits and withdrawals in an applicant's transaction accounts (such as checking, savings, or prepaid accounts) – to assess and price the risk of credit default in compliance with relevant regulations. This data provides predictive indicators of an applicant's creditworthiness and was traditionally gathered manually, with applicants providing physical copies of bank statements for a bank's underwriter to review. This approach was inefficient and costly, making today's digital cash flow underwriting, enabled by open banking and advanced analytics, a transformative improvement. Cash flow underwriting is applicable to both consumer and commercial lending, though its use in consumer credit has only recently gained traction, especially since 2016 when interest in online lending and open banking accelerated. Consumer advocates and regulators have shown enthusiasm for modern cash flow underwriting for its potential to broaden access to fairer credit options, especially for those who have been typically credit invisible. Regulators emphasize its value only when in compliance with privacy and fair lending laws like the Fair Credit Reporting Act and Equal Credit Opportunity Act. Below are some key players making strides in cash flow underwriting in the financial services space today.

Prism – originally spun out of a consumer credit card company – began using cash flow data in 2018 to underwrite credit-invisible, thin-file, and sub-prime consumers. Since then, Prism has built a large consortium of cash flow underwriting performance data, spanning various loan types and customer segments, to demonstrate the effectiveness of modern cash flow underwriting in accurately predicting default risk. Rather than replacing traditional credit data, Prism collaborates with established market players like Plaid and, most recently, Equifax, to enhance its reach and capabilities.

Plaid is advancing the cash flow underwriting business with the launch of Consumer Report, leveraging its new status as a Consumer Reporting Agency (CRA) under the name Plaid Check. This designation allows Plaid to provide actionable insights—rather

[30]See Jagtiani and Lemieux (2017) and Di Maggio, Ratnadiwakara, and Carmichael (2022) for a discussion of the challenges of measuring risk of typically underserved populations using status quo methods.

than just raw data—that lenders can use directly in credit underwriting, which is crucial as many lenders find raw cash flow data complex to interpret. Through Consumer Report, Plaid now offers up to 24 months of consumer-permissioned bank data, along with Income Insights to verify a consumer's repayment ability. In a strategic partnership with Prism Data, Plaid will also provide a unique cash flow risk score, further empowering lenders to make informed, data-driven credit decisions.

Aliya is a data-driven intelligence company specializing in inclusive lending solutions for borrowers traditionally underserved by standard credit scoring methods. Aliya recently launched aSCORE, an alternative credit risk and resiliency assessment tool that offers a regulatory-compliant option for assessing borrowers using recent, high-frequency consumer data rather than traditional credit histories. This tool provides financial institutions a new approach to risk management that supports financial inclusion by evaluating creditworthiness in a more holistic way. Aliya's solutions are currently being utilized at a top 5 bank in the U.S. and has not only increased the number of customers served in the sub FICO 720 space, but has done so without increasing the risk footprint of the portfolio from Prime. Aliya's data suggests that at least 35% of the FICO 720 to 600 segments are misclassified by the system and have Prime risk characteristics.

C. Mobile and internet access

According to a 2021 Pew research study[31], 19 million Americans in total, and 41 percent of adults with annual incomes below $30,000 don't own a computer. Additionally, roughly a quarter of adults with household incomes below $30,000 a year (24%) say they don't own a smartphone. While many people take internet access for granted, there are millions of households in the United States that struggle, even today, to connect to the digital economy.

This digital divide is a barrier that can have lasting, generational impacts across every facet of life, and it is thought that lack of digital access is a significant contributing factor to hindering financial inclusion in the United States. For example, research shows that communities – typically rural – that have less access to high speed internet, also see less adoption of financial technology[32]. Additionally, there is an important racial component to these findings: every percentage increase in a community's black population was associated with an 18% decrease in their rate of high-speed internet access, 1% decrease in smartphone ownership, 12% decrease in online banking, and 3% decrease in mobile

[31] Vogels (2021)

[32] See Friedline, Naraharisetti, and Weaver (2020) that documents these correlations.

banking. These relationships were opposite for communities with increasing white populations where whiteness attracts higher rates of fintech, even amidst high poverty.

As financial institutions increasingly adopt digital and mobile-first technologies to meet growing consumer demands, concerns arise that the lack of widespread digital infrastructure across the U.S. may be hindering financial inclusion.

Policy and Industry Solutions

Given the quasi-public-good nature of internet access, many believe that government interventions in this space is necessary in order to provide every American with acceptable levels of access to digital infrastructure. Below I discuss a recent government connectivity program, and a private sector fintech that made use of this program in order to improve access to basic financial services for typically underserved populations.

The Affordable Connectivity Program was launched in December 2021 by the U.S. government as part of the Infrastructure Investment and Jobs Act to make internet access more affordable for low-income Americans. With an initial $14 billion in funding, the ACP aimed to reduce the digital divide by providing subsidies for broadband internet and wireless services. The program offered a $30 monthly subsidy for eligible households outside tribal lands and a $75 monthly subsidy for households on tribal lands, helping to address monthly affordability—a significant barrier to internet access for many Americans.

In addition to monthly subsidies, the ACP provided eligible households with a one-time discount of up to $100 for connected devices like laptops, desktops, or tablets, helping ensure that lower-income households could access the technology necessary for connectivity. The ACP ended in June 2024, and represented a national effort to enhance digital equity and make high-speed internet accessible to millions of Americans.

SurgePay is a Tennessee-based financial technology and telecommunications provider, focuses on bridging the digital and financial divide for underserved communities across the U.S. There is substantial evidence that cost is not the only factor limiting internet adoption. According to the November 2021 NTIA Internet Use Survey (conducted just before the Affordable Connectivity Program, or ACP, launched), only 18% of households without home internet access cited cost as their primary reason for being offline. To address this gap, SurgePays actively promotes awareness of connectivity services directly within local communities, partnering with trusted community retailers. By working through local stores where consumers already shop and feel comfortable, SurgePays helps bridge the digital divide, connecting more people to the resources available to them. Surgepay

has achieved this by building a network of local convenience stores, bodegas, and community markets, and has transformed these retailers into financial hubs, offering essential services like cellular top-ups, prepaid gift cards, and bill payment options. This approach allows underserved populations to access financial services directly within their communities. SurgePay also leveraged the federal Affordable Connectivity Program (ACP) to expand broadband access for low-income households.

D. Consumer preferences

On the consumer side, preferences are believed to significantly influence the equilibrium state of financial inclusion. People's decisions to participate in the traditional financial system or select specific financial products are shaped not only by their needs, but also their personal experiences, and cultural factors. For example research shows that Black households in the U.S. often lack trust in the formal financial system due to a long history of structural racism, and this distrust affects their engagement with traditional institutions like banks.

Research documents these differences in engagement by demographic and shows that even when controlling for factors like income and education, race strongly correlates with proximity[33] to different types of financial institutions[34]. For example, the likelihood that an alternative financial institution (AFI) is closer and more accessible than a traditional bank varies significantly by neighborhood demographics. In predominantly white neighborhoods, Small (2021) shows that AFIs are more accessible than banks only about 10% of the time. However, in Latino neighborhoods, AFIs are more accessible 30% of the time, and in predominantly Black neighborhoods, this figure rises to more than 40%. These patterns persist even after accounting for neighborhood factors like poverty rates, population density, education levels, and employment. As the proportion of Black residents in a neighborhood increases, the probability of an AFI being closer than a bank (i.e. more physically accessible) also rises, suggesting structural disparities in access to financial institutions. These disparities, whether a result of supply factors or consumer preferences, affect consumer choice of financial product, and costs associated with use of those products.

Industry solutions

[33] specifically actual travel time to, which is a more accurate measure of actual access than just distance as the crow flies.

