

U.S. Department of the Treasury Report to
the White House Competition Council

Assessing the Impact of New Entrant Non-bank Firms on Competition in Consumer Finance Markets

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Executive Summary

The Executive Order on promoting competition in the American economy, issued by President Biden on July 9, 2021 (the “Competition EO”), directed the Secretary of the Treasury to “submit a report to the Chair of the White House Competition Council . . . assessing the effects on competition of large technology firms’ and other non-bank companies’ entry into consumer finance markets.”¹ Pursuant to the Competition EO, this report, produced by the Department of the Treasury (“Treasury”), focuses on fintech and other new entrant non-bank firms² directly involved in the provision of digital financial products and services in core consumer finance markets—namely deposits, payments, and credit.³ This report focuses on the role of new entrant non-bank firms, how they interact with insured depository institutions (“IDIs”), and their impact on the markets that constitute the core functions of traditional banking.⁴

As the Competition EO notes, for consumers, a competitive marketplace means more choices, better service, and lower prices.⁵ By contrast, lack of competition can result in sustained market power, and diminished innovation, product quality, and access. In recent decades, concentration among federally insured banks⁶ has increased on a national basis, through a combination of mergers, organic growth, and limited entry by de novo banks. Amidst these trends, new entrant non-bank firms have emerged, adding significantly to the number of firms and of business models competing with IDIs in core consumer finance markets. While these new entrant non-bank firms appear to be contributing to competitive pressures, they are generally not subject to the same oversight for safety and soundness or consumer protection as IDIs, which raises various public policy considerations.

1 Promoting Competition in the American Economy, 86 Fed. Reg. 36999, Section 5(v)(ii) (Jul. 14, 2021).

2 As used in this report, “new entrant non-bank firms” refers to non-incumbent non-bank firms that offer consumer financial products and services. New entrant non-bank firms may be one of the following: “Big Tech firms,” which are large technology companies whose primary activity involves the provision of platform-based digital services; “fintech firms,” which are companies that specialize in offering digital financial services to consumers or enable other financial service providers to offer digital financial services used by consumers; and “retail firms,” which refers to new entrant non-bank firms that are not fintech or Big Tech firms.

3 As used in this report, “core consumer finance markets” means the markets for deposit accounts (and their substitutes), payment services, digital wallets, and various types of credit or lending (including mortgages, student loans, auto loans, credit cards, personal loans, and other alternative credit products). Note also that digital assets are outside the scope of this report and have been covered by other Treasury reports.

4 Ultimately, this report does not seek to provide a comprehensive analysis of the overall state of competition in core consumer finance markets, which would require analysis of competition among and between all incumbent and new entrant firms. Instead, this report provides observations on how new entrant non-bank firms might be impacting competition and the provision of products and services in core consumer finance markets.

5 Promoting Competition in the American Economy, 86 Fed. Reg. 36987, Section 1.

6 As used in this report, “federally insured banks” refers to depository institutions that are insured by the Federal Deposit Insurance Corporation (“FDIC”).

This report seeks to assess the impact these new entrant non-bank firms are having on competition in core consumer finance markets.

New entrant non-bank firms are contributing to the diversification of firms and business models competing in core consumer finance markets, while adding complexity.

Digital innovation and new business models have reduced barriers to entry, allowing new non-bank firms—and fintech firms in particular—to enter core consumer finance markets more quickly. Many of these firms have sought to enter a single market and compete by leveraging data and technology to offer digital financial products or services.⁷ By unbundling core consumer financial products into more limited offerings, new entrant non-bank firms have largely not been subject to the kind of comprehensive regulation and supervision to which IDIs are subject. Nonetheless, IDIs continue to be important to the underlying infrastructure that supports many of these new business models, which often involve new entrant non-bank firms inserting themselves between the IDI and the consumer. As a result, relationships with IDIs have led to an environment where IDIs and new entrant non-bank firms increasingly interact as both direct competitors and collaborators. In these ways, new entrant non-bank firms have added complexity to the financial system.

The evolving role of non-bank firms in core consumer finance markets complicate measurements of competition, but there are indications that new entrant firms are adding competitive pressures in those markets.

New entrant non-bank firms have augmented consumer finance markets, with their entry accelerating an evolution in consumer financial products and services and the ways in which they are delivered. These changing dynamics, as noted above, are contributing to a quickly changing marketplace, making assessments of competition in core consumer finance markets more difficult. In particular, a general lack of official data on the consumer finance activities conducted by non-bank firms is an obstacle to assessing core consumer finance markets and the roles of new entrant non-bank firms in those markets. This report surveys some of the data that is available to assess competition and the impact of new entrant non-bank firms. The report reviews traditional measures of competition in core consumer finance markets, including concentration and profit margins in banking, which provide limited insights. National concentration in banking has been steadily increasing in recent decades, but this trend predates new entrant non-bank firms and provides little indication of the impact of such firms on competition in banking. Over the same period, bank profit margins, as measured by net interest margins (“NIMs”), have remained stable or declined, but there are many factors that influence NIMs, and it is difficult to draw definitive conclusions about potential competitive pressure from new entrant non-bank firms from this measure alone.

⁷ As used in this report, “incumbent firms” refers to IDIs and non-bank firms that are not new entrant non-bank firms.

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Additional measures of competition, while limited, suggest that new entrant non-bank firms are increasing competitive pressure in some consumer finance markets. New entrant non-bank firms have a growing presence across core consumer finance markets and are increasingly managing the points through which consumers access financial products and services. This trend has been particularly acute in the markets for payments and consumer lending. The available data support the view that while entering core consumer finance markets via a bank charter remains limited, fintech firms have been entering the market in increasing numbers. Over 1,200 fintech firms, focused on consumer deposits, lending, and payments, formed in the decade following the 2007-08 global financial crisis.⁸ In the mortgage market, fintech and other non-bank originations rose from approximately 30% of the market in 2007 to 50% by 2015.⁹ Additionally, fintech funding has grown, with an average of 1,200 general fintech funding deals completed each year between 2015 and 2021.¹⁰ Over this period, the annual total funding for the industry increased from \$10.7 billion in 2015 to \$62.9 billion in 2021.¹¹ Fintech funding has faltered in 2022, largely in response to macroeconomic trends and conditions, though the investment capacity of U.S. fintech investors remains high.¹² There have also been increasing investments in technology by IDIs.¹³ Collectively, the relatively high levels of new entry by non-bank firms, investment in such firms, and investment in technology by IDIs suggest competitive pressure from new entrant non-bank firms.

Opportunities for new entrant non-bank firms to continue to improve the delivery of financial services may also present risks to consumers and the financial system. There is evidence that some fintech firms may be improving consumer financial services by providing (i) expanded access to credit through alternative approaches to underwriting,¹⁴ (ii) greater

8 DELOITTE, *Fintech by the numbers*, (2017), <https://www2.deloitte.com/tr/en/pages/financial-services/articles/fintech-by-the-numbers.html>.

9 Greg Buchak, Gregor Matvos, Tomasz Piskorski & Amit Seru, *Fintech, Regulatory Arbitrage, and the Rise of Shadow Banks*, JOURNAL OF FINANCIAL ECONOMICS (Dec. 2018), <https://www.sciencedirect.com/science/article/abs/pii/S0304405X1830237X>.

10 Each funding deal would not represent an individual firm as a firm may hold several funding rounds. See CB INSIGHTS, STATE OF FINTECH GLOBAL 2021 (2022).

11 *Id.*

12 See THE ECONOMIST, *Who will survive the fintech bloodbath?*, (Oct. 13, 2022), <https://www.economist.com/finance-and-economics/2022/10/13/who-will-survive-the-fintech-bloodbath>.

13 This spending is likely a response to increased consumer demand for digital financial services, which new entrant non-bank firms have tapped into, but any competitive pressure from new entrant non-bank firms would not likely be the sole motivation and may not even be the primary motivation for these investments. The magnitude of IDI spending on technology in recent years may also reflect historic underinvestment, and a loop of spending on technology requiring further spending to provide for up-to-date cybersecurity protections and other new security and maintenance costs.

14 For example, expanded access to credit is an improvement to the extent it is a result of an increased ability to accurately assess credit risk for a greater number of individuals. Additionally, there is some evidence that developments in underwriting are helping to reduce discrimination. However, that evidence is limited, and there are concerns about the potential of new technologies and applications in underwriting to perpetuate or enable new forms of discrimination. See Section 3 for further discussion of opportunities and risks.

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access to payments solutions through more user-friendly and accessible payments tools, and (iii) increased access to low-cost transaction accounts through digital banks, among other developments. Collectively, this research suggests fintech lenders may be reaching an expanded number of consumers, including consumers who have been unserved by IDIs. However, further evaluation would help assess the benefits to consumers from this expanded access, and what additional efforts are needed to protect consumers from harmful financial products and services.

Some new entrant non-bank firms may pose risks by engaging in harmful regulatory arbitrage, conducting activities in a manner that inappropriately sidesteps safety and soundness and consumer protection law requirements applicable to an IDI. Where new entrant non-bank firms are re-bundling core banking services outside the bank regulatory perimeter, there may be risks similar to those posed, for example, by the intermingling of commerce and banking. Some new entrant non-bank firms or their offerings may pose new or greater risks of reliability or fraud issues. New uses of data and artificial intelligence (“AI”) and machine learning (“ML”)¹⁵ also present data privacy risks and the potential for new forms of surveillance and discrimination. New entrant non-bank firms may be able to continue to help improve core consumer finance markets, but to do so sustainably, further steps must be taken to monitor and address risks to consumers, market integrity, and safety and soundness.

Emerging developments, particularly the entry of Big Tech firms¹⁶ into core consumer finance markets, could further impact competition and warrant review. Big Tech firms entering core consumer finance markets could increase competition for incumbent IDIs and other financial services providers and bring certain benefits to consumers by increasing convenience, using more advanced technology, or lowering prices. Conversely, Big Tech firms may be able to use data advantages, network effects, mergers and acquisitions, predatory pricing, and other tactics to gain or entrench market power to the detriment of competition. Such scenarios warrant consideration given the size and potential impact of these firms if they choose to broadly engage in core consumer finance markets.

When done responsibly, competition and innovation can deliver benefits to consumers. The recommendations in this report focus primarily on how the federal banking regulators¹⁷ and the Consumer Financial Protection Bureau (“CFPB”) can use existing authorities to further encourage policies that maintain a level regulatory playing field, promote competition

15 As used in this report, “artificial intelligence” refers to processes or tasks performed by computers that have traditionally required human intelligence. “Machine learning” refers to the subset of artificial intelligence in which computers are built to “learn” from experience and improve without being explicitly programmed.

16 As used in this report, “Big Tech firms” refers to large technology companies whose primary activity involves the provision of platform-based digital services.

17 As used in this report, “federal banking regulators” refers to the FDIC, the Board of Governors of the Federal Reserve System (“FRB”), and the Office of the Comptroller of the Currency (“OCC”).

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and responsible innovation, and protect consumers and market integrity. The report also highlights several ongoing engagements and efforts related to the issues covered.

The report offers the following recommendations for consideration by the applicable federal agency:

- First, to enable competition in responsible consumer credit underwriting, Treasury recommends that regulators take various steps to ensure that credit underwriting practices of all lenders are designed to increase credit visibility, reduce bias, and prudently expand credit to consumers.
- Second, to enable effective oversight of bank-fintech relationships, Treasury recommends that federal banking regulators implement a clear and consistently applied supervisory framework for an IDI's role in bank-fintech relationships to address competition, consumer protection, and safety and soundness concerns.
- Third, to encourage competition in responsible small-dollar lending, Treasury recommends that the agencies increase consistency in supervisory practices related to small-dollar lending programs.
- Fourth, to enable secure data sharing, Treasury recommends that federal banking regulators and CFPB take steps to help promote a more unified approach to oversight of consumer-authorized data sharing.

Treasury also supports and encourages federal agencies' ongoing efforts on issues related to those addressed by this report, including:

- The federal banking regulators' and the Department of Justice's ("DOJ") review of bank merger policies;
- The CFPB's inquiries into Big Tech payment platforms and Buy Now, Pay Later ("BNPL") providers; and
- The CFPB's rulemaking efforts to address consumer financial data access through implementation of Section 1033 of the Dodd-Frank Wall Street Reform and Consumer Protection Act ("Dodd-Frank Act"), among other efforts.

This report consists of five sections. The first section provides an overview of the current market landscape, including the firms, products and services, and regulatory environment applicable to core consumer finance markets. The second section discusses the changing consumer finance value chain, examines measures of competition, and makes observations on competition trends related to new entrant non-bank firms. The third section assesses opportunities and risks related to new entrant non-bank firms and whether and how such firms might contribute positively to competition and the evolution of consumer finance

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markets. The fourth section reviews the prospective impacts of further entry by Big Tech firms. Finally, the fifth section considers the role of public policy and makes recommendations for how regulators might seek to promote competition and innovation that benefits consumers.

1. Overview of Current Market Landscape

Over the past couple of decades, the provision of financial services has evolved from brick and mortar locations to include digital access for much of the populace with the rapid adoption and use of computers and mobile devices.¹⁸ This has changed customer expectations, as many now expect to access most financial products and services through digital platforms.¹⁹ As consumers increasingly use digital platforms, a trend further accelerated by the COVID-19 pandemic,²⁰ there has also been substantial growth in the number of non-bank firms entering the market. These new entrants, which often are technology-based non-bank firms, have begun to offer consumers access to many of the same financial products and services offered by IDIs.²¹

Many new entrants use newer technology with a digital interface and a greater product personalization, which could lead to a general increase in efficiency and service for their customers while also allowing these new entrants to serve some consumers that may be difficult to reach for some incumbent firms. The changes in consumer behavior and expectations present challenges to incumbents, whose business models were previously based on physical locations, personal relationships, and selling additional products and services to current customers.²² These digital innovations may have also reduced some cost barriers and increased the ease with which new competitors can come to market and their ability to offer competitive products and services to consumers. They may have also increased the ease with which consumers can use their preferred provider for specific products and services.²³

18 MARIANNE CROWE, BREFFNI MCGUIRE & ELISA TAVILLA, FINANCIAL INSTITUTIONS ACROSS THE U.S. PARTICIPATE IN THE MOBILE LANDSCAPE TRANSFORMATION (FEDERAL RESERVE BANK OF BOSTON, 2019), <https://www.bostonfed.org/-/media/Documents/PaymentStrategies/payment-strategies-report-122019.pdf>. However, physical bank branches remain an important resource for some consumers—according to the FRB’s 2019 Survey of Consumer Finances, even as use of online banking grew to nearly 80% of respondents, approximately 79% of families who had used online banking within the past 12 months had also visited the bank branch where they held their checking account. See Neil Bhutta, Jesse Bricker, Andrew C. Chang, Lisa J. Dettling, Sarena Goodman, Joanne W. Hsu, Kevin B. Moore, Sarah Reber, Alice Henriques Volz & Richard A. Windl, *Changes in U.S. Family Finances from 2016 to 2019: Evidence from the Survey of Consumer Finances* at 17, FRB (Federal Reserve Bulletin Vol. 106 No. 5, Sep. 2020), <https://www.federalreserve.gov/publications/files/scf20.pdf>.

19 JAN BELLENS, ISABELLE SANTENAC & TAPESTRY NETWORKS, HOW TECHNOLOGY IS DRIVING COMPETITIVE ADVANTAGE IN FINANCIAL SERVICES (ERNST & YOUNG GLOBAL LIMITED, 2021), https://www.ey.com/en_us/financial-services/how-technology-is-driving-competitive-advantage-in-fs.

20 FITCH RATINGS, *Coronavirus Accelerates US Bank Digital Banking, Branch Optimization*, (Mar. 31, 2021), <https://www.fitchratings.com/research/banks/coronavirus-accelerates-us-bank-digital-banking-branch-optimization-31-03-2021>.

21 ERIK FEYEN, JON FROST, LEONARDO GAMBACORTA, HARISH NATARAJAN & MATTHEW SAAL, FINTECH AND THE DIGITAL TRANSFORMATION OF FINANCIAL SERVICES: IMPLICATIONS FOR MARKET STRUCTURE AND PUBLIC POLICY (BANK FOR INTERNATIONAL SETTLEMENTS, Report No. 117, 2021), <https://www.bis.org/publ/bppdf/bispap117.pdf>.

22 XAVIER VIVES, DIGITAL DISRUPTION IN BANKING AND ITS IMPACT ON COMPETITION (ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT, 2020), <https://www.oecd.org/competition/digital-disruption-in-banking-and-its-impact-on-competition-2020.pdf>.

23 ERIK FEYEN ET AL., *supra* note 21.

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Many incumbents still rely on legacy technology and may not have the resources or in-house expertise to develop digital platforms that are competitive with the new entrants. Incumbents, particularly IDIs, are subject to regulatory and supervisory requirements that may not apply to some new entrants offering unbundled services.²⁴ New entrants do not provide a full suite of consumer financial products and services, but instead choose to operate in fewer segments of the market and thus avoid the type of comprehensive supervision and regulation applicable to IDIs. Furthermore, these unbundled services are often the incumbent firms' most profitable lines of business.²⁵ Additionally, new technology has enabled additional non-financial firms (such as retailers) to offer consumers financial products and services on their digital platforms, further increasing the options available to consumers and blurring the lines between commerce and banking.²⁶

This section of the report provides an overview of the firms, products and services in, and regulatory environment applicable to, core consumer finance markets.

1.1 Incumbent and New Entrant Firms

Both banks and non-bank entities have long operated within the U.S. market for consumer financial services. The bundle of products and services provided in core consumer finance markets have historically been provided by IDIs, alongside several other types of uninsured non-depository (non-bank) firms that largely focused on singular products and services,²⁷ such as mortgages, auto lending, short-term loans, installment loans, or money transmission. These firms – IDIs and incumbent non-bank firms – are referred to as “incumbent firms.”

New types of non-bank firms offering digital consumer financial products and services have been entering the market at a rapid pace, while using familiar strategies for operating outside of the bank regulatory framework.²⁸ Building on widespread consumer adoption of digital products and growing expectations for online delivery of financial services, additional non-bank firms--including, fintech and Big Tech firms, and retail firms--are operating digital platforms that offer financial services and products to consumers.

1.1.1 Insured Depository Institutions

IDIs have long been the principal providers of deposit products and payment services due to their eligibility for deposit insurance and their near exclusive access to the Federal Reserve

24 *Id.*

25 XAVIER VIVES, *supra* note 22.

26 Zac Townsend, *What the embedded-finance and banking-as-a-service trends mean for financial services*, MCKINSEY & COMPANY (Mar. 1, 2021), <https://www.mckinsey.com/industries/financial-services/our-insights/banking-matters/what-the-embedded-finance-and-banking-as-a-service-trends-mean-for-financial-services>.

27 Robert A. Lynn, *Installment Credit before 1870*, CAMBRIDGE UNIVERSITY PRESS (Business History Review, Vol. 31 Issue 4, 1957), <https://doi.org/10.2307/3111416>.

28 STATISTA, *FinTech*, <https://www.statista.com/outlook/dmo/fintech/united-states>.

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System's payment services for settling some consumer payments. IDIs also perform financial intermediation,²⁹ which means reallocating capital from savers and investors to borrowers, principally by taking in funds through deposits, pooling them and lending out those funds. The core business model for IDIs generally relies on two types of revenue: a net interest rate spread and fees for the provision of those products and services.³⁰

- (1) *Interest Income (Lending)* – This has historically been the primary revenue stream for IDIs. The IDI would take deposits from customers who do not need the funds immediately while promising them different levels of access, management, and security of the funds and paying them a set rate of interest. The IDI then lends those deposited funds to borrowers who need capital at a higher rate of interest. The IDI generates income from the difference in interest paid by the borrower to the IDI and the interest the IDI pays to the depositor, generally referred to as the net interest income.³¹
- (2) *Non-Interest Income (Fees)* – To supplement the revenue generated from lending, banks also charge various fees related to the services they offer. For example, with respect to consumer banking activities, IDIs may charge service fees such as account service charges, non-sufficient fund fees, ATM fees, interchange fees on credit and debit cards, wire transfer fees, and loan origination fees. IDIs may also choose to sell or securitize some of the loans they originate for a fee or collect payments from consumers on the loan on behalf of investors for a fee. IDIs also charge fees related to their wealth and investment management services.³²

While interest income continues to be the core revenue generator for most IDIs, over time non-interest income, especially for the largest IDIs, has become an increasingly larger source of revenue as lending margins compressed, as further discussed in Section 2.

Generally, most consumers begin their relationship with an IDI by opening a deposit account. Because consumers depend on deposit accounts to fully participate in the financial system and acquire additional financial products and services, IDIs tend to act as gatekeepers into

29 Donald L. Kohn, Vice Chair of the Federal Reserve, FRB, Restoring Financial Intermediation by Banks: The Role of Regulators, (Dec. 8, 2008), <https://www.federalreserve.gov/newsevents/speech/kohn20081208a.htm>.

30 FDIC, *Learning Bank – How Banks Work*, <https://www.fdic.gov/about/learn/learning/banks.html>.

31 Additionally, IDIs also take the deposited funds and invest them in other assets, usually government bonds or agency securities, that also pay interest. Katherine Di Lucido, Anna Kovner & Samantha Zeller, *Low Interest Rates and Bank Profits*, FEDERAL RESERVE BANK OF NEW YORK (Jun. 21, 2017), <https://libertystreeteconomics.newyorkfed.org/2017/06/low-interest-rates-and-bank-profits/>.

32 Some IDIs, primarily the largest, also earn fees for intermediating in the capital markets on behalf of businesses and investors, earning fees from services such as sales and trading, underwriting, and advisory. Joseph G. Haubrich & Tristan Young, *Trends in the Noninterest Income of Banks*, FEDERAL RESERVE BANK OF CLEVELAND (Sep. 2019), <https://www.clevelandfed.org/en/newsroom-and-events/publications/economic-commentary/2019-economic-commentaries/ec-201914-trends-in-the-noninterest-income-of-banks.aspx>.

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financial services for consumers.³³ IDIs market additional financial products and services, such as credit cards, loans, insurance, and wealth management, to their deposit account customers. Because of the general inconvenience of switching bank accounts and a preference for having a nearby branch due to the historical need to be physically present to access certain products and services, consumers rarely changed bank accounts, and deposit relationships were generally viewed as “sticky.”³⁴ Thus, consumers have historically received the bulk of their financial products and services from a local IDI with which they had a deposit relationship.

1.1.2 Incumbent Non-Bank Firms

There are various types of incumbent firms that provide financial products and services to consumers but are not IDIs. Consumers have used these firms for a variety of reasons, including lack of access to – or lack of affordability of – IDI offerings, or because IDIs did not provide certain products or services. Historically, these institutions focused on consumer credit or payments because deposits were almost universally provided by IDIs. These firms include, among others: short-term credit providers, such as pawn shops and title lenders; specialized installment lenders, such as captive finance companies; non-bank mortgage lenders; money transmitters; and card networks.³⁵

Most non-bank firms earn their revenue from fees for the services they provide. In contrast to IDIs, which provide many payment services free of charge to customers, money transmitters charge a fee for each type of service they provide. In particular, short term credit providers, mortgage lenders, and other installment lenders earn the bulk of their income from fees charged to originate their loans and fees earned from selling their loans to investors after origination. Non-bank credit providers also earn revenue by collecting interest from originated

33 ERIK FEYEN ET AL., *supra* note 21.

34 DONG BEOM CHOI & ULYSSES VELASQUEZ, HIDDEN COST OF BETTER BANK SERVICES: CAREFREE DEPOSITORS IN RISKIER BANKS? (FEDERAL RESERVE BANK OF NEW YORK, Staff Reports, No. 760, Jan. 2016) https://www.newyorkfed.org/medialibrary/media/research/staff_reports/sr760.pdf?la=en.

35 This report focuses on new entrant non-bank firms and their impact on competition. However, there are competition concerns among incumbent firms, including incumbent non-bank firms, that are important to acknowledge. There are some potential competition concerns with card network providers that are currently being investigated. For example, DOJ opened an investigation in 2021 into Visa’s practices in the debit card market, questioning whether the company has limited merchants’ ability to route debit card transactions over less expensive card networks. See AnnaMaria Andriotis & Brent Kendall, *Visa Faces Antitrust Investigation Over Debit-Card Practices*, THE WALL STREET JOURNAL (Mar. 19, 2021), <https://www.wsj.com/articles/justice-department-investigating-visa-over-debit-card-practices-11616164525>. It was subsequently reported that DOJ was examining financial incentives Visa offered several fintech firms in routing debit card transactions. See AnnaMaria Andriotis, Brent Kendall & Peter Rudegeair, *Justice Department Probes Visa’s Relationships With Fintech Firms*, THE WALL STREET JOURNAL (Oct. 27, 2021), https://www.wsj.com/articles/justice-department-probes-visas-relationships-with-fintech-firms-11635358833?st=y32csqd9o1sexp8&reflink=article_copyURL_share. Notably, the FRB issued a request for public comment on proposed changes to Regulation II (Debit Card Interchange Fees and Routing) to “clarify that debit card issuers should enable, and allow merchants to choose from, at least two unaffiliated networks for card-not-present debit card transactions, such as online purchases.” Debit Card Interchange Fees and Routing, 86 Fed. Reg. 26189 (May 13, 2021).

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loans held on their balance sheets; servicing loans they have securitized or sold; or collecting fees from missed payments, or delinquencies. Payment processors, card issuers, card networks and certain installment loan providers specifically rely on fees paid by merchants in order to process transactions.

There is also a history of retail firms participating in consumer finance, often by providing installment loans to their customers to purchase their products. By offering financial products and services directly, a retail firm can open a new revenue stream at attractive margins, incentivize greater customer spending, and deepen the relationship between the business and its customers. Some third-party financial products and services that are offered to a retailer firm's customers, such as firm-branded credit cards or point-of-sale credit, can also be used to incentivize greater spending on the firm's platform and build customer loyalty.³⁶

Yet these non-bank firms are generally only providing an online platform for consumers to access financial products and services which are provided through relationships with IDIs.³⁷

1.1.3 Fintech Firms

In this report, "fintech firms" refers to a broad set of firms, including both early-stage start-ups and more mature firms, deploying new technologies to provide digital consumer financial products and services. These developments in technology often can create new business models, applications, or products.³⁸ Examples of new offerings by fintech firms include online and mobile payment platforms, online marketplace and peer-to-peer lending, and consumer applications that facilitate the opening and management of debit accounts. Fintechs may also offer other digital-native applications that facilitate consumer financial services through, for example, consumer financial data aggregation or providing services to other financial service providers.

1.1.4 Big Tech Firms

This report refers to large companies with established technology platforms and extensive established customer networks as "Big Tech firms."³⁹ A number of firms operating in the

36 DAN JONES, ANOCH PARDIWALLA & SARA ZANICHELLI, THE RISE OF BANKING AS A SERVICE (OLIVER WYMAN, 2021), <https://www.oliverwyman.com/content/dam/oliver-wyman/v2/publications/2021/mar/the-rise-of-banking-as-a-service.pdf>.

37 Zac Townsend, *supra* note 26.

38 While it may be difficult to determine which technologies qualify as new or innovative, this report generally focuses on whether and how recent developments in digital information technology might be altering the provision of products or services in core consumer finance markets. For more detail, see DAVID W. PERKINS, FINTECH: OVERVIEW OF INNOVATIVE FINANCIAL TECHNOLOGY AND SELECTED POLICY ISSUES (CONGRESSIONAL RESEARCH SERVICE, 2020), <https://crsreports.congress.gov/product/pdf/R/R46332>.

39 THE FINANCIAL STABILITY BOARD, *BigTech in finance: market developments and potential financial stability implications*, (Dec. 2019), <https://www.fsb.org/wp-content/uploads/P121020-1.pdf>.

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United States fit this definition.⁴⁰ These firms generally have established positions in various markets including e-commerce, social networking/media, online search, consumer electronics, cloud computing, and software among others. Their business models generally depend on consumer data generated from users' engagement on their respective platforms, which allows Big Tech firms to offer more customized services or advertising, that in turn provides additional user data, which can then be used to further reinforce the advantages of their networks.⁴¹ Big Tech firms may have incentives to enter financial services because it provides them with access to additional customer financial data that would augment their existing customer data-driven business models, it increases “stickiness” of the platforms as consumers use these companies for a growing number of services, or the potential profitability of the new business if they are able to successfully enter and then replicate their market positions in their primary markets.⁴² See Section 4 for the discussion of Prospective Impacts on Competition: Big Tech in Consumer Finance.

1.2 Primary Consumer Products and Services

Individuals use consumer financial products and services as tools for managing resources and building wealth. In pursuit of these goals, consumers use the financial system to save, manage, borrow, spend, and invest their monetary resources.⁴³ The products and services offered to consumers generally fall into five categories: deposits, payments, credit, wealth management, and insurance. This report focuses on the core consumer finance markets—deposits, payments, and credit—which are foundational to consumers' financial lives, are the core functions of traditional banking,⁴⁴ and which have seen an increasing presence by new entrant non-bank firms.

1.2.1 Deposits

Deposits are the safekeeping of a customer's funds. IDIs take custody of a customer's money and allow the customer to manage and access their money based on a contractual agreement. This product serves as the entry point to financial services for most consumers.

40 See J. Clement, *Google, Amazon, Facebook, Apple, and Microsoft (GAFAM) – statistics & facts*, STATISTA (Feb. 4, 2021), https://www.statista.com/topics/4213/google-apple-facebook-amazon-and-microsoft-gafam/#topicHeader__wrapper.

41 Agustín Carstens, Stijn Claessens, Fernando Restoy & Hyun Song Shin, *Regulating big techs in finance*, BANK FOR INTERNATIONAL SETTLEMENTS (BIS Bulletin No. 45, Aug. 2, 2021), <https://www.bis.org/publ/bisbull45.pdf>.

42 OLIVER WYMAN & INTERNATIONAL BANKING FEDERATION, *BIG BANKS, BIGGER TECHS?* (2020), <https://www.oliverwyman.com/content/dam/oliver-wyman/v2/publications/2020/jul/Big%20Banks%20Bigger%20Techs%20Final%20Version.pdf>.

43 CHERYL R. COOPER, *AN OVERVIEW OF CONSUMER FINANCE AND POLICY ISSUES* (CONGRESSIONAL RESEARCH SERVICE, R45813, 2021), <https://sgp.fas.org/crs/misc/R45813.pdf>.

44 See *U.S. v. Philadelphia National Bank*, 374 U.S. 321, 326-27 (1963).

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Consumer deposit accounts are dominated by IDIs due to the existence of deposit insurance.⁴⁵

Technology has facilitated the growth of digital deposits, reducing the need for physical branch locations for deposit accumulation. Taking advantage of these new capabilities, some new entrant non-bank firms – namely, neobanks⁴⁶ – are offering digital-only deposit accounts through relationships with IDIs. New entrant non-bank firms are serving as the consumer-facing front-end for digital-only deposit accounts. These firms facilitate the opening and maintenance of consumer accounts – designed to provide FDIC insurance to the non-bank firm’s customers – held at third-party IDIs.⁴⁷ Additionally, some consumers hold balances in accounts on new entrant non-bank payments companies’ platforms in a similar manner to how consumers hold balances in a traditional deposit account.

1.2.2 Payments

Payments services allow consumers to pay for goods and services without physical currency. These services are often offered in conjunction with other consumer financial products such as deposit accounts and credit accounts. The most common methods of payments are cards (debit, prepaid, or credit), cash, and bank transfers.⁴⁸ Due to their near-exclusive access to the Federal Reserve’s payment services⁴⁹ and the ability to settle obligations in central bank funds, IDIs play a critical role in retail payments and most payments in the United States rely on interbank payment services as part of their settlement processes.⁵⁰

New entrant non-bank firms offer digital applications to make payments online and through mobile devices that have expanded accessibility for consumers. These payments firms generally provide a front-end digital user interface for consumers to make payments to other parties (other consumers or, increasingly, businesses) on the same platform; consumers can choose to either pre-fund their accounts via an interbank payment method (often the

45 The standard FDIC and National Credit Union Administration (“NCUA”) insurance amount is \$250,000 per depositor, per insured institution, for each account ownership category.

46 As used in this report, “neobank” means a technology company that provides banking services that are accessed exclusively online. Such companies may be digital-only IDIs without traditional physical branch networks or fintech firms that provide a digital consumer interface, such as a mobile app, through which they offer financial services in arrangements with IDIs.

47 CCG INSIGHTS, BANKING-AS-A SERVICE: NAVIGATING A NEW FRONTIER 5 (2021), <https://www.ccginsights.com/research/baas/>.

48 KEVIN FOSTER, CLAIRE GREENE & JOANNA STAVINS, THE 2019 SURVEY OF CONSUMER PAYMENT CHOICE: SUMMARY RESULTS (FEDERAL RESERVE BANK OF ATLANTA, No. 20-3, 2020), <https://doi.org/10.29338/rdr2020-03>.

49 These services include electronic transfer of funds, including the Automated Clearing House system and Fedwire Funds Service; FedCash Services; Check Services; National Settlement Services; and Fedwire Securities Service. See THE FEDERAL RESERVE, *Financial Services*, <https://www.frbervices.org/financial-services>.

50 FRB, *Money and Payments: The U.S. Dollar in the Age of Digital Transformation*, (Jan. 2022), <https://www.federalreserve.gov/publications/files/money-and-payments-20220120.pdf>.

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Automated Clearing House or ACH network) or to link their existing payment method (often a debit card, checking account, or a credit card) to the service.⁵¹

1.2.3 Credit

Credit is a contractual agreement pursuant to which a borrower receives funds and agrees to repay the lender later, usually with interest and sometimes fees. There are generally three forms of consumer credit. There is *non-revolving installment credit*, in which a lender extends credit to the borrower once and expects repayment over time, typically monthly, and usually in equal sized increments (e.g., mortgages, car loans, student loans, personal loans, etc.). There is also *revolving installment credit*, in which a lender extends credit at the consumer's discretion, usually when the consumer chooses, and in variable amounts. Revolving installment credit is repaid at the consumer's preference via variable monthly payments within contractual limits (e.g., credit cards). *Non-installment credit* is where a lender extends credit to the consumer in a variety of ways but expects borrower repayment in one lump sum (e.g., charge cards and service credit/membership fees).⁵² This report focuses on recent developments in non-revolving and revolving installment credit, as non-installment credit is a very small portion of the current consumer credit market.⁵³

Both incumbent and new entrant firms offer consumer credit. Directly, and through relationships with IDIs, fintech firms have entered specific consumer lending businesses, such as mortgage, personal loan, short-term or small dollar credit, and student loans.⁵⁴ New entrant non-bank firms are generally able to offer consumers a convenient and user-friendly experience and, in some cases, cost savings, due to a lack of legacy infrastructure and certain IDI regulatory compliance costs. However, through relationships with nonbanks IDIs are able to engage in lending they would otherwise find impractical or unprofitable.⁵⁵ These practices can also be accompanied by risks, as discussed more below.

51 Notably, when a peer-to-peer transaction within such a closed-loop payments network takes place, it effectively constitutes a book transfer on the network, while payments outside of the network are settled via interbank payment methods and the aggregate customer balances are ultimately held at regulated depositories.