[34] See for example Small (2021) and Faber (2019)

> You can't ask corporate America to fix a problem that they really don't understand and that the people from the communities that are disadvantaged and are hurt the most should gather the resources and gather the best ideas and the best people and band together and partner and figure out how we can do this together.
> Ashley Bell CEO and Chairmain, Redemption Holding Company

To build trust in the financial system for marginalized communities, it's essential that the solutions come from leaders who truly understand the challenges these communities face. When those with firsthand experience of the issues are at the helm, they bring insights that are often overlooked by corporate America. Below I discuss work by Redemption Holding Company, a Black-owned holding company, that is working to leverage financial technology and create solutions that are effective, sustainable, and genuinely responsive to the needs of those who have been historically underserved.

Redemption Holding Company (RHC)is a Black-owned holding company based in Utah that serves as the parent company for Ready Life, a fintech focused on expanding financial access, and Holladay Bank and Trust, a bank in the Salt Lake City area. RHC, led by former White House Policy Advisor and SBA Regional Administrator Ashley D. Bell and supported by Dr. Bernice A. King (daughter of Dr. Martin Luther King Jr. and Coretta Scott King), aims to promote financial inclusion.

One unique aspect of the Holladay Bank acquisition is that by acquiring the bank, RHC transformed it into a Minority Depository Institution (MDI). This acquisition, once approved, will make Holladay Bank the only Black-owned MDI headquartered west of Texas, a historic first in which a non-MDI bank transitions to MDI status.

RHC's decision to base operations in Utah leverages the state's strong banking infrastructure, with Salt Lake City – a business-friendly tech hub. By acquiring a bank with a 40-year regulatory track record rather than creating a de novo institution, RHC benefits from an established foundation while expanding to underserved populations. RHC's goal is to reach every African American across the country, with a particular emphasis on supporting Black entrepreneurs, by offering a tech-enabled, concierge banking platform that collaborates with other MDIs and a leading mortgage lending platform.

V. Conclusion

This study explores the essential components of financial inclusion, examines the role of fintech, and analyzes how fintech innovations can support and expand financial inclusion efforts.

This study uses the direct cost of accessing financial services as a key measure of financial inclusion. The idea is that the actual amount people spend on a pre-defined set of basic services—such as bank account fees, transaction charges, and credit-related services, serves as an accessible and quantifiable indicator of financial inclusion. This metric reflects multiple factors that are central to understanding inclusion: it captures the availability of services individuals can access, the usability of those services, their affordability when considered in conjunction with other metrics such as income, and consumer preferences. In doing so, and when considered for a suit of products agreed on as "useful" it provides a multi-dimensional view of financial inclusion, encompassing whether individuals can afford to use them.

Analysis in this study documents that expenditure on basic financial services remains relatively high for a number of households and individuals in the United States today. Data from the Financial Health Network shows this on a broad US-wide scale, whereas data from bank account transactions supports this for a subset of the population who are already "banked", for a subset of financial services fees[35]. Results in this study also show that the incidence of these fees is also not uniform across different demographics: lower income and minority individuals are more likely to incur higher fees associated with accessing the most basic financial services needed to survive in today's digital economy. Interestingly, this is even true when sub-setting to the already banked population.

This study also provides some early evidence that local fintech integration[36] is associated with a reduced likelihood of incurring bank account fees, particularly in high internet connected areas and for lower income individuals in these areas. These results provide some evidence that fintech may hold the key to reducing costs (and hence increasing access and affordability) for millions of households in the US, and hints at some channels through which this might be possible. However, while I document a reduction in fees for banked individuals, it is not clear if fintech integration lead to more people becoming banked in the first place, whether that even matters, or whether fintech integration leads to substitution to other types of financial products that may not be measurable in bank account transactions data. Furthermore, this work documents empirical facts for mostly transactions and deposits services, and ignores credit, insurance, and savings and investments which are crucial components of the suite of agreed upon basic financial services.

Additionally, further work needs to be done in order to uncover the mechanisms that might be driving these reductions in fee expenditures. Understanding these mechanisms is essential as financial technology enters a brand new regulatory era, marked by the re-

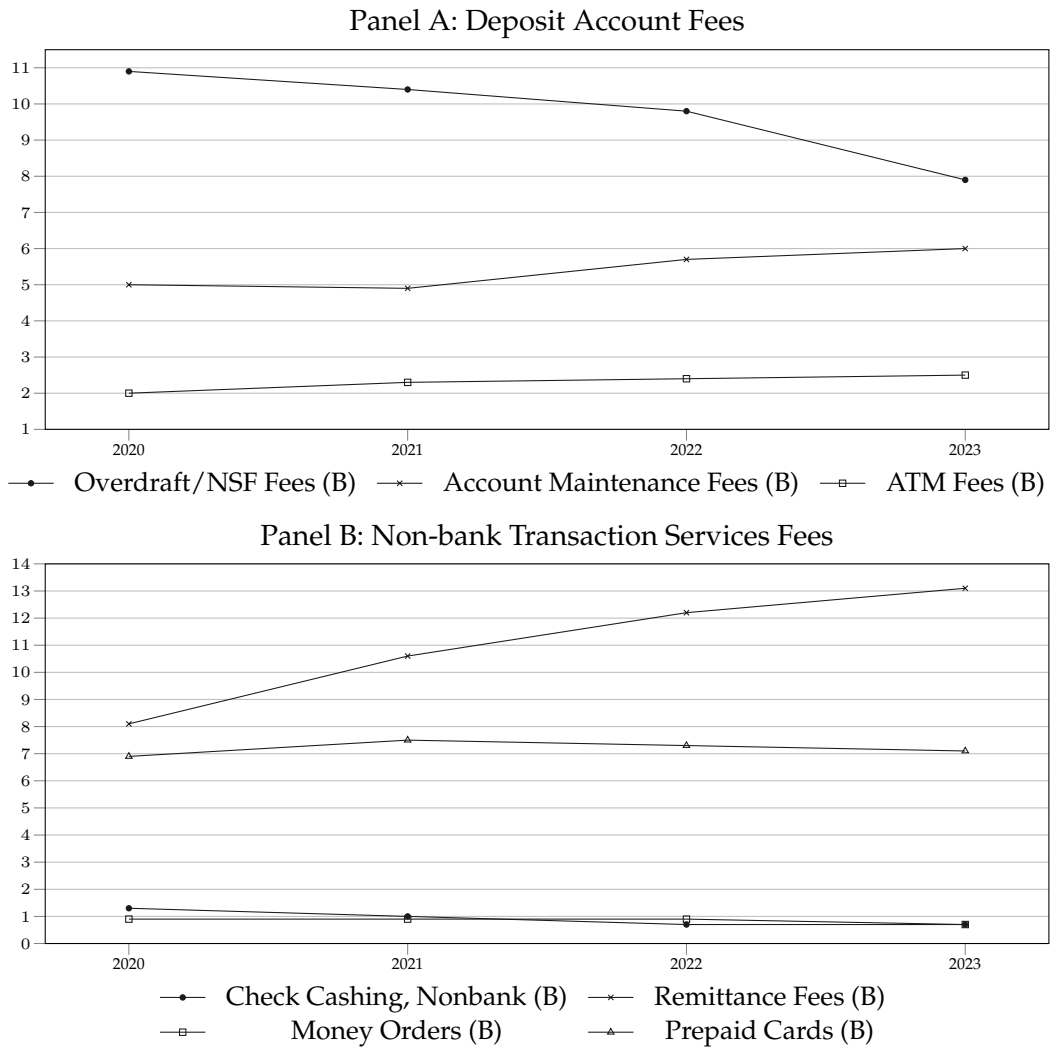
[35]Specifically fees related to the most basic type of transactions and deposits services.
[36]Whether this is local digital infrastructure, local attentiveness, local supply factors etc

cent CFPB rule, which aims to enhance consumer access and control over financial data. On October 19, 2023, the Consumer Financial Protection Bureau (CFPB) proposed the 1033 rule under the Dodd-Frank Act, a landmark regulation intended to safeguard consumers' financial data rights and set secure data-sharing standards via APIs.