52 THOMAS DURKIN, GREGORY ELLIE HAUSEN, MICHAEL E. STATEN & TODD J. ZYWICKI, INTRODUCTION AND OVERVIEW OF CONSUMER CREDIT: DEVELOPMENT, USES, KINDS, AND POLICY ISSUES (OXFORD UNIVERSITY PRESS, 2014), https://www.law.gmu.edu/assets/files/publications/working_papers/1457.pdf.

53 This report focuses on consumer finance markets but does not focus on student loans, which are largely government funded.

54 Stuart Plesser, Devi Aurora & Brendan Browne, *The Future of Banking: The Growth of Technology*, S&P GLOBAL RATINGS (Feb. 13, 2019), <https://www.spglobal.com/en/research-insights/articles/the-future-of-banking-the-growth-of-technology-and-its-impact-on-the-u-s-banking-sector>.

55 Neil E. Grayson, Dowse Bradwell Rustin IV & Randall L. Saunders, *Bank-Model Partnerships: The New Banking Model for 2020 and Beyond*, NELSON MULLINS (Aug. 11, 2021), https://www.nelsonmullins.com/idea_exchange/blogs/the_vault/fintech/bank-model-partnerships-the-new-banking-model-for-2020-and-beyond.

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1.3 Role of Regulation and Supervision

The consumer banking sector is one of the most regulated industries in the economy,⁵⁶ with rules and regulations that protect the integrity and stability of the financial system. IDIs obtain charters from state or federal regulators, and are subject to prudential regulatory requirements and ongoing supervision that impact the scope, cost, and manner of activities conducted by these financial institutions.⁵⁷

IDIs have traditionally played a special role in supporting economic activity, particularly because of their combined services of taking deposits, making loans, and facilitating payments.⁵⁸ This special role has entitled IDIs to both *privileges*, such as access to the public safety net through access to the Federal Reserve System’s discount window, access to Federal Reserve System payment services, and FDIC deposit insurance;⁵⁹ and *obligations* including stringent oversight and examination and prudential requirements with its attendant costs. These measures are designed to protect consumers and ensure fair access to financial services, maintain the solvency of individual banking institutions, and reduce the probability or severity of a financial crisis. Where financial regulations are particularly complex, however, compliance may involve specialized expertise that may be difficult and costly for smaller firms to procure, potentially inhibiting new entrants.⁶⁰ From a policy perspective, there can be a trade-off between regulation and competition, with chartering and regulation potentially limiting some new entry.⁶¹

Due to the way non-bank firms have entered the market for consumer financial services, old questions have resurfaced regarding which financial activities, on their own or in combination with other activities, warrant the privileges and obligations of an IDI charter. Many non-bank firms are entering core consumer finance markets by offering unbundled bank-like services, specializing in a single product or service or targeting a specific customer segment. These

56 See, e.g., DAVID W. PERKINS, BANK SUPERVISION BY FEDERAL REGULATORS: OVERVIEW AND POLICY ISSUES (CONGRESSIONAL RESEARCH SERVICE, 2020), <https://crsreports.congress.gov/product/pdf/R/R46648/2>.

57 *Id.*, at 8.

58 See *U.S. v. Philadelphia National Bank*, 374 U.S. at 326-27.

59 The existence of these official backstops is a significant factor strengthening investor and consumer trust in IDIs. See Nicola Cetorelli, Benjamin H. Mandel & Lindsay Mollineaux, *The Evolution of Banks and Financial Intermediation: Framing the Analysis* at 4, FEDERAL RESERVE BANK OF NEW YORK (Economic Policy Review, Vol. 18, No. 2, Jul. 2012), <https://www.newyorkfed.org/medialibrary/media/research/epr/2012/EPRvol18n2.pdf>.

60 See Matt Hanauer, Brent Lystle, Chris Summers & Stephanie Ziadeh, *Community Banks’ Ongoing Role in the U.S. Economy* at 46, FEDERAL RESERVE BANK OF KANSAS CITY (Economic Review 106 No. 2, Jun. 24, 2021), <https://www.kansascityfed.org/Economic%20Review/documents/8159/EconomicReviewV106N2HanauerLytleSummersZiadeh.pdf>. Consumer protections that create simple and bright-line prohibitions can provide strong consumer protections while reducing complexity and compliance costs. See Rohit Chopra, *Rethinking the approach to regulations*, CFPB (Jun. 17, 2022), <https://www.consumerfinance.gov/about-us/blog/rethinking-the-approach-to-regulations/>.

61 See ELENA CARLETTI, STIJN CLAESSENS, ANTONIO FATÁS & XAVIER VIVES, THE BANK BUSINESS MODEL IN THE POST-COVID-19 WORLD 84 (CENTER FOR ECONOMIC POLICY RESEARCH, 2020), https://voxeu.org/system/files/epublication/The_Future_of_Banking_2.pdf.

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firms are not necessarily subject to prudential requirements, including capital and liquidity requirements, affiliate and business restrictions, and ongoing examination and supervision. This has led to increased discussion among industry and policymakers regarding the utility of special purpose banking charters and other arrangements that might extend some of the privileges and obligations of a banking charter.

Most fintech firms entering core consumer finance markets have shown little interest in becoming an IDI, perhaps in part because of the significant regulatory requirements and associated costs.⁶² Federal banking regulators have taken some steps to clarify the requirements for non-banks to avail themselves of certain IDI privileges,⁶³ but as demonstrated by these actions, regulators are legally bound to apply certain core elements of effective oversight, such as robust prudential regulation and supervision. Where firms have determined that the regulatory and supervisory burdens of these special arrangements outweigh the benefits, IDIs and fintech firms may enter into relationships, referred to as “bank-fintech relationships.”⁶⁴ For a non-bank firm that wants to engage in certain core consumer finance markets, collaborating with an IDI can be an alternative to acquiring a banking or special purpose charter. As discussed further below, proper oversight of these bank-fintech relationships is needed in order to help facilitate a more competitive and dynamic consumer financial services landscape.

1.3.1 Insured Depository Institutions

As noted above, banking is unique in the role of a government charter as an entry restriction.⁶⁵ At the federal level, IDIs are subject to prudential and consumer compliance regulation and supervision.⁶⁶ One federal banking regulator conducts prudential (also called “safety and soundness”) regulation and supervision of each IDI,⁶⁷ which the regulators conduct with numerous goals, including reducing the probability and severity of bank failures and maintaining market functioning. To evaluate an IDI’s safety and soundness as well as its

62 Michelle Clark Neely, *The Fintech Revolution in Banking*, FEDERAL RESERVE BANK OF ST. LOUIS (Dec. 27, 2021), <https://www.stlouisfed.org/publications/regional-economist/fourth-quarter-2021/fintech-revolution-banking>. Notable exceptions include SoFi, Varo Bank, and Lending Club, each of which have all obtained banking charters by application or acquisition.

63 See, e.g., Proposed Guidelines for Evaluating Account and Services Requests, 86 Fed. Reg. 25865 (May 11, 2021).

64 See, FRB, COMMUNITY BANK ACCESS TO INNOVATION THROUGH PARTNERSHIPS (2021), <https://www.federalreserve.gov/publications/files/community-bank-access-to-innovation-through-partnerships-202109.pdf>.

65 See, e.g., *U.S. v. Philadelphia National Bank*, 374 U. S. at 328; “Entry, branching, and acquisitions are covered by a network of state and federal statutes.”

66 DAVID W. PERKINS, *supra* note 56, at 2.

67 The federal prudential regulator of an IDI depends on a number of factors, including whether the IDI is a federal credit union, has a national or state banking charter, or is a member of the Federal Reserve System.

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compliance with applicable laws, the activities, condition, and performance of IDIs are continually monitored by banking regulators.⁶⁸

Consumer compliance regulation and supervision is designed to ensure that banks comply with all applicable consumer protection statutes, including fair lending laws. Both federal and state regulators generally have enforcement authorities to prevent providers of services in core consumer finance markets from engaging in unfair or deceptive acts or practices.⁶⁹ The federal banking regulators have authority to enforce Section 5 of the Federal Trade Commission Act (FTC Act) for the institutions they supervise.⁷⁰ Separately, the CFPB has authority to implement many federal statutes affecting consumers,⁷¹ including rulemaking authority, and, with respect to entities within its jurisdiction, enforcement authority to prevent “unfair, deceptive, or abusive acts or practices” in connection with any transaction with a consumer for a consumer financial product or service.⁷² By promoting safety and soundness and fairness to consumers, effective IDI supervision can create greater trust in the financial system, leading to greater levels of financial intermediation, which fosters greater economic growth.⁷³

1.3.2 Non-bank Firms

The ability to simultaneously engage in the core banking activities of taking deposits and making loans, plus access to payments rails, has historically been limited to IDIs.⁷⁴ Non-bank firms generally are not subject to federal prudential regulation. However, non-bank providers of products and services in core consumer finance markets are subject to a variety of federal consumer protection laws.⁷⁵ The CFPB may issue and enforce rules that affect non-bank

68 DAVID W. PERKINS, *supra* note 56, at 4-5, 10. IDIs must ensure compliance with a number of rules and regulations, including prudential regulation, consumer protection laws, and Bank Secrecy Act and anti-money laundering regulations, among others. Additionally, IDIs are encouraged to meet the needs of the communities in which they operate under the Community Reinvestment Act.

69 See generally CAROLYN L. CARTER, CONSUMER PROTECTION IN THE STATES 5 (NATIONAL CONSUMER LAW CENTER, 2009), https://filearchive.nclc.org/car_sales/UDAP_Report_Feb09.pdf.

70 15 U.S.C. § 41-58

71 The Dodd-Frank Act transferred consumer financial protection oversight and other authorities over certain consumer financial protection laws from multiple federal regulators to CFPB. Such laws include the Equal Credit Opportunity Act, the Truth in Lending Act, the Fair Debt Collection Practices Act, and most provisions of the Fair Credit Reporting Act. See 12 U.S.C. § 5481(12). Additionally, the Dodd-Frank Act defines federal consumer financial laws to include the Consumer Financial Protection Act of 2010 (Title X of the Dodd-Frank Act) and other laws and implementing regulations. See 12 U.S.C. § 5481(14).

72 See Section 1031 of the Dodd-Frank Act. The principles of “unfair” and “deceptive” practices in the Dodd-Frank Act are similar to those under Section 5 of the FTC Act.

73 *Id.*

74 NICHOLAS K. TABOR, KATHERINE E. DI LUCIDO & JEFFREY Y. ZHANG, A BRIEF HISTORY OF THE U.S. REGULATORY PERIMETER (FRB, Finance and Economics Discussion Series, 2021), <https://www.federalreserve.gov/econres/feds/files/2021051pap.pdf>. See also Michael Hsu, Acting Comptroller, OCC, Leveling Up Banking and Finance (Nov. 3, 2021), <https://www.occ.gov/news-issuances/speeches/2021/pub-speech-2021-115.pdf>.

75 Examples include the Equal Credit Opportunity Act, the Truth in Lending Act, Fair Credit Reporting Act, and Fair Housing Act.

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firms, but the CFPB’s supervisory authority over these non-bank firms varies based on the non-bank’s activities and size.⁷⁶

Non-bank firms are often subject to individual state licensing and supervisory regimes that require the firms to obtain a license in each state they operate in for the services they provide (e.g., consumer lending, money transmission). Due to differences in state law, this often leads to a different set of rules applicable to the same firm in each state where it does business.

Thus, some non-bank firms may be subject to some supervision and regulation, depending on the products and services they provide. However, by offering unbundled products and services—which can be done without obtaining a banking charter—activities of these non-bank firms can largely be conducted outside the perimeter of federal prudential regulation and oversight. As new entrant non-bank firms have matured in the core consumer finance markets, some have started to offer access to additional products, effectively re-assembling the core components of banking through their digital platforms while mostly remaining outside the bank regulatory perimeter.⁷⁷ A small number of non-bank firms have sought banking licenses, though many more have not. This approach of remaining outside of the bank regulatory perimeter may provide an advantage to those firms, to the extent they are subject to less regulatory scrutiny and compliance costs.

76 See 12 U.S.C. § 5514. The CFPB has the authority to supervise mortgage companies, payday lenders, and private education lenders. The CFPB may also supervise non-bank financial institutions it determines are “larger participants” in consumer financial markets. Additionally, the CFPB may supervise a non-bank for which it “has reasonable cause to determine that the non-bank’s financial products or services pose risks to consumers.” See *also* CONGRESSIONAL RESEARCH SERVICE, INTRODUCTION TO FINANCIAL SERVICES: THE CONSUMER FINANCIAL PROTECTION BUREAU (CFPB) (2022), <https://crsreports.congress.gov/product/pdf/IF/IF10031>.

77 As used in this report, “bank regulatory perimeter” refers to the boundary of rights and privileges – and conditions on those rights and privileges, including limits on conduct and subjection to oversight and enforcement – applicable to IDIs. See Nicholas K. Tabor, Katherine E. Di Lucido & Jeffery Y. Zhang, *supra* note 74..

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New entrant non-bank firms have augmented consumer finance markets, with their entry accelerating an evolution in consumer financial products and services and the ways in which they are delivered. While some new entrant non-bank firms' offerings do compete directly with IDIs, many such firms are not direct competitors but offer products and services in ways that are substantially different from or complementary to IDI offerings. IDIs and new entrant non-bank firms will often form relationships to expand reach, improve offerings, and enhance delivery of products and services. The same IDI and new entrant non-bank firm can be both a competitor and collaborator in different scenarios. This dynamic is contributing to a complex and quickly evolving marketplace, making measuring competition and assessing the impact of new-entrant non-bank firms on competition in consumer finance markets difficult. Additionally, the rate of change in these markets is accelerating as consumer adoption of digital services grows exponentially.⁷⁸ Because this growth is so rapid, observations and data on new entrants can change quickly. This creates challenges for market monitoring and drives further need for continued scrutiny and vigilance.

Non-bank firms are generally not subject to the types of standardized reporting requirements applicable to IDIs.⁷⁹ The lack of data on non-bank firms' activity further inhibits the ability to provide a comprehensive view or quantitative assessment of the state of competition in consumer finance markets and the impact of new entrant non-bank firms.

In light of these limitations, this report examines measures of competition for firms for which data is available (IDIs) and provides observations on trends related to non-bank entrants and the evolution of competition across these markets. Given the focus of this report on core consumer finance markets, it is appropriate to review traditional measures of competition among IDIs, the traditional providers of these core banking services, for which data is available. Insights drawn are limited but may provide some view into competitive dynamics in these markets.

This section examines measures of industry concentration, profits, firm entry/exit, levels of investment, and firm market values for indicators on the state of competition in the core consumer finance markets that IDIs serve. This section also provides a summary of other key trends and developments impacting competition in these markets.

78 PLAID, 2021 FINTECH REPORT: THE FINTECH EFFECT 2021 3 (2021), <https://assets.ctfassets.net/ss5kfr270og3/5iblvGqu-jqTLronm8XgBX/19a1d7482945ddc2789a1d195dd91332/Fintech-Effect-2021.pdf?q=70>. See also NIMAYI DIXIT, US MOBILE BANKING MARKET REPORT 4 (S&P GLOBAL MARKET INTELLIGENCE, 2021).

79 A notable exception to this is in the case of home mortgages, in which reporting requirements under the Home Mortgage Disclosure Act apply to all lenders. See 12 U.S.C. Chapter 29 and Regulation C, 12 C.F.R. Part 1003.

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2.1 The Changing Consumer Finance Value Chain

The traditional consumer banking business model is typically structured by offering a bundle of products and services to consumers – deposits, payments, and lending – within one firm. As illustrated in Figure 1, under this approach IDIs operate as vertically and horizontally integrated financial intermediaries. In plain terms, this has meant that IDIs have traditionally been the one-stop shop for core consumer financial services and have owned and internally managed the production process for delivering those products and services to consumers. This production process is referred to as the “value chain” and includes the customer relationship and all necessary infrastructure to facilitate the provision of these products and services to consumers. As shown below, an integrated value chain has traditionally included a set of front-end customer-facing delivery platforms, middle- and back-office processes, and balance sheet, funding, and regulatory functions that are all managed within the IDI (vertical) and used across the IDI’s various consumer products (horizontal).

Figure 1: Traditional Model – Integrated Value Chain and Bundled Products

P r o d u c t i o n P r o c e s s	Balance Sheet Funding and Regulatory Compliance	Balance Sheet (Deposits) Charters / Licenses	
	Middle and Back Office Infrastructure	Accounting / Record Keeping Core Processing Credit Decisioning Fraud IT Services Loss Mitigation Product & Risk Management	
	Front-End Product Delivery	Brand Management Customer Engagement (online and offline)	
Products			
	Deposits	Payments	Credit

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Several factors have contributed to an ongoing evolution of the consumer finance value chain, including: the proliferation of new entrant non-bank firms providing unbundled financial products and services, often through relationships with IDIs; the widespread availability of new financial service-related digital technologies, infrastructure services, and consumer data;⁸⁰ and the increase in consumer demand for- and adoption of- digital financial services.⁸¹

While there are observable trends of disaggregation and re-aggregation, it is not clear exactly how the respective roles of IDIs and new entrant non-bank firms may ultimately evolve.

Currently, some fintech firms are showing themselves adept at offering consumer-centric applications, expanding access, and gaining market share. In doing so, these firms may create competition for incumbent IDIs. To some degree, IDIs have responded to competition from fintech firms by building similar capabilities themselves or buying and integrating the solutions needed. At the same time, IDIs' ability to provide the regulatory, funding, and risk management infrastructure required for certain activities, like access to payments rails or offering a national loan product, often makes them desirable collaborators for new entrant non-bank firms. Additionally, collaborating with new entrant non-bank firms can be an effective strategy for IDIs to harness and benefit from such firms' technology-based capabilities as an alternative to building or buying their own.⁸² All of this has led to complex interactions and relationships between IDIs and new entrant non-bank firms – as collaborators, customers, competitors – at different points in the production process for delivering a financial product to consumers. Overall, the entry of new non-bank firms and their diverse relationships with IDIs has added complexity to the financial system.⁸³

2.1.1 Disaggregation of Value Chain

The *disaggregation* of the value chain occurs when new entrants unbundle the core banking services offered by IDIs by focusing on a single product or service (horizontal); and inserting themselves, often between the IDI and its customer, in the production process used to deliver those products and services to consumers (vertical).

80 See the Section 1 Market Landscape discussion of some common business model features of new entrants, including the efficient and widespread use and access of data, product/service differentiation, and network economies.

81 S&P Global Market Intelligence reported that 52% of respondents to its annual survey on consumer mobile banking indicated they were visiting bank branches less frequently than before the COVID-19 pandemic. Among those respondents making less frequent branch visits, more than 65% reported using their mobile apps more frequently during the same time period. Additionally, 88% of respondents who indicated they were using their mobile apps more frequently reported they anticipated continuing or increasing mobile app use even once the pandemic officially ends. See NIMAYI DIXIT, *supra* note 78, at 4.

82 CORNERSTONE ADVISORS, WHAT'S GOING ON IN BANKING 2021: REBOUNDING FROM THE PANDEMIC (2021), <https://www.cornstone.com/banking-2021#:~:text=Cornerstone%20Advisors%20recently%20surveyed%20300,a%20major%20concern%20for%202020>.

83 See Michael J. Hsu, Acting Comptroller of the Currency, OCC, Remarks at the TCH + BPI Annual Conference (Sep. 7, 2022), <https://www.occ.gov/news-issuances/speeches/2022/pub-speech-2022-106.pdf>.

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As noted above, there are several layers of the consumer finance value chain, including the front-end customer relationship, middle- and back-office functions, and regulatory compliance and funding layers. Traditionally, IDIs have integrated these layers; this section explores these layers and the ongoing trend of new entrant non-bank firms contributing to some disaggregation of these layers. Relationships with IDIs have helped enable disaggregation and have become increasingly prevalent and important as this market evolves.

- *Front-end Customer Relationship:* The front-end of the value chain includes the methods for product delivery and customer engagement, whether online or offline, and the promotion or maintenance of the customer brand loyalty or who the customer perceives as the firm delivering the product.

The economic barriers to engaging customers have declined with the lowered cost and widespread availability of delivering products through online channels and the emergence of several new middle- and back-office layers (e.g., cloud, consumer financial data aggregation, and credit assessment). This has allowed for significant new entrant competition at the front end of the value chain by helping to reduce some barriers to market entry.

Traditional incumbents may have engaged with customers through physical branch networks, online channels they managed and/or operated, and, in select arrangements, through different affiliated relationships that relied upon others' physical store fronts. New entrants, however, can now readily reach consumers without acquiring, building, or partnering to get access to expensive physical infrastructure. As a result, new competitors, often *initially* competing or specializing along one product dimension or customer segment, proliferated and have quickly built their customer base, often in a fraction of the time that incumbents have taken to gain such scale.⁸⁴ This has contributed to the horizontal unbundling of products and services. Subsequently, there has been a trend toward re-aggregation, further explored in the following section.

- *Middle and Back-office:* These layers of the value chain encompass a broad range of product delivery infrastructure activities including product and risk management, credit decisions, loss mitigation, fraud prevention and management, management of core processing systems, technology operations, and record keeping.⁸⁵

84 For example, in 8 to 11 years, the active user bases for some mobile payment applications (CashApp at 74 million and PayPal at 82 million) have surpassed the number of deposit account holders at one of the largest U.S. banks, which was built over more than 30 years. See ARK INVESTMENT MANAGEMENT LLC, BIG IDEAS 2022 32 (2022), <https://ark-invest.com/big-ideas-2022/>.

85 ERIK FEYEN ET AL., *supra* note 21, at 23.

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New technology and greater data availability are lowering costs and enabling expanded digital capabilities while also reducing or eliminating the need for many of the traditional middle and back-office infrastructure used by incumbent providers, such as paper records, manual interventions, data centers, and reconciliations. These new capabilities have emerged because of the development of several new or modernized layers of the value chain, each of which has been brought about by various new entrants that act as service providers to both IDIs and new entrant non-bank competitors. Providing these functions as a service can create cost savings and make advanced technologies and solutions more accessible for all firms. This increased accessibility can increase competition, allowing firms of all sizes to access tools needed to effectively compete. Areas in which these changes are occurring include consumer financial data aggregation and distribution, cloud infrastructure, credit assessment tools, and other banking and software tools.

- *Regulatory Compliance and Funding:* This layer of the value chain encompasses the financial system infrastructure services that have been core components of the IDI business model, i.e., regulatory compliance, funding and related risk management.

Incumbent IDIs have maintained their role in providing the regulatory compliance and funding layers because of their unique access to IDI charters. New entrants offering banking will generally include an IDI somewhere in their value chain because only regulated IDIs enjoy certain charter benefits (e.g., deposit insurance, access to interbank payment settlement systems, access to the national market). As such, new entrants generally do not compete at this layer of the value chain unless they pursue a charter themselves. Additionally, despite the current availability of venture capital funding for fintech companies, deposits are generally considered to be a very valuable low-cost source of funding. Therefore, many new entrants also find it necessary or valuable to leverage IDI balance sheets for funding their credit products. As a result of their access to deposits, IDI balance sheets still fund a significant share of lending even as they face more significant competition in other areas, like payments.⁸⁶ At the same time, for certain consumer credit activities, such as personal loans, non-bank entrants routinely rely on accessing secondary market funding through mechanisms such as securitization or loan sales.

86 Kathryn Petralia, Thomas Philippon, Tara Rice & Nicolas Véron, *Banking, FinTech, Big Tech: Emerging challenges for financial policymakers*, VOX EU CENTER FOR ECONOMIC POLICY RESEARCH (Sep. 24, 2019), <https://voxeu.org/article/banking-fintech-big-tech-emerging-challenges-financial-policymakers>.

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Amidst these changes, IDI and non-bank relationship models have become an increasingly prevalent operating model for non-banks participating in financial services.⁸⁷ In large part, the growing popularity of this model is due to the critical role regulated IDIs play in the regulatory compliance layer of the value chain and because of the overall attractiveness of using the deposit funding available from IDI balance sheets. The ability to enter relationships with IDIs to offer consumer financial products and services is a factor enabling much of the ongoing transformation and increasing the vertical disaggregation of the value chain. While digitally active fintech lenders do have alternative models for operation (e.g., state-based licensing), the more common model appears to be that of bank-fintech relationships or affiliation.⁸⁸

Analysts, however, expect that IDIs of all sizes will build similar capabilities while seeking to avoid becoming only the regulatory compliance and funding layer of the value chain by becoming preferred partners through leveraging their balance sheet, global reach, and risk management capabilities.⁸⁹ Embracing such relationship models, however, could result in IDIs transitioning their customers from their platforms to those of other non-bank corporations that have embedded financial services into their platforms.

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- 87 See, e.g., the scope of fintech relationships with banks. See FINTECHTRIS, *SECTOR SPOTLIGHT: The Rise of FinTech Partner Banks*, (Jun. 25, 2020), <https://www.fintechtris.com/blog/the-rise-of-fintech-partner-banks>. See also Rex Salisbury & Anish Acharya, *Partner Bank Boom*, FUTURE (Jun. 11, 2020), <https://future.a16z.com/partner-bank-boom/>.
- 88 See NIMAYI DIXIT, US DIGITAL LENDING MARKET REPORT (S&P GLOBAL MARKET INTELLIGENCE, 2022). Of the 17 digital lenders included by S&P Global Market Intelligence in its market report, at least 13 operate as or in partnership with a bank.
- 89 See, e.g. Goldman Sach's announced its acquisition of a point-of-sale home improvement lender, GreenSky, as part of its consumer banking strategy in which it would provide a product platform that could be embedded into the offerings of other companies. See GOLDMAN SACHS, *Acquisition of GreenSky Accelerates Strategy to Drive Higher, More Durable Returns*, (2021), <https://www.goldmansachs.com/media-relations/press-releases/2021/multimedia/greensky/slide-1-full.jpg>. Additionally, Goldman Sach's January 2020 Investor Day presentation noted its efforts to build a "Banking as a Service" offering as part of its transactions unit. See DAVID SOLOMON, OUR STRATEGIC DIRECTION 23 (GOLDMAN SACHS, 2020), <https://www.goldmansachs.com/investor-relations/investor-day-2020/presentations/strategic-road-map-and-goals.pdf>. BBVA has also introduced a banking-as-a service (BaaS) service in the United States known as the BBVA Open Platform, "... which offers card, payments, deposit and verification APIs to third parties through a developer portal." See BBVA, *BBVA launches first BaaS platform in the U.S.*, (Aug. 20, 2019), <https://www.bbva.com/en/bbva-launches-first-baas-platform-in-the-u-s/>.

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Banking as a Service

A bank-non-bank relationship model may take the form of a front-end relationship model, where the non-bank firm utilizes the incumbent's infrastructure in the delivery of banking products and services, with the non-bank firm interacting directly with the end-user. A special form of the front-end relationship model is often referred to as Banking as a Service ("BaaS"). BaaS can be defined as the provision of banking products (payments, lending, or deposit accounts) as a service through an existing regulated institution's infrastructure enabled by APIs, thus providing "embedded financial services" to customers on an a la carte basis. BaaS has emerged from the broader Software as a Service ("SaaS") trend.⁹⁰ The non-bank firms manage the customer experience and user interface often on an already existing product platform and integrate the finance element (merchant financing, payments, etc.) as part of the overall customer experience. Financial services provided through the BaaS relationships tend to be more modular and customized based on customers' needs and complementary designs required by the non-bank firm. For non-bank firms, embedding financial services within their platforms may create additional value for consumers and enhances the customer experience, while regulated IDIs have a chance to grow their deposit base, diversify their loan offerings, and earn additional revenues.⁹¹

Not all BaaS relationships are one-to-one, where one IDI is the singular banking institution providing services to one non-bank firm. Several smaller IDIs have developed technology that allows them to serve as the IDI infrastructure for many different non-bank firms, which allows the IDIs to offer banking products and services through platforms operated by those non-bank firms. Similarly, many non-bank firms have service contracts with more than one IDI to provide banking products and services through its platform. There are customer-oriented and operational technology relationships within the BaaS ecosystem as well. Some IDI legacy technology does not allow seamless integration with non-bank firms' digital platforms. Several fintech firms have emerged that serve as intermediaries between IDIs and their non-bank service providers, thereby providing the non-banks a platform to connect with the IDI.

90 Luc Teboul, *Why We've Moved Into Banking as a Service*, GOLDMAN SACHS, <https://www.goldmansachs.com/what-we-do/transaction-banking/news/why-weve-moved-into-banking-as-a-service.html>.

91 Zac Townsend, *supra* note 26.

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2.1.2 *Re-Aggregation of Layers and Re-bundling of Products and Services*

Re-aggregation of the value chain occurs when new entrants re-bundle multiple product offerings on a single platform in response to economic incentives (horizontal); and, in some limited instances, seeking to own and manage more layers of the production process (vertical). Despite significant shifts toward disaggregation of the value chain, economies of scale and scope continue to encourage firms to re-aggregate parts of the value chain through product and process integration. Therefore, many new entrants have begun re-bundling multi-product offerings on a single platform, with some also seeking to own more layers of the production process by obtaining IDI or IDI-like charters. Taking these steps can result in the new entrant non-bank becoming a more direct competitor to incumbent IDIs.

After new entrants enter the market and focus on a specific set of products or services or a niche set of customers, they may then build a more integrated set of products and services to gain some of the advantages listed above. Various market strategists see a growing competition to consolidate the front-end customer experience layer as financial firms compete to become “super-wallets” or similar business models that would not only re-bundle multi-product offerings on their own non-bank financial platforms but also provide access to similar offerings through various e-commerce platforms.⁹²

Beyond product and service re-bundling, some of the middle-layers of the value chain appear to be subject to consolidation pressures even as these new middle-layers have helped to reduce certain economies of scale barriers for new entrants and incumbents. For firms providing various middle and back-office infrastructure, added scale and scope can improve the competitiveness of their pricing (i.e., amortizing fixed costs over a larger customer base) and the value of the service. For example, for cloud computing and other software platforms, there appear to be benefits to economies of scale.⁹³ For machine learning and data analytic based services, an increase in the number of users and data processed could not only increase the economies of scale, to the extent economies of scale exist for data, but may also increase the value and accuracy of the service since the effectiveness of machine learning algorithms would be expected to improve with added data.

Beyond re-bundling products and services through multi-product integration, a few fintech firms have pursued further process integration by obtaining IDI or IDI-like charters with the intention to own more of the value chain; and reduce operational reliance and costs associated with an IDI relationship. IDI charters provide a range of benefits, including access to low-cost deposit funding, which provides some evidence of the enduring attractiveness of

92 See, e.g. FT PARTNERS, *THE RACE TO THE SUPER APP* (2022). See also Simon Torrance, *Embedded Finance: 10 key messages*, EMBEDDED FINANCE & SUPER APP STRATEGIES (Aug. 25, 2021), <https://www.embedded-finance.io/blog/embedded-finance-presentation>.

93 ROLF HARMS & MICHAEL YAMARTINO, *THE ECONOMICS OF THE CLOUD* (MICROSOFT, 2010), <https://news.microsoft.com/download/archived/presskits/cloud/docs/The-Economics-of-the-Cloud.pdf>.

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the incumbent bundled provider model (see the discussion on lending competition trends further in this Section).⁹⁴ For such new entrants at least, the value of a more integrated value chain would appear to exceed the costs of becoming and operating as an IDI.

There are still many new entrant non-bank firms that are re-bundling horizontally and looking increasingly like IDIs, while largely remaining outside the bank regulatory perimeter. There are potential risks presented by this trend, which are further explored in Section 3.2 on Risks.

2.1.3 Market Dynamics

2.1.3.1 Competition

Where new entrant non-bank firms and IDIs compete, many IDIs have responded with “build” or “buy” strategies – either investing in the technology needed to offer similar offerings to the new entrant non-bank firms, or acquiring firms with the capabilities the IDIs seek to obtain to compete.⁹⁵ As discussed in Section 2.2.4 on Firm Investments, IDIs have increased spending on technology over the past decade, potentially an indication of competitive pressure from new entrant non-bank firms with IDIs seeking to upgrade their digital presence and offerings, and enhance accessibility and user experience to compete.⁹⁶ There also has been a slow but steady flow of banks acquiring fintech firms; banks were on the buy side of eight of the total 484 fintech merger and acquisition deals in 2021, on pace with recent years.⁹⁷ These deals have been relatively small, with only three such deals surpassing \$1 billion in deal value since 2012.⁹⁸

These build or buy strategies require that the IDIs have sufficient resources to invest in the technology or make the acquisition; consequently, these strategies have largely been pursued by large or regional banks and not by small community banks.⁹⁹ Additionally, while these strategies have been viable for replicating the capabilities of or acquiring relatively small new entrant non-bank firms, IDIs may find it much more challenging if not impossible

94 *Id.*

95 OLIVER WYMAN & INTERNATIONAL BANKING FEDERATION, *supra* note 42, at 51-52.

96 TIMOTHY CHIDO, NIK CREMO, CHRISTOPHER ZHANG, COLE HYLAND, DYLAN WRIGHT & KYLE LINDGREN, CREDIT SUISSE BANKING TECHNOLOGY SURVEY 1 (CREDIT SUISSE, 2022), <https://plus2.credit-suisse.com/shorturlpdf.html?v=51TX-V1Ni-V>. This spending is likely a response to increased consumer demand for digital financial services, which new entrant non-bank firms have tapped into, but any competitive pressure from new entrant non-bank firms would not likely be the sole motivation and may not even be the primary motivation for these investments. The magnitude of IDI spending on technology in recent years may also reflect historic underinvestment, and a loop of spending on technology requiring further spending to provide for up-to-date cybersecurity protections and other new security and maintenance costs. IDI tech spending is further explored in Section 2.2.4 on Firm Investments.

97 Yizhu Wang & Nathaniel Melican, *Steady M&A continues to deepen bank-fintech convergence*, S&P GLOBAL MARKET INTELLIGENCE (Apr. 4, 2022), <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/steady-m-a-continues-to-deepen-bank-fintech-convergence-69421059>.

98 *Id.*

99 See RYAN SHORES, ALAN BICKERSTAFF, CASSANDRA CUELLAR, NIMAYI DIXIT & BRIAN LUCIANI, THE CHANGING FINTECH LANDSCAPE: A SNAPSHOT OF M&A THEMES AND TRENDS 9 (BARCLAYS, 2021), <https://rise.barclays/content/dam/think-rise-com/documents/fintech-m-and-a-insights-digital-2021.pdf>.

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to pursue such strategies in responding to competition from larger non-bank firms, such as Big Tech firms.¹⁰⁰

Competitive pressures also affect fintech firms, many of which have sought to level up their own offerings in light of competition from incumbent IDIs and other competitors.¹⁰¹ This, along with market maturation and general incentives to achieve scale, may be contributing to pressures leading to increased acquisitions and consolidation happening amongst fintech firms.¹⁰² As these firms consolidate and scale, it may be more difficult still for IDIs and other competitors to acquire them or build similar capabilities. Additionally, a few fintech firms have chosen to compete more directly by becoming IDIs themselves, either through obtaining a new charter or acquiring an IDI.¹⁰³

2.1.3.2 Collaboration

In growing numbers, IDIs and new entrant non-bank firms—fintech firms in particular—are choosing to collaborate to meet consumer demand for digital financial services.¹⁰⁴ According to one 2022 study, nearly two-thirds of banks and credit unions entered at least one fintech relationship over the past three years, and those numbers are expected to continue to increase.¹⁰⁵ Incumbents are increasingly collaborating with fintech firms through a range of third-party service provider arrangements (often referred to as “bank-fintech relationships”) which vary depending on the strategic objectives and risk profile of the incumbent. Bank-fintech relationships that increase the IDI’s operating efficiency, expands its reach, or improves its customers’ experience in the delivery of digital financial services contribute to the competitive pressures among incumbent IDIs and other competitors.