This shift signifies a move from the U.S.'s traditional consumer-driven model of open banking—where market demand led fintech innovation—to a regulatory framework with the potential to transform fintech and expand financial inclusion. The new rule prioritizes consumer control and data portability, requiring banks and fintechs to share data reciprocally. This balanced approach aims to foster a more competitive ecosystem, enabling easier data mobility and promoting lower costs, increased product access, and enhanced transparency—key components for advancing financial inclusion.

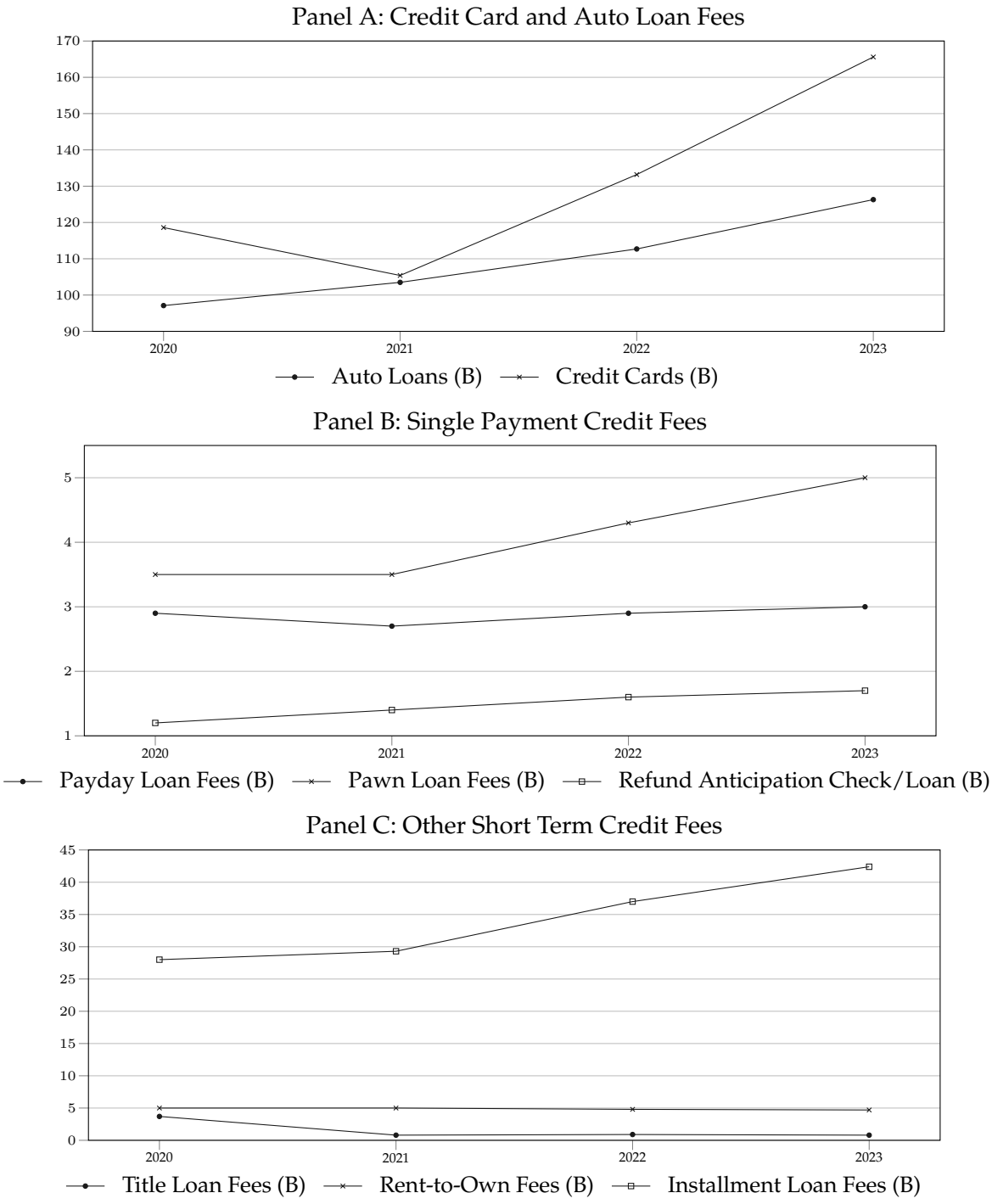
While the 1033 rule marks significant progress, it has limitations, excluding some critical accounts (e.g., mortgages, student loans) and imposing restrictions on data use that may limit innovation. New compliance requirements will introduce costs but emphasize the importance of consumer trust in financial data handling. With the combination of market innovation and regulatory support, open banking's evolution promises transformative potential for fintech's role in building a more inclusive and accessible U.S. financial landscape.

Figure 1. Financial Health Network: Transaction and deposit service Fees



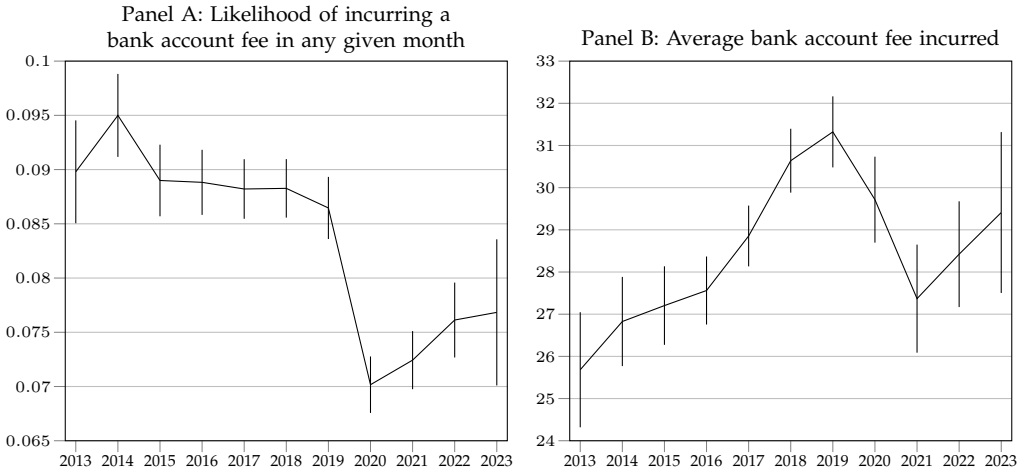
source: https://finhealthnetwork.org/
This figure presents data from the FHN Spend Reports, from 2020-2023. Panel A documents estimated total fee expenditure on transactions and deposit services provided by banks, and Panel B documents estimated total expenditure on transactions and deposit services provided by non-banks. Please see the Appendix for more details on how the FHN arrives at these aggregate numbers.