The FRB identified three broad categories of relationships with outreach conducted in 2019.¹⁰⁶

- *Operational technology relationships*, where the incumbent firm deploys the fintech’s technology to its own processes or infrastructure to improve efficiency and

100 Google, Apple, Facebook, Amazon, and Microsoft (GAFAM) are five of the six largest companies in the world and represent 18 percent of the S&P 500’s market capitalization. Additionally, in terms of market capitalization, Apple alone is three times the size of JPMorgan Chase and is larger than the top 20 global fintechs combined. See OLIVER WYMAN & INTERNATIONAL BANKING FEDERATION, *BIG BANKS, BIGGER TECHS?* 15 (2020), <https://www.oliverwyman.com/content/dam/oliver-wyman/v2/publications/2020/jul/Big%20Banks%20Bigger%20Techs%20Final%20Version.pdf>.

101 Cheryl Winokur Munk, *Fintech Companies, Facing Competition From Mainstream Banks, Step Up Their Offerings*, THE WALL STREET JOURNAL (Jan. 26, 2022), <https://www.wsj.com/articles/fintech-competition-mainstream-banks-11642714528>.

102 See RYAN SHORES, ALAN BICKERSTAFF, CASSANDRA CUELLAR, NIMAYI DIXIT & BRIAN LUCIANI, *supra* note 99.

103 Kevin Wack & John Prior, *The many paths fintechs are taking to banking’s mainstream*, AMERICAN BANKER (Mar. 10, 2021), <https://www.americanbanker.com/list/the-many-paths-fintechs-are-taking-to-bankings-mainstream>.

104 Retailers are also entering into partnerships with banks, generally by providing online platforms for consumers to use financial products and services offered through relationships with IDIs. Zac Townsend, *supra* note 26.

105 RON SHEVLIN, *THE STATE OF THE UNION IN BANK-FINTECH PARTNERSHIPS* (CORNERSTONE ADVISORS, Commissioned by Synctera, 2021) <https://synctera.com/blog/the-state-of-the-union-in-bank-fintech-partnerships>.

106 FRB, *supra* note 64.

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effectiveness. This strategy has been widely used by IDIs for decades. As exemplified below with core service providers (“CSPs”), most IDIs contract with technology firms to provide some or all of the IDIs’ information technology infrastructure. Fintech firms have also entered this market by offering IDIs products and services to enhance the IDIs’ internal processes, monitoring capabilities, or technology infrastructure. These products and services, such as credit underwriting models or customer authentication modules, aim to improve the accuracy and efficiency of the back-office operations for IDIs.¹⁰⁷

- *Customer-oriented relationships*, where the incumbent engages a fintech to enhance various customer-facing aspects of its business, with the incumbent continuing to interact directly with its customers. This strategy allows an IDI to apply fintech solutions to the delivery of the IDI’s current products and services. The primary goal for the IDI is to enhance the delivery of its products and services with fintech firms’ technology while maintaining the customer relationship with the IDI’s brand. For example, a fintech may assist an IDI by integrating the fintech’s technology that simplifies person-to-person payments or loan application processing. More generally, these contracting relationships can extend the reach of the IDI by eliminating the need for physical branches and making it easier for the IDI to gather deposits and make loans over a wider geographic area. These relationships can be a tool for smaller IDIs to meet customer digital experience expectations.¹⁰⁸
- *Front-end relationships*, where the non-bank provider’s technology utilizes the incumbent’s infrastructure in the delivery of banking products and services, with the fintech interacting directly with the end-user. This strategy is used by fintech firms, Big Tech firms, and other retail firms to offer their customers access to consumer financial products and services that are typically provided by IDIs. In this structure, the IDI’s infrastructure is combined with the non-bank firms’ technology to offer financial products and services such as deposits, payments, and lending on the non-bank firms’ digital platform. The customer experience is with the non-bank firm providing the customer access to banking products and services that are in turn performed by the IDI. Prudential regulators have flagged these types of relationships for the additional third-party risks they pose to IDIs due to the non-bank firm controlling the customer experience. These front-end relationships have the possibility of reducing IDI profits. The non-bank firm maintains the customer relationship and financial data, which many consider the most valuable parts of the customer relationship. Where the services provided by the IDI are largely interchangeable, the non-bank firm can more

107 *Id.*

108 *Id.*

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readily dictate pricing for those services and keep larger percentages of the revenue; slowly reducing the IDI to operating much like a utility.¹⁰⁹ Some analysts expect that IDIs of all sizes will seek to avoid becoming only the regulatory compliance and funding layer of the value chain by building out their own capabilities using their balance sheet, global reach, and risk management capabilities.¹¹⁰ As a result, IDIs could eventually transition their customers from their platforms to those of other non-bank corporations that have embedded financial services into their platforms.

The value of these relationships to incumbent IDIs has spurred a sharp increase in the number of IDIs seeking to develop relationships with new entrant non-bank firms.¹¹¹ By various estimates, the number of IDIs actively offering arrangements with non-bank firms has grown from fewer than ten in 2012 to as many as forty by 2020.¹¹² Analysts widely expect further growth, with some estimating the number of IDIs offering products and services through arrangements with new entrant non-bank firms will double between 2020 and 2025.¹¹³ Many of the IDIs participating in these relationships have tended to be smaller incumbents, in part because smaller banks and credit unions can charge higher debit card interchange fees than larger institutions.¹¹⁴ Higher interchange fees in turn provide more revenue to be split between the IDI and non-bank partner. Some new entrant non-bank firms utilize a front-end relationship model that enables the firm's lending platform to facilitate lending via a third-party IDI that is authorized to export higher interest rates permitted by the law in the IDI's home state to borrowers in other states. These arrangements may allow the lending platform to avoid interest rates caps and licensing requirements in some states in which the lending platform operates.¹¹⁵

109 Kevin Wack, *The Struggle to Avoid Becoming the 'Dumb Utility'*, AMERICAN BANKER (Jan. 8, 2020) <https://www.american-banker.com/news/the-struggle-to-avoid-becoming-the-dumb-utility>.

110 See, e.g., Goldman Sach's announced acquisition of a point-of-sale home improvement lender, GreenSky, as part of its consumer banking strategy in which it would provide a product platform that could be embedded into the offerings of other companies. See GOLDMAN SACHS, *Acquisition of GreenSky Accelerates Strategy to Drive Higher, More Durable Returns*, (2021), <https://www.goldmansachs.com/media-relations/press-releases/2021/multimedia/green-sky/slide-1-full.jpg>. Additionally, Goldman Sach's January 2020 Investor Day presentation noted its efforts to build a "Banking as a Service" offering as part of its transactions unit. See DAVID SOLOMON, *OUR STRATEGIC DIRECTION 23* (GOLDMAN SACHS, 2020), <https://www.goldmansachs.com/investor-relations/investor-day-2020/presentations/strategic-roadmap-and-goals.pdf>. BBVA has also introduced a BaaS service in the United States known as the BBVA Open Platform, "... which offers card, payments, deposit and verification APIs to third parties through a developer portal." See BBVA, *BBVA launches first BaaS platform in the U.S.*, (Aug. 20, 2019), <https://www.bbva.com/en/bbva-launches-first-baas-platform-in-the-u-s/>.

111 CCG INSIGHTS, *BANKING-AS-A SERVICE: NAVIGATING A NEW FRONTIER 6* (2021), <https://www.ccginsights.com/research/baas/>. See also Rex Salisbury & Anish Acharya, *supra* note 87.

112 *Id.*

113 *Id.*

114 See the Regulatory Arbitrage subsection of section 3, Opportunities and Risks, for a discussion of the Durbin Amendment related to debit card interchange fees.

115 See the Regulatory Arbitrage subsection of section 3, Opportunities and Risks, for a discussion of state licensing requirements for lenders and interest rate caps on consumer loans.

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While bank-fintech relationships can offer cost reductions and operational flexibility, as mentioned above, in certain instances they could also increase operational complexity. Therefore, the consumer banking services that an IDI conducts directly, with, or through a third-party non-bank firm requires proper due diligence and oversight by IDIs and their regulators. The activities related to those services would be subject to the laws and regulations applicable to the IDI and subject to supervision and examination by the IDI's federal regulator. In addition, through due diligence processes and ongoing risk management, IDIs must monitor activities conducted on its behalf by third party for compliance and risk management across certain key areas.¹¹⁶ In this sense, certain non-bank services in core consumer finance markets remain subject to prudential and consumer protection regulation, albeit indirectly at times.

In addition to the operational collaboration with new entrant non-bank firms outlined above, IDIs are also investing in fintech firms. The venture capital arms of many large U.S. banks have backed equity deals to fintech firms 62 times in the first three quarters of 2021.¹¹⁷ All of this has contributed to the changing dynamics in core consumer finance markets, as new entrant non-bank firms and IDIs interact to compete and collaborate in a myriad of ever-evolving ways.

Beyond fintech firms, additional considerations arise when large technology and retail non-bank firms enter consumer financial services through arrangements with a regulated financial institution. Generally, these arrangements tend to be front-end relationships with large technology companies leading consumer-facing aspects and the overall design of the product, while financial institutions provide certain components of the product.¹¹⁸ Large technology companies can often bring to these relationships outsized capabilities that would be difficult for even large banks to match and are too large to be acquired.

2.2 Measures of Competition

Measuring the impact of new entrant non-bank firms on competition in consumer finance markets is a complex task, particularly in light of the aforementioned developments regarding the transformation of the value chain and general lack of data for many such firms. However, within the limits of data availability, some qualified observations can be made. This section focuses on examining several traditional indicators of competition in consumer finance markets, including concentration in banking, banking markups and profits, the level of new firm entry, the levels of investments made by firms, and firm market values. Ultimately, there

116 See, e.g., FRB, FDIC & OCC, CONDUCTING DUE DILIGENCE ON FINANCIAL TECHNOLOGY COMPANIES: A GUIDE FOR COMMUNITY BANKS (2021), <https://www.occ.gov/news-issuances/news-releases/2021/nr-ia-2021-85a.pdf>.

117 CB INSIGHTS, WHERE TOP US BANKS ARE BETTING ON FINTECH 3 (2021), https://www.cbinsights.com/reports/CB-Insights_Bank-Investment-Fintech.pdf.

118 See, e.g. Rick Chavez & Aaron Fine, *Apple Card Is Here. Now What?*, OLIVER WYMAN (Sep. 2019), <https://www.oliverwyman.com/our-expertise/insights/2019/aug/apple-card-is-here--now-what-.html>.

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are indications that new entrant non-bank firms may be increasing competitive pressure in some consumer finance markets.

Market concentration is often used as a measure of competition, and concentration in banking has historically been used as an indicator of competition in consumer finance markets, given the predominant role banks have played in the provision of consumer financial services. This report observes that nationally and locally in rural markets, concentration in banking has been increasing for decades. Increasing concentration can be an indicator of declining competition, and consolidation in banking warrants further review. The concentration trends in banking predate the advent of fintech firm entry, however, and do not provide any clear indications of the impact of new entrant non-bank firms generally.¹¹⁹

To further assess competitive pressures within consumer finance markets, this report explores bank profit margins. Where firms have greater market power, they might have the ability to employ higher markups and obtain supracompetitive profits; where firms lack market power, competitive pressure may limit markups. Interest markups have remained relatively stable, or even declined, among banks in the United States over the last couple of decades.¹²⁰ There are undoubtedly numerous factors contributing to the observed trend, and evidence that the impact of new entrant non-bank firms on bank profit margins is limited.¹²¹ In addition, as discussed above, interest income is just one source of revenues for IDIs. However, in light of the decline of non-interest income as a share of bank profits, NIMs may effectively proxy for bank profit margins overall.

It is thus difficult to draw any definitive conclusions on the impact of new entrant non-bank firms on consumer finance markets based on the two common measures of assessing bank concentration or profit margins. Looking at the limited data available on new entrant non-bank firms themselves reveals relatively high levels of new entry by non-bank firms and increasing investments being made by IDIs and new entrant non-bank firms. Additionally, reviews of the market values of incumbent IDIs as compared to fintech firms indicates both increasing market share for fintech firms and higher potential growth prospects for the fintech industry.

119 Of course, measures of concentration in banking also do not take into consideration market share of any competing non-bank firms; to the extent that new entrant non-bank firms become increasingly prevalent in the provision of consumer financial products and services, measures of concentration in banking may be less indicative of overall competitiveness in consumer finance markets.

120 In this case, NIMs are used as a proxy for markups in banking. As explained further in this section, NIMs may be both too broad (in that NIMs capture interest income from sources outside of consumer finance) and too narrow (in that NIMs fail to capture markups above cost in other forms such as fees on accounts) a measure of markups in consumer finance.

121 See KATHRYN PETRALIA, THOMAS PHILIPPON, TARA RICE & NICOLAS VÉRON, BANKING DISRUPTED? FINANCIAL INTERMEDIATION IN AN ERA OF TRANSFORMATIONAL TECHNOLOGY 12-14 (INTERNATIONAL CENTER FOR MONETARY AND BANKING STUDIES, 2019), <https://voxeu.org/content/banking-disrupted-financial-intermediation-era-transformational-technology>.

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2.2.1 Concentration in Banking

Measures of concentration assess the distribution of market shares across firms, which may, in combination with other indicators, provide some insights into overall competitiveness of the market. As an assessment of consumer financial services market competition, bank concentration measured by local deposits is a common starting point.¹²² Historically, this was an informative measure¹²³ because 1) consumer financial services were primarily accessed through banks, 2) consumer finance was a geographically “local” market, and 3) competitors (i.e., IDIs) offered a broadly homogenous set of services.

This may be less true today than it has been historically for several reasons. First, consumers increasingly rely on new entrant non-bank firms for access to financial services. New entrant non-bank firms both compete and collaborate with IDIs, but the extent to which these firms are creating competition for banks and holding any share of the markets in which banks compete is not captured directly by measures of concentration among banks alone. Second, the prevalence of online services has complicated the geographic definition of markets for some banking products. Nonetheless, concentration measures are still often used as a benchmark for assessing competition in consumer finance markets. It is thus important to consider concentration and competition dynamics at the local level.

There are two common measures of concentration—concentration ratios (CR), and the Herfindahl-Hirschman Index (HHI). The CR measures the market share of a certain number (N) of the largest firms.¹²⁴ The HHI is the sum of the squared market shares of all firms in a market.¹²⁵ Both CRs and HHI are easy to calculate for well-defined markets, but CR by design only accounts for the top of the market while HHI is a broader measure. Both measures require a market definition and data on the size of the total market and market shares of individual firms—either the top N firms for CRs, or all firms in the market for the HHI.

In the aggregate, county-level banking concentration as measured by HHI or CRs in deposits has remained relatively constant, though the trend is sensitive to the exclusion of some outlier branches. This measure obfuscates some nuance between rural and urban markets, further discussed below. Figure 2 shows the average of county-level HHI, weighted by

122 “Local” is usually defined at the county or Metropolitan Statistical Area level.

123 Data availability has always been a factor affecting possible analyses, and historical reliance on data on local deposits to measure bank concentration has in part also been because of lack of availability of further data, such as more detailed geographic data on deposit sources, loan-level data, and data on specialization of product and service offerings.

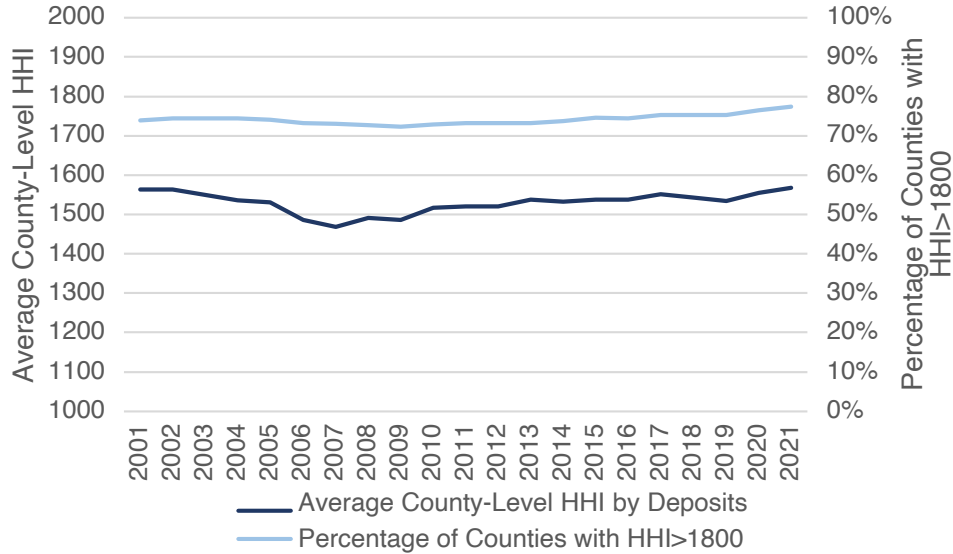
124 The CR is generally calculated by taking the total assets/deposits/sales of the top N firms divided by total market assets/deposits/sales.

125 In a market with only one firm, the HHI is 10,000 and the HHI approaches zero in a market with equal market shares as the number of firms increases.

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county-level deposits, calculated using the FDIC’s Summary of Deposits (SOD) branch-level data.¹²⁶

Figure 2: Local Banking Concentration



Note: Average HHI is weighted by county-level deposits. Only deposits at full-service brick and mortar and full-service retail branches are included. For branches with deposits greater than nine times the 99th percentile, deposits are truncated at nine times the 99th percentile.