Figure 2. Financial Health Network: Credit Fees



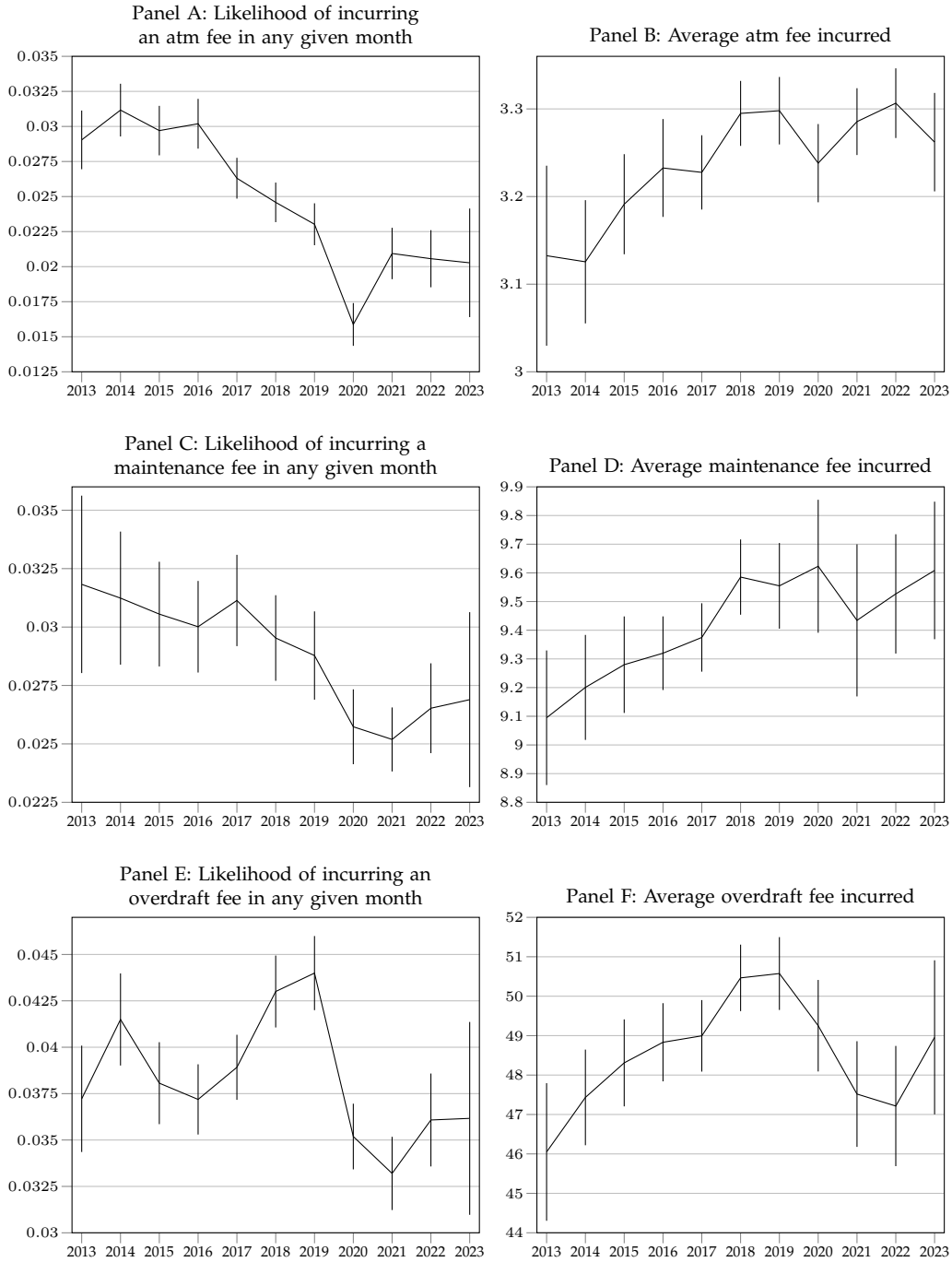
source: https://finhealthnetwork.org/
This figure presents data from the FHN Spend Reports, from 2020-2023. Panel A documents estimated total fee and interest expenditure on credit cards and auto loans, and Panel B documents estimated total fee and interest expenditure Payday loans, pawn loans and refund anticipation checks, and panel C documents total fee and interest expenditure title loans, rent-to-own and installment loans. Please see the Appendix for more details on how the FHN arrives at these aggregate numbers.

Figure 3. Transactions data: Bank Account Fees



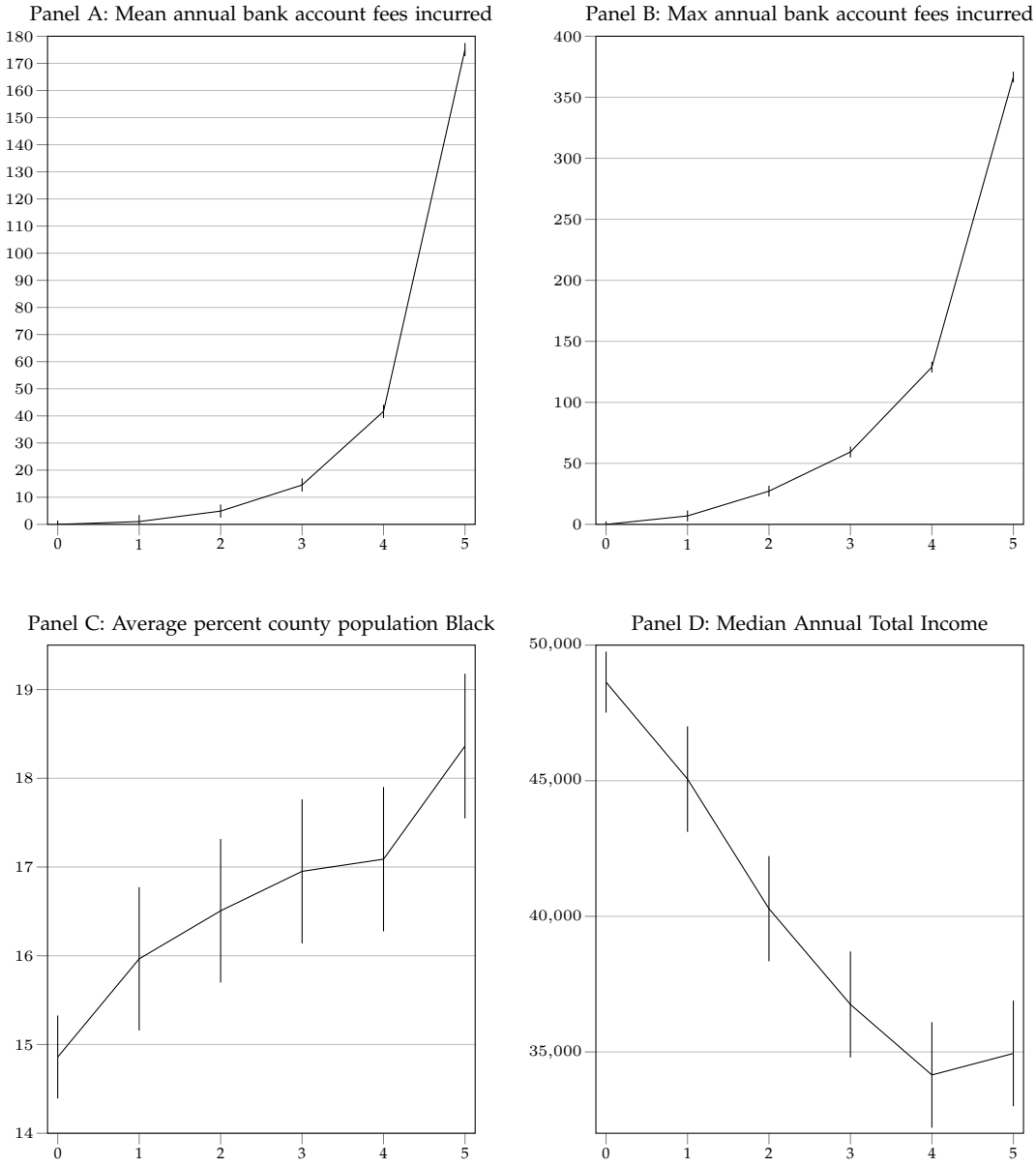
This figure displays aggregate averages over individuals observed in the panel derived from bank account and credit card transactions data outlined in the Appendix. Panel A documents the fraction of individuals who incur a bank account fee (specifically an ATM fee, an Overdraft/NSF fee and/or a maintenance fee) in any month, averaged over the year from 2013-2023. Panel B documents the average monthly fee, conditional on a fee occurring in that month, averaged over each year from 2013 to 2023.