Source: FDIC Summary of Deposits¹²⁷

As Figure 2 shows, the weighted average county-level HHI has remained below 1600 since 2001. Lower levels of concentration are sometimes used as indicators of more distributed market power and higher levels of competitiveness. Similarly, increasing concentration could result from a less competitive environment in financial services, which can negatively impact

126 Only deposits at full-service brick and mortar and full-service retail branches are included. Some branches have outlier values for deposits that are likely the result of out-of-county deposits. Thus, for branches with deposits greater than nine times the 99th percentile, deposits are truncated at nine times the 99th percentile. These choices substantially alter both the level and trend in county-level concentration. For example, Meyer (2018) shows a similar chart with these outliers included and where both HHI and the percentage of highly concentrated counties are unweighted. With these changes, average county-level HHI is much higher and shows an upward trend. ANDREW MEYER, MARKET CONCENTRATION AND ITS IMPACT ON COMMUNITY BANKS (FEDERAL RESERVE BANK OF ST. LOUIS, 2018), <https://www.stlouisfed.org/publications/regional-economist/first-quarter-2018/concentration-community-banks#endnotes>.

127 FDIC, SUMMARY OF DEPOSITS, <https://www7.fdic.gov/sod/sodInstBranch.asp?barItem=1>.

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consumers by reducing availability or increasing cost of credit.¹²⁸ For merger enforcement, an increase in concentration above certain thresholds is presumed to be indicative of falling competition until evidence is presented that the merger will not have an anticompetitive effect.¹²⁹ DOJ screens for, and further scrutinizes, bank mergers that would result in a post-merger HHI of over 1,800 for the given market.¹³⁰ The (unweighted) percentage of counties with HHI greater than 1,800 has climbed over 75% in recent years.¹³¹

Below the surface, there is some nuance in local HHI trends between urban and rural markets, revealing higher concentration in rural markets.¹³² The share of urban markets with HHIs greater than 1,800 has declined from 30.4% in 2000 to 27.6% in 2019.¹³³ Meanwhile, rural markets, which constitute a relatively small weight in terms of deposits, tend to be far more concentrated.¹³⁴

128 The relationship between concentration and outcomes such as credit access and prices (including fees) is not straightforward. However, some work has found a positive correlation between banking concentration negative consumer outcomes in some consumer finance markets. Other work argues that consumer credit costs may reflect bank-level factors rather than local market concentration. See JOÃO GRANJA & NUNO PAIXÃO, MARKET CONCENTRATION AND UNIFORM PRICING: EVIDENCE FROM BANK MERGERS (BANK OF CANADA, 2021), <https://www.bankofcanada.ca/wp-content/uploads/2021/02/swp2021-9.pdf>. See also, e.g., Charles Kahn, George Pennacchi & Ben Soprannetti, *Bank Consolidation and the Dynamics of Consumer Loan Interest Rates*, THE JOURNAL OF BUSINESS (Vol. 78 No.1, Jan. 2005), at 99-134, https://www.jstor.org/stable/10.1086/426521#metadata_info_tab_contents. See also GREG BUCHAK & ADAM JØRRING, DO MORTGAGE LENDERS COMPETE LOCALLY? IMPLICATIONS FOR CREDIT ACCESS 29 (2021), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3762250. See also VITALY M. BORD, BANK CONSOLIDATION AND FINANCIAL INCLUSION: THE ADVERSE EFFECTS OF BANK MERGERS ON DEPOSITORS 23-25, 30-32 (HARVARD UNIVERSITY, 2018), https://scholar.harvard.edu/files/vbord/files/vbord_-_bank_consolidation_and_financial_inclusion_full.pdf.

129 The opportunity for merger proponents to present evidence exists because some mergers can have beneficial and pro-competitive effects. See Herbert Hovenkamp and Carl Shapiro, *Horizontal Mergers, Market Structure, and Burdens of Proof* at 2004-2006, FACULTY SCHOLARSHIP AT PENN LAW (2018), https://scholarship.law.upenn.edu/faculty_scholarship/1932/.

130 DOJ, BANK MERGER COMPETITIVE REVIEW – INTRODUCTION AND OVERVIEW (1995), <https://www.justice.gov/atr/bank-merger-competitive-review-introduction-and-overview-1995>. Note that as a part of the agency's request for public comments on bank merger competitive analysis, DOJ is reviewing this HHI threshold for screening. See DOJ, *Antitrust Division Seeks Additional Public Comments on Bank Merger Competitive Analysis*, (Dec. 17, 2021), <https://www.justice.gov/opa/pr/antitrust-division-seeks-additional-public-comments-bank-merger-competitive-analysis>.

131 FDIC, *supra* note 127.

132 The Federal Reserve System has predefined more than 1,500 local banking markets. These markets act as a starting point for geographic analysis, are reviewed as part of individual transaction processing, and are subject to change based on changes to the economic core that is at the center of the banking market. Many geographic markets follow Metropolitan Statistical Area (MSA) definitions or rural county lines, but some may comprise a fraction of a single MSA or county or multiple MSAs or counties, reflecting economic activity. See FRB, *FAQs: How do the Federal Reserve and the U.S. Department of Justice, Antitrust Division, analyze the competitive effects of mergers and acquisitions under the Bank Holding Company Act, the Bank Merger Act, and the Home Owners Loan Act?*, at FAQ 12, <https://www.federalreserve.gov/bankinforeg/competitive-effects-mergers-acquisitions-faqs.htm#faq12>. See also FEDERAL RESERVE BANK OF ST. LOUIS, *Competitive Analysis and Structure Source Instrument for Depository Institutions (CASSIDI)*, <https://cassidi.stlouisfed.org/index>. CASSIDI includes up-to-date information about Federal Reserve banking markets for all 12 districts.

133 FEDERAL RESERVE SYSTEM, *The Evolution of the Community Bank Business Model Series: Rural Banks Ensure in the Face of Challenges* (Community Banking Connections, Fourth Issue 2021), <https://www.communitybankingconnections.org/archives>.

134 ANDREW MEYER, MARKET CONCENTRATION AND ITS IMPACT ON COMMUNITY BANKS (FEDERAL RESERVE BANK OF ST. LOUIS, 2018), <https://www.stlouisfed.org/publications/regional-economist/first-quarter-2018/concentration-community-banks#endnotes>.

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What is more, concentration is increasing in rural markets, with the percent of rural markets with HHIs greater than 1,800 growing from just under 87% in 2013 to 89.4% in 2019.¹³⁵

To a certain degree, online banking has increased access to financial services for large parts of the populace, even amidst broader trends of concentration. Yet, parts of the U.S. are still without sufficient broadband, inhibiting individuals in those areas from reliably accessing online financial services.¹³⁶ For consumers that do have access, use of digital banking is increasingly prevalent. According to the FDIC Household Survey, the percentage of respondents indicating the most common way that they accessed their bank account was online or mobile increased from 46.4% in 2015 to 56.8% in 2019.¹³⁷ During the COVID-19 pandemic, this trend accelerated. Data from the S&P Global Market Intelligence survey¹³⁸ show that over half of mobile banking users used their mobile apps more frequently during the pandemic to access their primary bank accounts, and the overwhelming majority of those indicated that they would continue to do so after the pandemic ends.¹³⁹ Physical financial services have remained important, however, as survey data from the Federal Reserve shows that families that used online banking continued to use at least some physical financial services, such as visiting local bank branches, though at a lower rate than families who did not use online banking.¹⁴⁰

In parallel to growth in online banking and digital product and service offerings, some consumer finance markets have become increasingly national in nature. It is thus worthwhile to consider concentration in banking at the national level as well. Looking first at CRs, the

135 FEDERAL RESERVE SYSTEM, *The Evolution of the Community Bank Business Model Series: Rural Banks Ensure in the Face of Challenges* (Community Banking Connections, Fourth Issue 2021), <https://www.communitybankingconnections.org/archives>.

136 See FEDERAL COMMUNICATIONS COMMISSION, FOURTEENTH BROADBAND DEPLOYMENT REPORT 2 (2021), <https://www.fcc.gov/document/fcc-annual-broadband-report-shows-digital-divide-rapidly-closing>. See also JEREMY HEGLE & JENNIFER WILDING, DISCONNECTED; SEVEN LESSONS ON FIXING THE DIGITAL DIVIDE (FEDERAL RESERVE BANK OF KANSAS CITY, 2019), https://www.kansascityfed.org/Community/documents/7859/Digital_Divide_Final.pdf.

137 FDIC, HOW AMERICA BANKS: HOUSEHOLD USE OF BANKING AND FINANCIAL SERVICES at 4 (2019), <https://www.fdic.gov/analysis/household-survey/2019report.pdf>.

138 NIMAYI DIXIT, *supra* note 78, at 4.

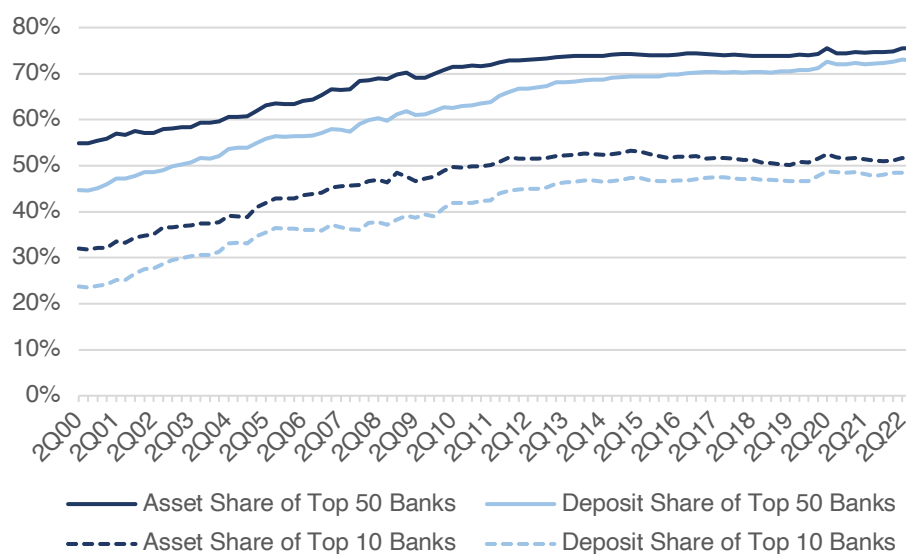
139 Neither the S&P survey nor the FDIC Household Survey distinguish between using online tools to access services of a traditional brick-and-mortar bank versus using online tools to access a cyber bank. In addition, while accessing banks accounts either through mobile applications or online (the two categories combined) is becoming more common, it is not uniform across all demographics. According to the FDIC 2019 Household Survey, Black Americans, those 65 and older, and those in non-metropolitan areas were all less likely to use online or mobile banking. Indeed, brick-and-mortar bank branches still remain an important resource for some consumers—according to the FRB’s 2019 Survey of Consumer Finances, of families who had used online banking in the past year, 79% had also visited the bank branch where they held their checking account. As bank branches disappear, these groups may be more affected. It is also possible that these groups may stand to benefit from online and mobile banking becoming easier.

140 Specifically, the survey found 85% of families that did not use online banking had visited their main checking account branch in the past 12 months, compared to 79% of families that did use online banking. See Neil Bhutta, Jesse Bricker, Andrew C. Chang, Lisa J. Dettling, Sarena Goodman, Joanne W. Hsu, Kevin B. Moore, Sarah Reber, Alice Henriques Volz & Richard A. Windl, *Changes in U.S. Family Finances from 106 to 2019: Evidence from the Survey of Consumer Finances* at 17, FRB (Federal Reserve Bulletin Vol. 106 No. 5, Sep. 2020), <https://www.federalreserve.gov/publications/files/scf20.pdf>.

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data show that the banking sector has become more concentrated in terms of both assets and deposits nationally over the past two decades. Figure 3 shows how the asset and deposit shares of the top 50 and top 10 banks have changed on a quarterly basis from the third quarter of 2001 through the second quarter of 2022. The Figure shows that, as of the second quarter of 2022, the top ten banks have over 50% of all assets among IDIs.

Figure 3: Share of Assets and Deposits Among Top 50 and Top 10 Banks



Source: FDIC Statistics on Depository Institutions¹⁴¹

To contextualize the CR figures in banking, it may be helpful to consider CRs across industries. Using data from the 2017 Economic Census, Figure 4 shows a comparison of industry group concentration, this time using revenue or sales rather than assets. Figure 4 shows the market share held by just the top 50 firms (CR50)¹⁴² across 31 consumer-facing industry groups.¹⁴³ Among these industry groups, the group that contains banking (NAICS 5221 Depository Credit Intermediation) has a concentration ratio of around 55%, putting it in the middle quintile among all 4-digit industries in the Economic Census concentration data.¹⁴⁴ It should be noted,

141 FDIC, STATISTICS ON DEPOSITORY INSTITUTIONS, <https://www7.fdic.gov/sdi/index.asp>.

142 Using the top four firm (CR4) yields a similar result.

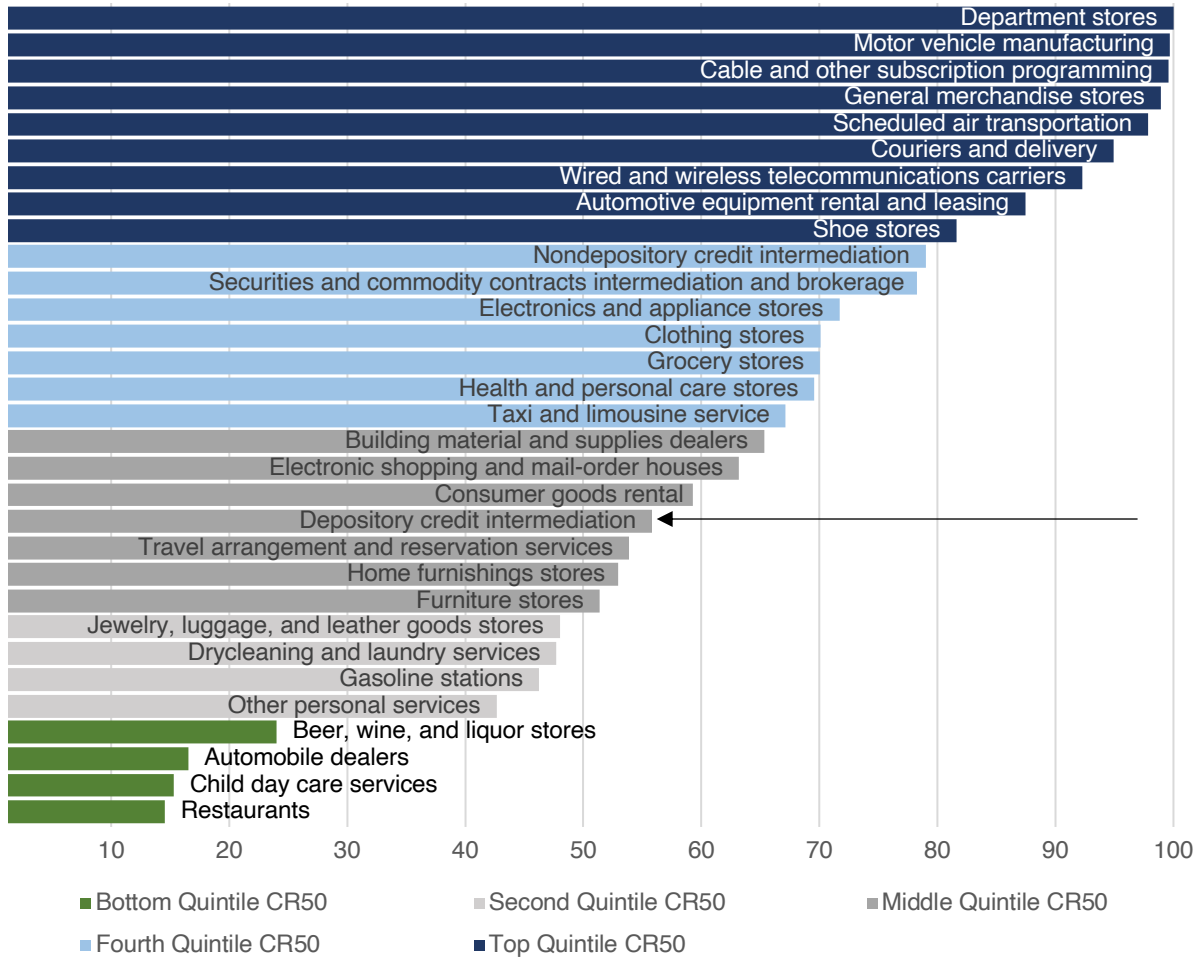
143 See also FRANCISCO COVAS & PAUL CALEM, FIVE IMPORTANT FACTS ABOUT THE COMPETITIVENESS OF THE U.S. BANKING INDUSTRY (BANK POLICY INSTITUTE, 2022), <https://bpi.com/wp-content/uploads/2022/02/Five-Important-Facts-about-the-Competitiveness-of-the-U.S.-Banking-Industry.pdf>.

144 NAICS 5222 Non-Depository Credit Intermediation is relatively more concentrated, with a CR50 just shy of 80 percent. This industry group includes industries such as credit card issuing, real estate credit, and sales financing. The most direct area of competition with services traditionally provided by IDIs within NAICS 5222 is NAICS 522292 Real Estate Credit. NAICS 522292 falls in the middle quintile of all six-digit NAICS industries in the Economic Census in terms of CR50. However, caution should be used when evaluating narrowly (such as six-digit NAICS) defined industries, as it may not be straightforward which industry code best applies to a firm's activities.

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however, that national concentration levels mean different things in different industries and particular caution should be used when making cross industry comparisons.

Figure 4: Top 50 Firm Market Share Among Select Industry Groups



Note: Quintiles are based on 274 4-digit NAICS Industries

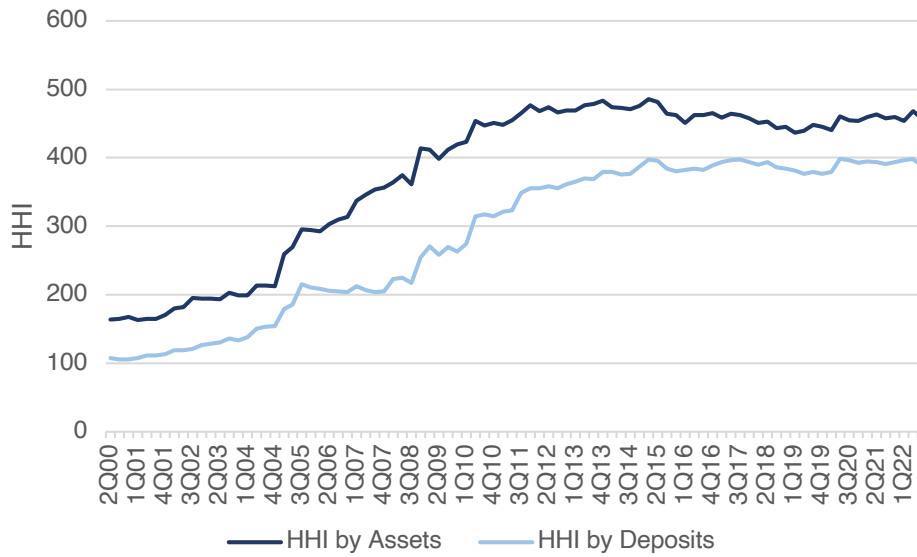
Source: U.S. Census Bureau¹⁴⁵

In addition to CR, HHI can be calculated for the banking industry, and those calculations show that HHI has also risen nationally over the same period as analyzed above in Figure 3. Figure 5 shows the change in national HHI, measured by both domestic deposits and total assets.

145 U.S. CENSUS BUREAU, ECONOMIC CENSUS DATA TABLES (2017), <https://www.census.gov/programs-surveys/economic-census/data/tables.html>.

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Figure 5: National Concentration



Source: FDIC Statistics on Depository Institutions¹⁴⁶

The rise in national concentration is the result of consolidation in the number of banks, not merely the growth of large banks, as described below.¹⁴⁷ While the number of regulated depository institutions fluctuated between 10,000 and 15,000 from the 1930's until almost the end of the century, the number of branches consistently increased from 3,000 in 1934 to almost 70,000 at the end of the century. In the last twenty years, the number of banks halved from about 10,000 to fewer than 5,000. However, the number of branches continued growing to approximately 85,000 by 2009. Over the last decade, coinciding with the digitalization of banking services, branch growth in the aggregate has halted, and the number of branches has started to decline, with the number of branches now fewer than 73,000.¹⁴⁸

Dahl et al. (2021)¹⁴⁹ examine branch (full-service brick and mortar branches) closures from 2013 to 2018. They found that a higher number of branch closures occurred in urban areas, where bank branches are more numerous and bank-branch density is much higher. Rates of closure were also slightly higher within urban areas in their sample, with 1.9% of branches

¹⁴⁶ FDIC, *supra* note 141.

¹⁴⁷ Considerable consolidation began following passage of the Riegle-Neal Interstate Banking and Branching Efficiency Act of 1994, which removed restrictions on interstate banking and allowed adequately capitalized and managed bank holding companies to acquire banks in other states.

¹⁴⁸ FDIC, *BankFind Suite: Find Annual Historical Bank Data*, <https://banks.data.fdic.gov/bankfind-suite/historical>. Many factors are likely to be impacting branch growth, including the slow recovery from the 2007-08 financial crisis, low interest rates, tepid GDP growth, and the attendant cost cutting that accompanied those factors.

¹⁴⁹ DREW DAHHL, MICHELLE FRANKE & JAMES FUCHS, HOW BRANCH CLOSURES AFFECT ACCESS TO BANKING SERVICES (FEDERAL RESERVE BANK OF ST. LOUIS, 2021), <https://www.stlouisfed.org/publications/regional-economist/first-quarter-2021/how-branch-closures-affect-access-banking-services>.

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closed during the period of analysis in urban areas, compared with only 1.4% in rural areas.¹⁵⁰ They also show that these branch closures generally did not result in ‘bank deserts,’ even in rural areas—only five percent of branch closures put customers more than 15 miles away from another bank branch.¹⁵¹ That being said, earlier research from Dahl and Franke found that 3.74 million people lived in banking deserts as of the end of 2014, and that nearly 4 million people lived in Census tracts at risk of becoming banking deserts. Dahl and Franke further found that nearly 65% of the existing banking desert tracts and just over 80% of the potential banking desert tracts were rural tracts.¹⁵²

Branch closures may be having disproportionate impact on specific minority communities. Data from the FDIC shows that Black-owned minority depository institutions (MDIs) have declined by more than half in the past decade, from 41 in 2001 to 19 in 2021.¹⁵³ Additionally, in majority-Black Census tracts bank branches declined by 14.6% from 2010 to 2018, compared to 9.7% in all other communities.¹⁵⁴ Ultimately, consolidation in banking may have uneven impacts, and it is important to consider community impacts in reviewing these trends and bank merger policies.

There is evidence of increased concentration in banking at the national level and at the local level for rural markets. Ultimately, however, the trends in concentration in banking predate entry of fintech firms, and do not provide clear indications of the impact of new entrant non-bank firms generally. Recognizing the need to have choices among financial institutions and to guard against excessive market power, the Competition EO called on DOJ, in consultation with the federal banking regulators, to review merger oversight policies and practices.¹⁵⁵

2.2.2 Profit Margins and Markups in Banking

Examining profit margins of market participants may help further assess competitive pressures within consumer finance markets. In some cases, concentration and market power may be positively correlated, and greater concentration and market power might enable firms to engage in higher markups and obtain supracompetitive profits. Growing profit margins—particularly in combination with increased concentration—could thus be interpreted as evidence of decreasing competition, as it may indicate a few firms consolidating the market

150 *Id.*

151 *Id.*

152 Drew Dahl & Michelle Franke, *Banking Deserts Become a Concern as Branches Dry Up*, FEDERAL RESERVE BANK OF ST. LOUIS (Jul. 25, 2017), <https://www.stlouisfed.org/publications/regional-economist/second-quarter-2017/banking-deserts-become-a-concern-as-branches-dry-up>.

153 FDIC, *Minority Depository Institutions Program*, <https://www.fdic.gov/regulations/resources/minority/mdi.html>.

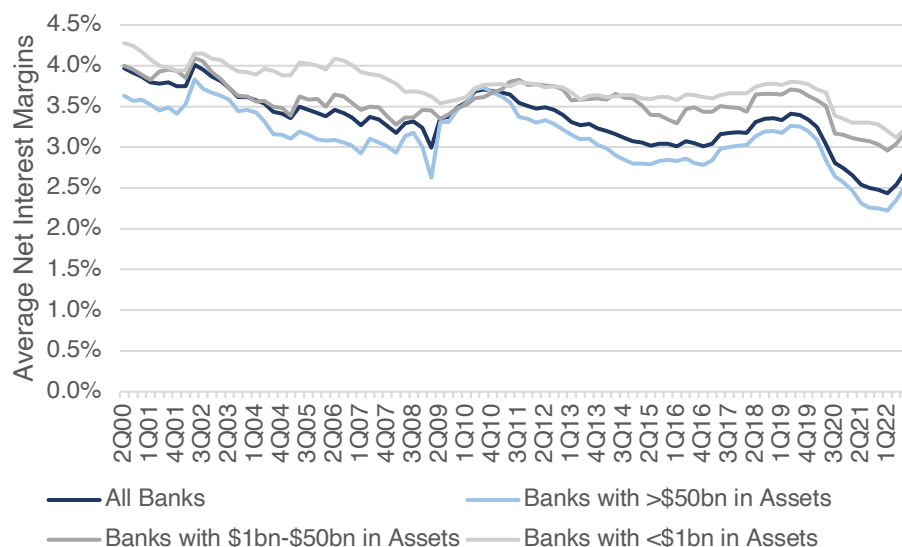
154 Zach Fox, Zain Tariq, Liz Thomas & Ciaralou Palicpic, *Bank branch closures take greatest toll on majority-black areas*, S&P GLOBAL MARKET INTELLIGENCE (Jul. 25, 2019), <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/bank-branch-closures-take-greatest-toll-on-majority-black-areas-52872925>.

155 Promoting Competition in the American Economy, 86 Fed. Reg. 36992 Section 5(e) (Jul. 14, 2021).

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and utilizing greater market power to extract larger profits.¹⁵⁶ A common way to measure profit margins in banking is net interest margins (“NIMs”)—the ratio of net interest income to average earning assets. While national measures of banking concentration have risen, NIMs have fallen for banks of all sizes as shown in Figure 6.

Figure 6: Average Net Interest Margins



Note: Average NIMs are weighted by domestic deposits.

Source: FDIC Statistics on Depository Institutions¹⁵⁷

However, NIMs are determined by various macroeconomic and bank-level factors, including the cost of funds,¹⁵⁸ banking specializations, yield on earning assets, and risk of activities. Additionally, there is some evidence that in recent years, the entrance of non-banks may have had a small negative impact on NIMs. Petralia et al. (2019)¹⁵⁹ show that several proxies for non-bank growth are negatively correlated to NIMs in a sample of 120 global banks, though the magnitude of the correlation is small. It is difficult to draw any definitive conclusions on the impact of new entrant non-bank firms on consumer finance markets based on bank profit margins as measured by NIMs.

156 Of course, rising markups and concentration do not necessarily indicate reduced competition in a market. For example, rising markups and concentration could be the result of a compositional shift among firms, a phenomenon Autor et al. (2020) argue has occurred in the United States since the 1980s. See David Autor, David Dorn, Lawrence F Katz, Christina Patterson & John Van Reenen, *The Fall of the Labor Share and the Rise of Superstar Firm*, THE QUARTERLY JOURNAL OF ECONOMICS (May 2020), <https://academic.oup.com/qje/article/135/2/645/5721266>.

157 FDIC, *supra* note 141.

158 These costs reflect, among other factors, the federal funds rate.

159 See KATHRYN PETRALIA, THOMAS PHILIPPON, TARA RICE & NICOLAS VÉRON, BANKING DISRUPTED? FINANCIAL INTERMEDIATION IN AN ERA OF TRANSFORMATIONAL TECHNOLOGY at 12-14 (INTERNATIONAL CENTER FOR MONETARY AND BANKING STUDIES, 2019), <https://voxeu.org/content/banking-disrupted-financial-intermediation-era-transformational-technology>.

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It is possible that NIMs may be less representative of bank profit margins if banks are less reliant on interest income. Potentially, banks could raise profits from non-interest sources (e.g., fees) due to greater market power. However, the fraction of operating revenue from non-interest income as a whole—including items such as income from fiduciary activities, service charges on deposit accounts in domestic offices, and trading gains and fees from foreign exchange transactions—has fallen and remained below the pre-financial-crisis level, as shown in Figure 7.¹⁶⁰ At the same time, service charges¹⁶¹ have become a larger share of operating revenue, particularly for mid-sized banks, as shown in Figure 8 taken from Haubrich and Young (2019).¹⁶²

Figure 7: Non-Interest Income as a Percentage of Operating Revenue



Note: Bank operating revenue is defined as the sum of net interest income and non-interest income.

Source: FDIC Statistics on Depository Institutions¹⁶³

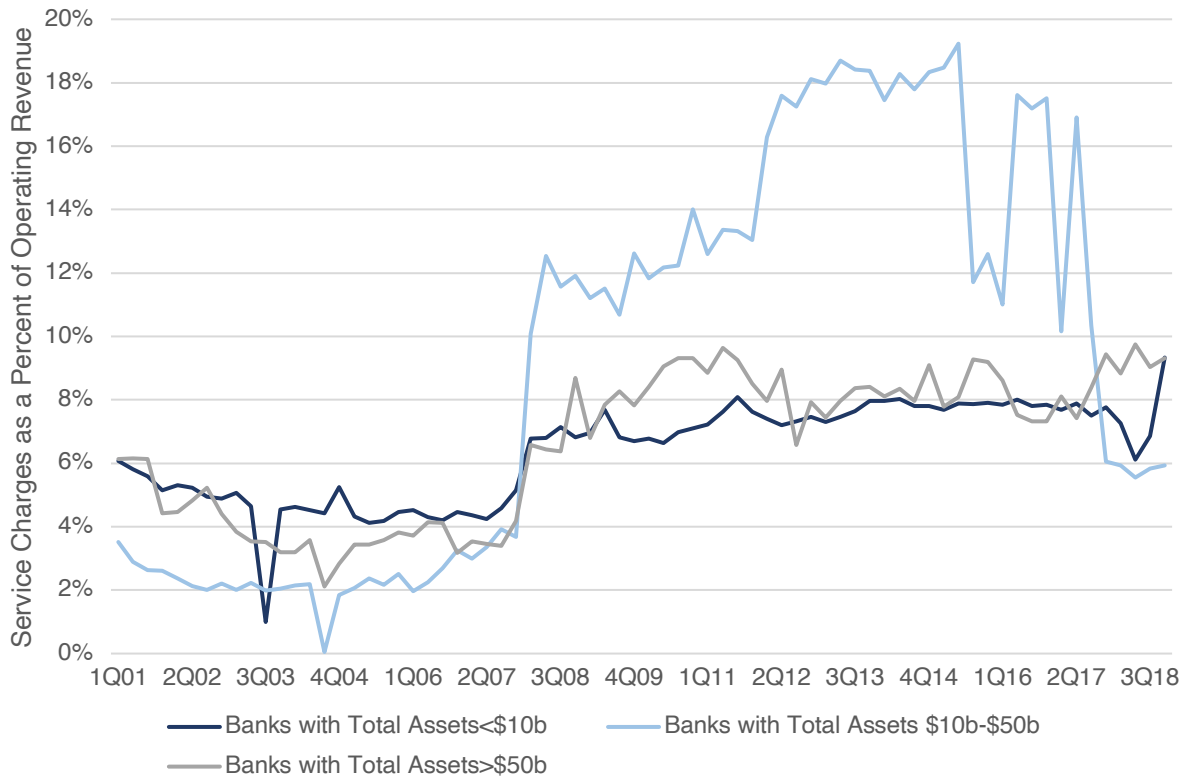
160 From 1984 to 2021, the percentage of total revenue earned from non-interest sources for commercial banks has increased from 9% to 35%. Percentages reflect a calculation of $(\text{Total non-interest income}) / (\text{Total interest income} + \text{Total non-interest income})$. This analysis is sensitive to the time period chosen for comparison. Looking further back in history, non-interest income historically made up an even smaller share of revenues. See FDIC, *QBP Time Series Spreadsheets: Quarterly Income*, <https://www.fdic.gov/analysis/quarterly-banking-profile/>.

161 JOSEPH HAUBRICH & TRISTAN YOUNG, TRENDS IN THE NONINTEREST INCOME OF BANKS (FEDERAL RESERVE BANK OF CLEVELAND, 2019), <https://www.clevelandfed.org/en/newsroom-and-events/publications/economic-commentary/2019-economic-commentaries/ec-201914-trends-in-the-noninterest-income-of-banks.aspx#U2>. Haubrich and Young (2019) define service charges as including deposit service charges (maintenance fees, overdraft fees, inactive account fees) and some items from “other non-interest income” (ATM fees, income from sales of checks, safety deposit box charges).

162 *Id.*

163 FDIC, *supra* note 141.

Figure 8: Ratio of Service Charges to Operating Revenue by Bank Asset Size



Source: Call Reports (Data compiled by Haubrich and Young (2019))¹⁶⁴

Yet the broader trends remain – non-interest income as a share of operating revenues has declined. NIMs have been stable or declined, which is likely due to many factors. Ultimately, these trends provide little insights into the direct impact of new entrant non-bank firms on competition in consumer finance markets.

2.2.3 New Firm Entry

Changes in industry concentration are largely affected by firm consolidation and the ease of firm entry within the industry. As noted above, precisely defining the broad universe of firms currently competing in the market is difficult especially since many have entered at different parts of the value chain. However, there are readily available data on IDIs and enough data on other new entrants to give a general impression on firm entry into the market. IDI entrance to

164 *Id.*

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the market through new bank charters has fallen off substantially since 2010.¹⁶⁵ As of the end of 2021, 62 new banks have been chartered and opened since 2010, or just fewer than six on average each year. This replaced approximately 2% of acquired, liquidated, or failed banks during that same time period.¹⁶⁶

However, for new entrants, digital innovation has reduced cost barriers, allowing many new firms to enter the market.¹⁶⁷ Market research indicates that between 2008 and 2017 over 1,200 banking fintech companies were formed, with over 600 such firms focused on banking, deposits, and lending and over 650 focused on payments.¹⁶⁸ Market research also shows that between 2015 and 2021, about 1,200 general fintech funding deals were completed each year on average, with the annual total funding for the industry increasing from \$10.7 billion in 2015 to \$62.9 billion in 2021.¹⁶⁹ The available data support the view that while entering the market via a bank charter remains limited, many fintech firms have found success raising funds and have been entering market segments that do not require bank charters in increasing numbers. Thus, despite limited entry by de novo IDIs, these markets have seen considerable new firm entry, predominantly by non-bank fintech firms.