Figure 4. Transactions data: Bank Account Fees Breakdown



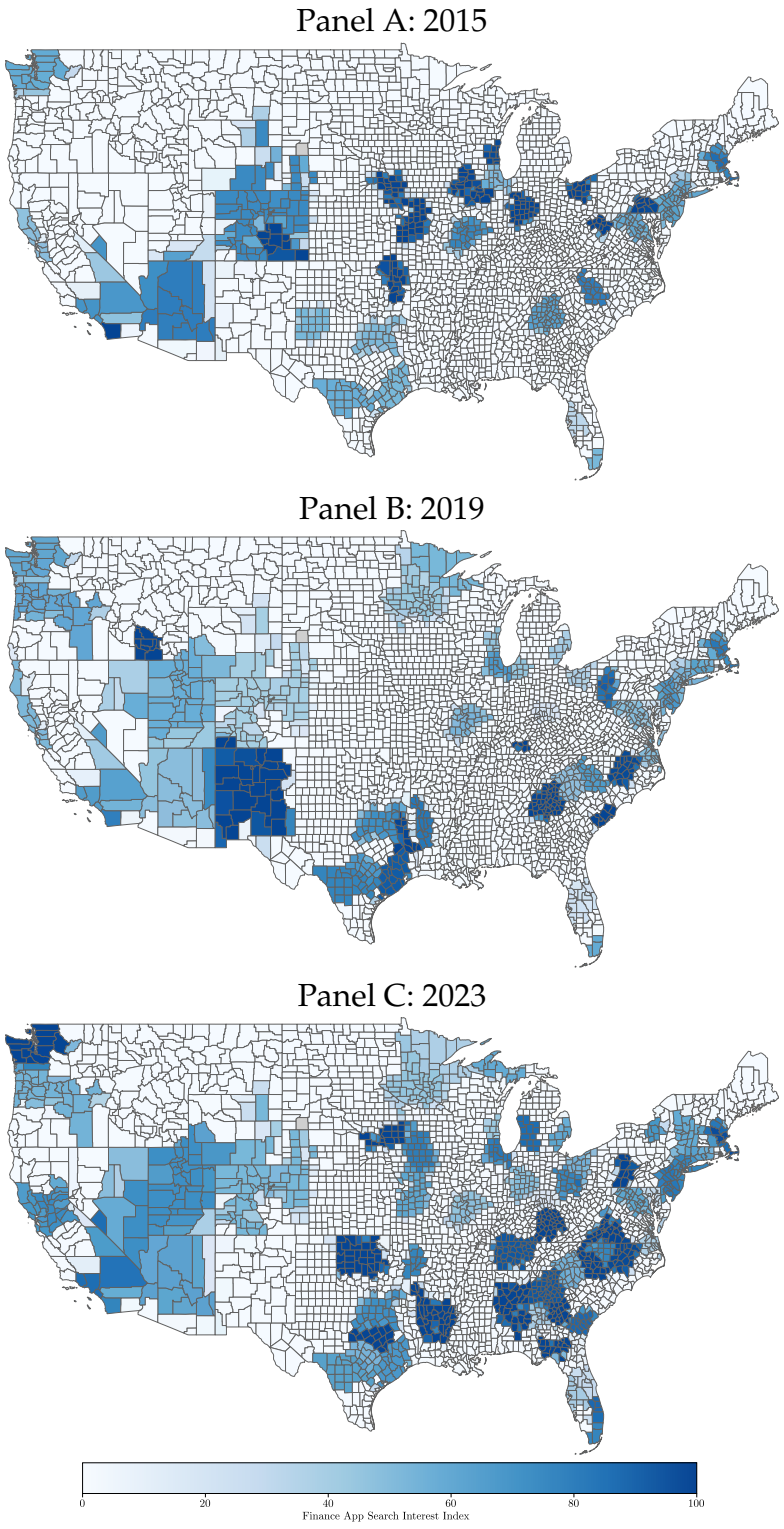
This figure displays aggregate averages over individuals observed in the panel derived from bank account and credit card transactions data outlined in the Appendix. Panel A documents the fraction of individuals who incur an ATM fee in any month, averaged over the year from 2013-2023. Panel B documents the average monthly ATM fee, conditional on an ATM fee occurring in that month, averaged over each year from 2013 to 2023. Similarly Panel C documents the fraction of individuals who incur a maintenance fee in any month, averaged over the year from 2013-2023 and Panel D documents the average monthly maintenance fee, conditional on a maintenance fee occurring in that month, averaged over each year from 2013 to 2023. Panel E documents the fraction of individuals who incur an overdraft or NSF fee in any month, averaged over the year from 2013-2023 and Panel F documents the average monthly overdraft or NSF fee, conditional on an overdraft or NSF fee occurring in that month, averaged over each year from 2013 to 2023.

Figure 5. Bank Account Fee Quintiles and Demographics



This figure documents average demographic characteristics of individuals from the transactions data panel outlined in the Appendix, who are bucketed into one of 6 bins: bin 0 are individuals who never incur a transaction and deposit fee for the time they are observed in the data. The remaining individuals who do incur fees, are then sorted into one of 5 quintile bins dependening on the average annual bank account fees that they pay: quintile 1 is the lowest account fees and quintile 5 is the highest. Panel A documents the average annual fee expenditure for each person in bin 0 to 5. Panel B documents the maximum total annual fee expenditure (across all years the person is observed in the data) for each person in bin 0 to 5. Panel C documents the average county fraction of the population who are Black only as defined by the U.S. Census for each person in bin 0 to 5, and Panel D documents the median total annual income across all individuals in each of the bins 0-5 (note this is after taxation, and is income observed in the bank account transactions data).

Figure 6. Finance App Search Interest by County



Source: Google Trends DMA Data
This figure documents the maximum search interest over each county year for the term "finance app", for a snap shot of years 2015, 2019, and 2023.

Table I. Percentage Income Spent on Financial Services Fees: FHN

Panel A: Percentage of Income Spent on Fees by Financial Health

Year	Healthy Households	Coping Households	Vulnerable Households
2020	1%	5%	13%
2021	1%	5%	14%
2022	1%	5%	14%
2023	1%	6%	16%

Panel B: Percentage of Income Spent on Fees by Race

Year	Black Households	Latinx Households	White Households
2020	6%	5%	3%
2021	7%	5%	3%
2022	7%	5%	3%
2023	8%	6%	4%

The data presented in this table is from the Financial Health Network Spend Reports from 2020-2023. Spending per household is calculated by the total spending per financial health tier divided by the number of households in that segment nationwide. The percentage of income is the average household income (using midrange points of categorical income variable) per segment divided by the spending per household in that segment. Please see the Appendix for more details on how financial health tiers are determined.

Table II. Individual Summary statistics

	Total		Incurred Bank Account Fees Ever				Never Incurred Bank Account Fees	
	Mean	Median	Mean	Mean (Fee > 0)	Median	Median (Fee > 0)	Mean	Median
Individul Level Statistics								
Income	4,384.67	3,187.26	4,044.22		3,187.26		4,953.24	4,118.04
Expenditure	4,370.64	3,183.15	4,089.30		3,183.15		4,840.51	3,952.54
Bank account fees, including	3.34	1.57	5.34	22.41	1.57	17.33		
– ATM fees	0.10	0.04	0.16	3.20	0.04	3.07		
– Overdraft/NSF fees	2.58	0.64	4.12	41.60	0.64	39.39		
– Account maintenance fees	0.42	0.06	0.67	8.43	0.06	8.25		
County Level Statistics								
Black, %	16.18	12.50	16.97	12.50			14.86	10.10
Unemployment, %	5.49	5.30	5.58	5.30			5.34	5.10
Median income	68,578.85	63,973.00	67,906.78	63,973.00			69,694.82	65,478.00
IT usage, % of households	0.37	0.38	0.37	0.38			0.37	0.37
Weighted bank size ($100's)	37,936,442	1,307,722	39,379,677	1,307,722			35,505,885	1,157,289
Bank branches	278	51	298	51			245	49
Unique banks	13	6	13	6			12	6

The data summarized in this table are from a panel of 8,360 individuals for whom I observe transactions data in bank and credit card accounts.63% of people (5,229) have incurred bank account fees ever in this sample, and 37% of people (3,131) have never incurred bank account fees. Bank account fees are defined as ATM, Overdraft of NSF, or Maintenance Fees. Please see the Appendix for more detailed definitions of the Income, Expenditure, and Bank Account Fee variables summarized in this table. Note: Income is observed after taxation. The location of the individual is available from the data provider at the City Level, I map all census cities to census counties and provide average county level statistics for the individual members in the lower panel of this table. Additionally, Summary of Deposits bank branch data is summarized in the last three rows of this data. Weighted average bank size is the weighted average bank attached to branches in the county, weighted by bank branch deposits. The number of bank branches is the number of bank branches in the county the individual resides in, and the number of unique banks is self explanatory.

Table III. The Impact of Fintech Awareness on Incidence of Bank Account Fees

Dependent Variable	First Stage # fintech transactions	Reduced Form Bank Account Fees/Income	2SLS Bank Account Fees/Income
Web Search Interest (0/1)	4.077***	−0.000125**	
	(0.568)	(4.88e-05)	
# fintech transactions			−3.53**
			(1.46e-05)
State by Year Fixed Effects	Y	Y	Y
Person Fixed Effects	Y	Y	Y
Observations	60,247	58,560	58,560
CD Wald F-Stat	51.58		
Adjusted R-squared	0.531	0.429	−0.111

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

This table contains results of individual by year level regressions. The first column contains results of a first stage regression of the sum of the number of fintech transactions per year on a dummy variable that takes a value of 1 if Google search interest for the term "fintech app" exceeded 90 in that year. Column (2) presents results of a reduced form regression of Total bank account fees incurred in a year divided by total income earned in the year, on the same dummy variable defined above. In the final column, results of a 2sls regression are reported where fintech usage – defined as the sum of the number of fintech transactions per year, is instrumented for by Google search interest for the term "fintech app" – specifically a dummy variable that takes a value of 1 if Google search interest for the term "fintech app" exceeded 90 in that year. Individual fixed effects are included, as well as state by year fixed effects. Standard errors are clustered at the person level. Please see the Appendix for more details on the variables used in these regressions and how they are constructed.

Table IV. The Impact of Fintech Awareness on Incidence of Bank Account Fees: Heterogeneity by Internet Access

	Bank Account Fees/Income		
	Total	Low Income	High Income
Search Interest (0/1)	−3.54e-05	−1.01e-05	−5.31e-05
	(5.94e-05)	(0.000117)	(4.23e-05)
Search Interest x High % Internet Access	−0.000187**	−0.000317*	−1.66e-05
	(9.05e-05)	(0.000165)	(5.58e-05)
State by Year Fixed Effects	Y	Y	Y
Person Fixed Effects	Y	Y	Y
Observations	58,560	31,800	26,723
Adjusted R-squared	0.429	0.404	0.384

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

This table contains results of individual by year level regressions. Columns (1)-(3) present results of reduced form regression of Total bank account fees incurred in a year divided by total income earned in the year, on a dummy variable that takes a value of 1 if Google search interest for the term "fintech app" exceeded 90 in that year, interacted with another dummy variable that takes a value of 1 if the % of the adult population with internet access exceeds the median percentage across the United States, and a value of zero otherwise. Column (2) subsets the full sample to individuals with lower than the median income (as defined using transactions level variables as opposed to county level variables), and column (3) subsets the full sample to individuals with higher than the median income. Individual fixed effects are included, as well as state by year fixed effects. Standard errors are clustered at the person level. Please see the Appendix for more details on the variables used in these regressions and how they are constructed.

Table V. The Impact of Fintech Awareness on Incidence of Bank Account Fees: Other Heterogeneity

	Bank Account Fees/Income			
	% Black	Median Income	Bank Size	Branch Count
Search Interest (0/1)	−0.000150**	−0.000131**	−0.000127**	−0.000137**
	(5.98e-05)	(6.61e-05)	(5.82e-05)	(6.06e-05)
Search Interest × High	5.10e-05	1.17e-05	4.94e-06	2.44e-05
	(8.95e-05)	(9.05e-05)	(9.04e-05)	(8.78e-05)
State by Year Fixed Effects	Y	Y	Y	Y
Person Fixed Effects	Y	Y	Y	Y
Observations	58,560	58,560	58,560	58,560
Adjusted R-squared	0.429	0.429	0.429	0.429

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

This table contains results of individual by year level regressions. Columns (1)-(4) present results of reduced form regression of Total bank account fees incurred in a year divided by total income earned in the year, on a dummy variable that takes a value of 1 if Google search interest for the term "fintech app" exceeded 90 in that year, interacted with another dummy variable that takes a value of 1 if the variable labeled at the top of the columnn is "high", and a value of zero otherwise. "High" is defined as greater than the median value across the United States. % Black is the fraction of the County population who identify as Black only, Median Income is the median annual gross income per county, Bank size is the deposits weighted average bank size present in the county derived from SOD bank branch level data, branch count is the total number of unique branches present in the county derived from SOD bank branch data. Individual fixed effects are included, as well as state by year fixed effects. Standard errors are clustered at the person level. Please see the Appendix for more details on the variables used in these regressions and how they are constructed.

A.I. Data from the Financial Health Network

A. General Methodology

The financial fee estimates presented in this report are derived using a multi-phase methodology that combines both primary and secondary research. The process begins with in-depth secondary research and modeling, which is used to estimate the total spending on interest and fees by American households across dozens of financial products and services. This secondary research leverages credible data sources such as industry reports, regulatory filings, and public datasets. Where complete or current data for 2023 is unavailable, earlier trends are used to extrapolate estimates.

This secondary analysis is complemented by primary research, which is based on a nationally representative survey. The survey collects data on household usage of financial products and outstanding debt over the past 12 months, as well as supplemental information on product frequency, balances, and demographic characteristics, including credit tiers and financial health. These survey responses are used to derive spending proportions by demographic and financial health segments, which are then overlaid on the secondary estimates to provide a comprehensive view of total interest and fee spending across different population groups.

The survey details for the most recent reports are as follows:

- **2021 Survey**: Conducted from November 1 to November 23, with a cooperation rate of 68%, a sample size of 5,033 respondents, and a margin of error of 1.4%.
- **2023 Survey**: Conducted from January 5 to January 30, with a cooperation rate of 73%, a sample size of 5,055 respondents, and a margin of error of 1.4%.
- **2024 Survey**: Conducted from January 3 to February 3, with a cooperation rate of 79%, a sample size of 5,509 respondents, and a margin of error of 1.3%.

Deposit Account Fees

Overdraft/NSF Fees:

Fees charged when a checking account has insufficient funds to cover a transaction. Overdraft fees apply when a bank covers the transaction, while NSF (non-sufficient funds) fees are applied when the transaction is rejected.

Secondary Sources: Data for these fees comes from the Call Report data provided by the Federal Financial Institutions Examination Council (FFIEC) and the National Credit Union Administration (NCUA) for 2019–2023. This information is further supplemented by data from the Consumer Financial Protection Bureau (CFPB) on NSF fee reliance trends.

Accuracy of Secondary Estimate of Fees: **High** – Estimates are based on comprehensive federal data and well-established sources.

Account Maintenance Fees:

Monthly fees charged by financial institutions for maintaining a checking or savings account. These fees typically apply when account holders fail to meet balance or deposit minimums.

Secondary Sources: Estimates for account maintenance fees are sourced from FFIEC Call Reports and NCUA Aggregate Financial Performance Reports (2020–2023), which detail bank revenues from service charges.

Accuracy of Secondary Estimate of Fees: **Medium** – While the sources are reliable, some assumptions are needed regarding the proportion of account holders subject to these fees.

ATM Fees:

Fees charged for using ATMs outside the account holder's bank network, typically when withdrawing cash.

Secondary Sources: The estimates are derived from FFIEC Call Reports and NCUA Aggregate Financial Performance Reports (2020–2023), which include information on ATM transaction fees collected by banks and credit unions.

Accuracy of Secondary Estimate of Fees: **Medium** – Data is credible, but assumptions are required to account for variability in ATM usage rates.

Transaction Services Fees

Check Cashing, Nonbank:

Fees charged by nonbank entities for converting checks into cash. This service is often used by individuals without access to traditional banking services.

Secondary Sources: Data is sourced from market analyses, including "Check Cashing & Money Transfer Services: A Market Analysis" (2013), FDIC National Survey of Unbanked and Underbanked Households (2014–2023), and additional industry reports from small providers and franchise data.

Accuracy of Secondary Estimate of Fees: **Low** – These estimates rely on older data and extrapolations, making them less precise.

Remittance Fees:

Fees incurred when transferring money across international borders, commonly between individuals in different countries.

Secondary Sources: Estimates are based on data from the World Bank's Bilateral Remittance Matrices (2017, 2021) and global remittance price estimates (2009–2023).

Accuracy of Secondary Estimate of Fees: **Medium** – While World Bank data is robust, assumptions are applied regarding the volume and price fluctuations of remittance services.

Money Orders:

A service that converts cash to a paper check equivalent guaranteed by the issuing institution, often used for secure payments.

Secondary Sources: Data for these fees comes from U.S. Postal Service data (2009–2023), market reports from MyBankTracker.com, and survey data from 2020–2023.

Accuracy of Secondary Estimate of Fees: **Medium** – Estimates are based on reliable sources, though assumptions are needed regarding usage patterns.

Prepaid Cards:

Fees associated with prepaid cards, including those for government benefits, payroll deposits, and general-purpose reloadable cards.

Secondary Sources: Data is drawn from the Federal Reserve's annual reports on prepaid cards (2017–2023), as well as Green Dot's financial reports on prepaid card usage.

Accuracy of Secondary Estimate of Fees: **Low** – Due to reliance on extrapolations and assumptions, especially for general-purpose reloadable cards.

Credit Services Fees

Auto Loans:

Fees associated with consumer loans for purchasing or leasing new or used cars, including subprime auto loans and Buy Here Pay Here financing options.

Secondary Sources: Estimates are sourced from automotive finance reports, Experian quarterly reports, and leasing data from 2009–2023, which cover various auto loan products and terms.

Accuracy of Secondary Estimate of Fees: **High** – The data comes from well-established automotive finance sources with minimal need for extrapolation.

Credit Cards:

Fees for general-purpose, private-label, and secured credit cards, including interest and late fees for carrying balances on revolving credit.

Secondary Sources: Data for these estimates is based on the Consumer Financial Protection Bureau's "Consumer Credit Card Market" report (2021, 2023), as well as Federal Reserve data on credit trends.

Accuracy of Secondary Estimate of Fees: **Medium** – While based on reliable data, assumptions about revolving credit behavior introduce some uncertainty.

Payday Loan Fees:

Fees for short-term, high-interest payday loans offered by nonbank lenders, typically due within one month.
Secondary Sources: Data is derived from state regulator reports and industry data from 2018–2023.
Accuracy of Secondary Estimate of Fees: **Low** – The estimates rely on assumptions due to limited transparency in payday lending practices.

Pawn Loan Fees:
Fees for loans secured by personal items, where the borrower reclaims the item upon repayment.
Secondary Sources: Data comes from publicly traded industry leaders' reports and market share data from the National Pawn Brokers Association (2009–2023).
Accuracy of Secondary Estimate of Fees: **Medium** – Market reports provide a solid foundation, though assumptions about average fee levels are necessary.

Refund Anticipation Check/Loan Fees:
Fees charged for tax preparation services or loans secured by a consumer's anticipated tax refund.
Secondary Sources: IRS tax return data (2016–2021) and company websites are used to estimate these fees.
Accuracy of Secondary Estimate of Fees: **Medium** – While IRS data is reliable, assumptions are required to account for the volume of these services.

Title Loan Fees:
Fees for loans secured by vehicle titles, which are either repaid in installments or as a single payment.
Secondary Sources: Estimates are based on regulatory filings and revenue reports from 2019–2023.
Accuracy of Secondary Estimate of Fees: **Medium** – Data from regulatory filings is credible, though assumptions regarding loan terms affect accuracy.

Rent-to-Own Fees:
Fees for renting goods like furniture or electronics, where ownership is transferred after all payments are completed.
Secondary Sources: Data comes from industry leaders like Rent-A-Center, with market revenue information from 2019–2023.
Accuracy of Secondary Estimate of Fees: **Low** – The reliance on older data and extrapolations impacts the precision of these estimates.

Installment Loan Fees:
Fees for loans repaid in scheduled installments, typically over several months to years.

Secondary Sources: Data is sourced from Transunion Industry Insights reports from 2019–2023.
Accuracy of Secondary Estimate of Fees: **Medium** – Reliable sources, but repayment behavior assumptions are necessary.

Student Loan Fees (Federal and Private):
Fees associated with both federal and private student loans for higher education, including origination fees and interest.
Secondary Sources: Data is drawn from the U.S. Department of Education and Federal Reserve reports (2018–2023).
Accuracy of Secondary Estimate of Fees: **High** – Federal and private student loan data is reliable, with minimal assumptions required.

Totals

Single Payment Credit Fees:
Loan products where payment is due in one lump sum, typically with short terms of one month or less. Includes payday loan fees, pawn loan fees, overdraft/NSF fees, and refund anticipation check/loan fees.

Short-Term Credit Fees:
Loan products that function on an installment basis with terms from several months to 1-2 years, or as a revolving line of credit. Includes credit card fees, rent-to-own fees, installment loan fees, and title loan fees.

Long-Term Credit Fees:
Loan products with typical terms longer than two years. Includes auto loan fees and student loan fees (federal and private).

Payments:
Products that enable consumers to send funds or convert them into other forms. Includes check cashing (nonbank), remittance fees, money orders, and prepaid cards.

Deposits & Other:
Accounts and services related to deposits and account maintenance. Includes account maintenance fees and ATM fees.

Percentage of Income Spent on Fees

Spending estimates are calculated by dividing total spending per financial health and racial category by the number of households in each segment. The percentage is derived from the average household income for each segment.

Racial Categories:

Spending on financial services is analyzed based on self-reported racial categories (Black, Latinx, and White) and calculated as a share of household income.

Financial Health Categories:

The FinHealth Score framework categorizes households as financially healthy, financially coping, or financially vulnerable. These categories are based on responses to financial behavior indicators, such as saving, borrowing, and spending habits.

A.II. Bank account and credit card transactions level data

Using access to de-identified data including bank account and debit and credit card transaction and demographic data (income and geographical location[37]) for an unbalanced panel of approximately 10 million active high quality consumers[38] from January 2010 to May 2023, a small 0.1% monthly panel of users is obtained. The panel is obtained using a sampling method on a month by month basis, so that users resemble the United States by income and geography dimensions (Census Place), in line with the ACS[39]. A number of fields for each transaction are observed, such as date, amount, type (e.g., debit, credit), account type (e.g. bank account or credit card), and transaction memo. Fields derived by the data provider from transaction memos including assigned transaction category, MCC code, transaction location, and merchants associated with the transaction are also observed. The data providers categorization in combination with analysis of transactions memos are used to identify the fee variables used in this study. The data is aggregated up to the county/month level – equally weighting over individuals[40]. Please see Appendix Table A.II for a list of all transactions categories provided by the data source. For a list of all financial product fee categories and the method through which they are obtained, please see Appendix Table A.I

[37]City names in the transaction data require extensive cleaning. I create a custom crosswalk between these city names and those in the U.S. Census Bureau data to maximize the match rate between data sources. Balyuk and Emily (2021) details the procedure.

[38]While some consumers enter and exit the panel at different times, we observe roughly 10.6 million distinct consumers on average monthly. The entire data set comprises 59 million U.S. consumers. There is some attrition in the data in the early years, but attrition is minimal after 2014.

[39]See https://www.census.gov/programs-surveys/acs/data.html for more details on the ACS and the publicly available annual data.

[40]See the subsection below for more details on sampling and panel construction

A. Measuring Income and financial service fee expenditures

In this sub-section I outline the construction of key income and fee expenditure variables used in this study. I describe the mapping procedures below for total income and fee expenditure for various financial products. Please see Table II for summary statistics of these key variables as well as other average county level demographics derived from U.S. Census data as well as the Summary of Deposits bank branch level data from the FDIC.

Income

Income is identified by taking the sum of credits to the bank account of various transactions categories provided by the data source. Total Income is defined as the sum of transactions categorized as: salary/regular income, interest income, investment/retirement income and other income, cash deposits, check deposits and other digital deposits.

Expenditure

Expenditure is identified by taking the sum of debits from the bank account of various transactions categories provided by the data source. Total expenditure is defined as the sum of transactions categorized as: ATM/Cash withdrawals, Fuel, Cable/Satellite, Charitable Giving, Check Payments, Deposits, Education, General Merchandise, Entertainment & Recreation, Expense Reimbursement, Gifts, Groceries, Healthcare & Medical, Home Improvement, Mortgage, Office Expenses, Other Expenses, Personal & Family, Pets, Postage & Shipping, Rent, Restaurants, Rewards, Service Charges, Services & Supplies, Subscriptions, Travel, Utilities, Credit Card Payments.

Financial product fee expenditure

I search for financial product fee expenditures by searching transactions descriptions for words, and variations of these words including spelling variations, related to deposit account fees.

Fees are categorized under three main buckets:

- Overdraft and NSF fees
- Maintenance Fees
- ATM fees

Please see A.I for more specific details on how these fees are identified. I also search for credit card fees using the same method. Credit card fees are all grouped into one category and contain:

- balance transfer fees
- finance charges
- Interest fees
- Late fees

In future iterations of this project, I also assess spending on credit card fees as well as other credit products such as single use credit (such as payday loans), auto loans, title loans, and other unsecured loans. For now, analysis is restricted to simply transaction and deposit services fees.

Financial technology usage

Financial technology use is identified by making use of the primary merchants available from the data provider as well extracting additional information from transactions descriptions.

In the current version of the analysis, financial technology services are restricted to the following providers:

- Paypal
- Venmo
- Zelle
- Cash-App
- Google Pay
- Apple Pay

In future iterations I allow for the largest and/or most popular by number of users of fintech companies by year starting from the beginning of the sample period. I restrict the number of fintech firms to 100.

Sampling and panel construction The sample is created from a U.S. representative sampling method following the ACS, along income and geography dimensions. Members are sampled from a high quality pool of around 9mn users. This high quality pool meets a number of minimum requirements such as average daily activity amounts and months observed in the data. From this 9mn pool, members are sampled and a smaller group is

sampled for the purposes of this preliminary study. There are 9,475 members in the final sample, spanning 2012-2023. In future iterations I will expand the sample size.

A.III. Google Trends Data

I access Google Trends publicly accessible data that reflects the relative search volume of queries across various regions and time frames. The data is constructed by analyzing a sample of Google search data, normalizing it to make comparisons between terms more meaningful, and then categorizing these searches into different topics. This normalization process involves comparing the search volume of a given query relative to the total number of searches done on Google over a certain time period and region, ensuring that the data represents a true interest or popularity of a specific term rather than absolute search volume.

I retrieve the data from the Google Trends API and query the monthly aggregated "interest over time" metric from January 2014 to September 2023, across all designated market areas (DMA) across the United States and including Puerto Rico (PR). A designated market area, which is also referred to as a media market, is a region of the United States that is used to define television and radio markets. There are 210 DMAs covering the whole United States and are usually defined based on metropolitan areas, with suburbs often being combined within a metropolitan area. DMAs are determined by the Nielsen Company. I assign each census county within the appropriate DMA boundary.

The value for "interest over time" represents the relative volume of web searches for a specific term, normalized between 0 and 100 for the observed time range, within a given DMA boundary. Each search term in the data-set has been individually evaluated as an exact keyword rather than as a generalized topic across all search engine categories[41].

I obtain monthly "interest over time" by DMA for a number of keywords, and focus the study on the search interest for the term "finance application" or "finance app".

Please see Figure 6 for visual representation of how search interest for this term has varied over time and across the US. For the purposes of the map, the maximum search interest by county/year is obtained and plotted for a snap-shot of three years: 2015, 2019 and 2023.

I use google search activity of key words for two purposes:

Google search interest offers a broader and earlier indicator of fintech awareness than say actual usage data. It can signal early consumer interest, even in regions or among

[41] A keyword is a specific word whereas a topic is a group of keywords/search terms that share the same concept or entity

groups where fintech usage hasn't yet occurred. This allows for insights into potential future adoption, capturing growing awareness in areas before actual usage materializes.

Moreover, search interest reflects regional accessibility and digital readiness for fintech, including factors like internet access and comfort with digital products. Additionally, search interest is less influenced by factors like financial capacity or tech-savviness, as people may search for fintech products without actually using them, offering a more neutral view of fintech awareness.

In future versions of the analysis, I use more keywords by making use of the largest fintech companies by year as described above.

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A.IV. Additional figures

A.V. Additional tables

Table A.I. Bank Account Fee Identification from Transactions Data

Fee Type	Definition
ATM	Bank debit transactions where: • No merchant is specified • Transaction falls into categories: 'ATM/Cash Withdrawals', 'Expense Reimbursement', 'Refunds/Adjustments', or 'Service Charges/Fees' • Description contains both 'FEE' and 'ATM' (case insensitive)
Maintenance	Bank debit transactions where: • No merchant is specified • Transaction category is 'Service Charges/Fees' • Description contains 'FEE' AND either 'MAINTENANCE FEE' or 'ACCOUNT FEES' (case insensitive)
NSF	Bank debit transactions where description contains any of these combinations (case insensitive): • 'NSF', 'NS' and 'FEE', 'NON' and 'SUFFICIENT', 'RETURNED' and 'FEE', 'RETURNED' and 'CHECK','RETURNED' and 'ITEM', 'NON-SUFFICIENT', 'INSUFFICIENT'
Overdraft	Bank debit transactions where description contains any of these combinations (case insensitive): • 'OVERDRAFT' and 'FEE', 'OVERDRAFT' and 'CHARGE', 'OVERDRAFT' and 'INTEREST', 'OD FEE', 'OD ITM FEE', 'OD ITEM FEE'

Table A.II. Transaction categories

Transaction category	Home Improvement	Retirement Contributions
ATM/Cash Withdrawals	Insurance	Rewards
Automotive/Fuel	Interest Income	Salary/Regular Income
Cable/Satellite/Telecom	Investment/Retirement Income	Sales/Services Income
Charitable Giving	Loans	Savings
Check Payment	Mortgage	Securities Trades
Credit Card Payments	Office Expenses	Service Charges/Fees
Deposits	Other Expenses	Services/Supplies
Education	Other Income	Subscriptions/Renewals
Electronics/General Merchandise	Personal/Family	Taxes
Entertainment/Recreation	Pets/Pet Care	Transfers
Expense Reimbursement	Postage/Shipping	Travel
Gifts	Refunds/Adjustments	Utilities
Groceries	Rent	
Healthcare/Medical	Restaurants	