2.2.4 Firm Investments

The amount of capital investment IDIs are making in technology has risen. At the same time, investment in fintech has grown over the last decade and reached record levels in 2021. The financial services industry is currently marked by significant amounts of capital investment – from both incumbents and other non-bank entrants – generally in an effort to develop the digital capabilities that consumers are demanding. This could suggest that there

165 Many factors may be impacting the decline in new bank entry. A study by the economists at the FRB suggested that low profitability for banking – with low interest rates and depressed demand for banking services – may have contributed to the decline. See Robert Adams & Jacob Gramlich, *Where are All the New Banks? The Role of Regulatory Burden in New Charter Creation*, REVIEW OF INDUSTRIAL ORGANIZATION (Vol. 48 No. 2, Mar. 2016) at 181-208, <https://www.jstor.org/stable/44735132?seq=1>. A 2021 study from the Federal Reserve Bank of Kansas City drew similar conclusions, citing that new bank formation tends to be cyclical, slowing during recession, with weak economies and low bank profitability being contributing factors to slowdowns in such formation. This latter study also suggests that regulation may play a role. See Matt Hanauer, Brent Lystle, Chris Summers & Stephanie Ziadeh, *Community Banks' Ongoing Role in the U.S. Economy* at 45-46, FEDERAL RESERVE BANK OF KANSAS CITY (Economic Review 106 No. 2, Jun. 24, 2021), <https://www.kansascityfed.org/Economic%20Review/documents/8159/EconomicReviewV106N2HanauerLytleSummersZiadeh.pdf>.

166 For information on banks that have opened following an application for deposit insurance, see FDIC, *Decisions on Bank Applications*, <https://www.fdic.gov/regulations/laws/bankdecisions/depins/index.html>. For the number of FDIC-insured institutions, see FDIC, *FDIC Statistics at a Glance*, <https://www.fdic.gov/analysis/quarterly-banking-profile/statistics-at-a-glance/>.

167 ERIK FEYEN ET AL., *supra* note 21. Again, many of these new entrant firms are offering an unbundled or differently bundled product or service, often through some sort of relationship with an IDI, so the extent to which they present direct competition for IDIs may be limited or nuanced.

168 DELOITTE, *supra* note 8.

169 Each funding deal would not represent an individual firm as a firm may hold several funding rounds. See CB INSIGHTS, *supra* note 10.

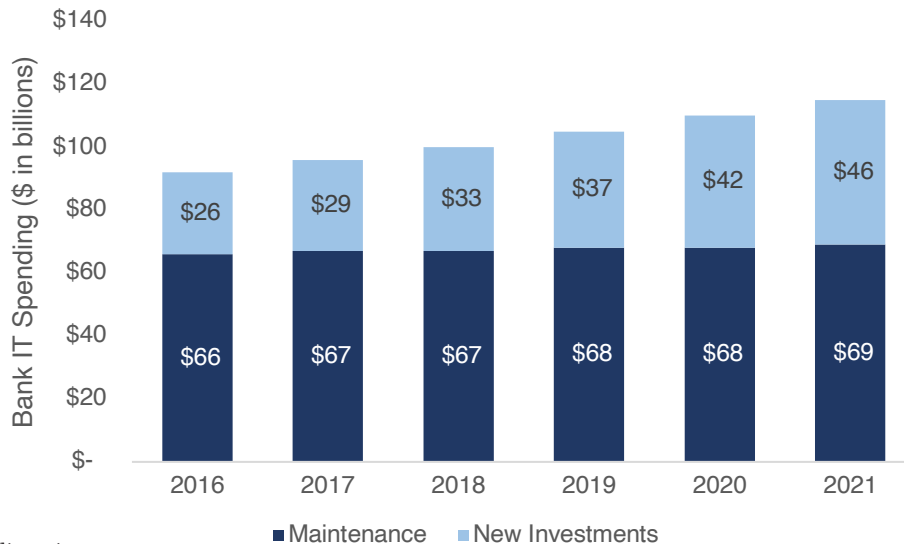
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is competitive pressure—including from new entrant non-bank firms—to invest in digital offerings, accessibility, and user experience.¹⁷⁰

2.2.4.1 Incumbent Firms

IDIs have been making significant IT investments to modernize their capabilities in response to customer demand and growing fintech market share. The importance of technology to the provision of banking services is continually increasing. The requirement to modernize their infrastructure has led to IDIs progressively spending more on technology and their providers.¹⁷¹ Because approximately 78% of U.S. consumers prefer to bank digitally¹⁷² and over 20% use a digital-only bank as their primary financial account,¹⁷³ technology is increasingly becoming a key component of the business of consumer banking. As shown below in Figure 9, IDI spending on IT has continued to increase over the last five years, with growth coming predominantly from spending on new investments rather than maintenance.¹⁷⁴

Figure 9: Bank IT Spending in North America (2016–2021)



Source: Credit Suisse¹⁷⁵

170 TIMOTHY E. CHIDO ET AL., *supra* note 96, at 1. This spending is likely a response to increased consumer demand for digital financial services, which new entrant non-bank firms have tapped into, but any competitive pressure from new entrant non-bank firms would not likely be the sole motivation and may not even be the primary motivation for these investments.

171 TIMOTHY E. CHIDO, NIK CREMO, JUSTIN FORSYTHE, COLE HYLAND, KYLE LINDGREN, MOSHE ORENBACH & CHRISTOPHER ZHANG, PAYMENTS, PROCESSORS & FINTECH: IF SOFTWARE IS EATING THE WORLD ... PAYMENTS IS TAKING A BITE 228 (CREDIT SUISSE, 2021).

172 Mitch Strohm, *Digital Banking Survey: How Americans Prefer To Bank*, FORBES ADVISOR (Mar. 8, 2022), <https://www.forbes.com/advisor/banking/digital-banking-survey-2022/>.

173 GALILEO, KEY FINDINGS: CONSUMER BANKING AND MONEY SURVEY (2021), https://www.galileo-ft.com/wp-content/uploads/2021/10/galileo_research_executive_summary.pdf.

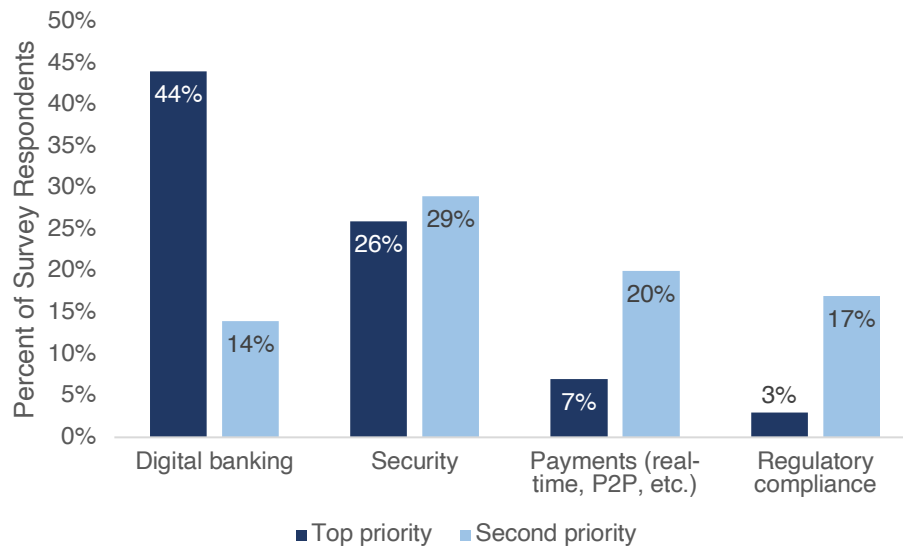
174 TIMOTHY E. CHIDO ET AL., *supra* note 171, at 228.

175 *Id.*

2. Assessing Impacts on Competition

The magnitude of IDI spending on technology in recent years may reflect historic under-investment. Additionally, investments in technology may require further spending on complementary technology to provide for new security and maintenance needs related to the core investment, further explaining the magnitude of spending. Security does appear to be a priority for IDIs' spending on technology; a survey of banks in North America found that security was a top priority for technology spending, second only to spending on digital banking capabilities.¹⁷⁶

Figure 10: IT Spending Priorities for Banks in North America



Source: Credit Suisse¹⁷⁷

Analysts estimated that technology related spending among a select group of the largest U.S. banks (their covered banks) accelerated in 2021 with the expectation for continued growth between 5-10% in 2022.¹⁷⁸ The analysts further note that the covered banks will spend more than \$70 billion in technology related investments in 2022, or about 15-20% of their total expenses; and that the top six U.S. banking firms would account for some 70% of the group's aggregate technology spending.¹⁷⁹ The analysts speculate that the banking firms will devote larger shares of their technology budgets to, "innovation and revenue generating initiatives." Additionally, the analysts believe that those banks' 2022 technology investment spending

176 *Id.*

177 *Id.*

178 JASON GOLDBERG ET AL., U.S. LARGE-CAP BANKS 2022 OUTLOOK - PAST, PRESENT & YET TO COME (BARCLAYS, Jan. 2022).

179 *Id.*

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will, “emphasize digital service and product delivery as banks look to mimic some of the positive aspects of their fintech rivals.”¹⁸⁰

Smaller IDIs, while lacking the resources of the biggest banks described above, are also finding opportunities to invest in new technology. The emergence of new business models (e.g., cloud-based service providers) can reduce certain operational costs for IDIs looking to enhance or expand their consumer financial product and service offerings with sufficient planning and appropriate implementation. Additionally, many analysts believe those smaller IDIs will engage in an increasing number of technology-related mergers to facilitate investment.¹⁸¹ Furthermore, many of the core service providers (e.g., FIS, Fiserv, Jack Henry)—whose technology services smaller IDIs have relied on to perform their “core” activities—are taking steps to offer clients new cloud-native services. This would allow smaller IDIs to more easily use and integrate the fintech applications of their choice, without being constrained by limitations of their legacy systems. Additionally, it would allow incumbent core service providers to remain competitive with new core providers promising incumbent IDIs direct access to cloud-native banking platforms that reduce cost, increase speed of launching products, increase product personalization, and allow for greater third-party connectivity.¹⁸²

180 *Id.*

181 *Id.*

182 Xavier Lhuer et al., *Next-generation core banking platforms: A golden ticket?* (MCKINSEY & COMPANY, Aug. 2019), <https://www.mckinsey.com/industries/financial-services/our-insights/banking-matters/next-generation-core-banking-platforms-a-golden-ticket>.

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Core Providers

With the exception of large IDIs who generally build and manage their own information technology infrastructure, most IDIs obtain information technology services through their core providers. These services could include, but are not limited to, payment technology, mobile and digital banking, consumer engagements, data analytics, and fraud detection. Core providers play a critical role in providing technology services for financial institutions, with a recent study showing that over a half of community banks surveyed rely exclusively on core providers to provide digital banking services¹⁸³ and another report estimating that nearly 66% of all U.S. financial institutions are using one of the six major core providers.¹⁸⁴ Industry trades and other observers have previously suggested that the limited number of core providers and widespread dependence on them could be inhibiting innovation and faster adoption of new technologies and solutions.¹⁸⁵

A survey conducted by the American Bankers Association found that just over half of responding banks believed that their core provider was helping keep them competitive with innovative solutions.¹⁸⁶ The survey also highlighted the prevalence of contract provisions that may inhibit competition among core providers, including termination penalties, and provisions that may inhibit innovation, including fees charged for implementation with third-party providers.¹⁸⁷ Consideration of more scrutiny of core providers may be warranted.

2.2.4.2 Fintech Firms

Fintech investment and activity levels, which had already been on an upward trend for about a decade, have accelerated following the start of the COVID-19 pandemic and, in 2021, reached record levels of private company financings, merger activity, Special Purpose Acquisition Company (SPAC), and Initial Public Offering (IPO) volumes.¹⁸⁸ There were signs

183 Thomas F. Siems, Jonathan A. Scott & Meredith A. Covington, *Adapting to the Digital Age: How are Core Service Providers Viewed?*, CONFERENCE OF STATE BANK SUPERVISORS (Mar. 1, 2022), <https://www.csbs.org/newsroom/adapting-digital-age-how-are-core-services-providers-viewed>.

184 CHRISTINE BARRY & DAVID ALBERTAZZI, AIM EVALUATION: THE LEADING PROVIDERS OF U.S. CORE BANKING SYSTEMS at 37 (AITE, 2019), <https://www.fiserv.com/content/dam/fiserv-com/resources/aite-aim-evaluation.pdf>.

185 Ron Shevlin, *Can Banks' Relationship With FIS, Fiserv, And Jack Henry Be Fixed?*, FORBES (Nov. 22, 2021), <https://www.forbes.com/sites/ronshevlin/2021/11/22/can-banks-relationship-with-fis-fiserv-and-jack-henry-be-fixed/?sh=abc83a0372f1>.

186 AMERICAN BANKERS ASSOCIATION, ABA 2020 CORE PROCESSOR SURVEY 8 (2020), <https://www.aba.com/-/media/documents/reports-and-surveys/aba-2020-core-processor-survey-results.pdf?rev=536a72fbad7e4f0494847825e0b851f1>.

187 *Id* at 15.

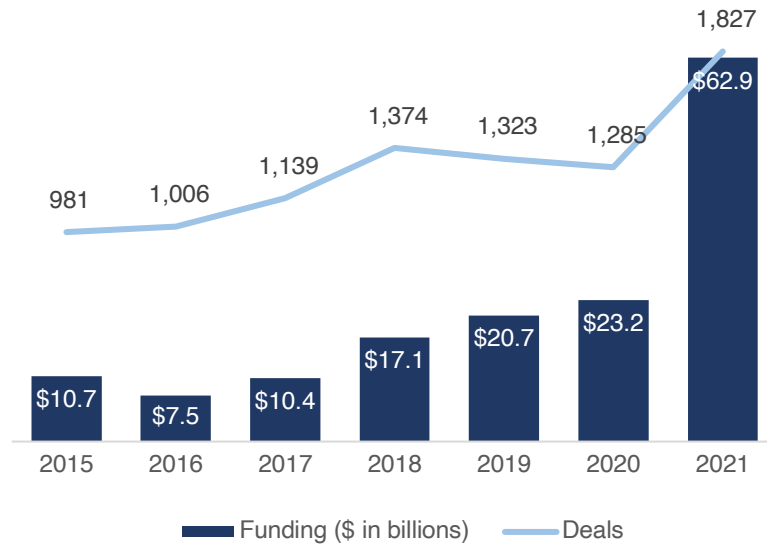
188 FINANCIAL TECHNOLOGY PARTNERS, 2021 ANNUAL FINTECH ALMANAC (2022).

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as of the first quarter of 2022 that the trajectory of growth may be shifting in light of rising interest rates and inflation, with second quarter data showing a cooling of growth.¹⁸⁹

About one out of every five venture capital investment dollars went into fintech in 2021.¹⁹⁰ As shown below, over the past six years fintech firms have received over \$150 billion in funding as part of almost 9,000 deals.¹⁹¹ In 2021 alone, the number of fintech deals increased by 42% to 1,827 and the funding received increased by 171% to over \$62.9 billion.¹⁹²

Figure 11: U.S. Fintech Funding Volume and Deal Count (2015-2021)



Source: CB Insights¹⁹³

Fintech firms have also successfully accessed the public capital markets through SPAC transactions and IPOs. U.S. fintech SPAC transactions were almost nonexistent in 2018 and 2019 with only three transactions totaling less than \$2 billion in value.¹⁹⁴ However, in 2020 and

189 Imani Moise, Siddharth Venkataramakrishnan & Joshua Oliver, *Fintechs face reckoning as easy money dries up*, FINANCIAL TIMES (Jun. 24, 2022), www.ft.com/content/2c0028ad-72a7-4176-8922-6729f6a3cc75.

190 Julia Ciutina, *Fintech valuations seriously challenged after a booming 2021*, TEARSHEET (March 23, 2022), <https://tearsheet.co/funding/fintech-valuations-seriously-challenged-after-a-booming-2021/>. Note also that venture capital funding may enable some fintech firms to build market share while operating at a loss, potentially enabling them to price products and services more competitively.

191 CB INSIGHTS, *supra* note 10, at 145.

192 *Id.*

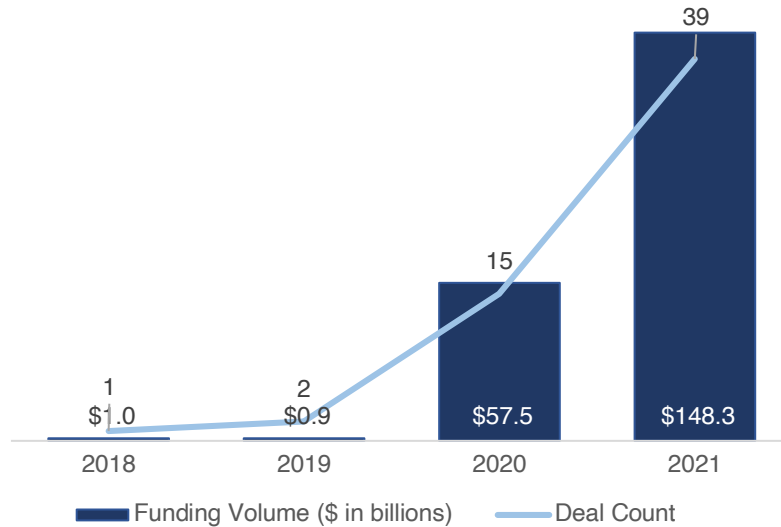
193 *Id.*

194 FINANCIAL TECHNOLOGY PARTNERS, 2021 ANNUAL FINTECH ALMANAC 55 (2022).

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2021 SPAC activity grew exponentially with over 50 transactions worth over \$200 billion taking place.¹⁹⁵

Figure 12: U.S. Fintech SPAC Merger Funding and Deal Count (2018–2021)



Source: Financial Technology Partners¹⁹⁶

Furthermore, U.S. fintech IPO volume has also increased. Fintech IPO volumes averaged approximately twelve a year from 2012 to 2019.¹⁹⁷ The volume accelerated to over 60 in the past two years (2020 and 2021).¹⁹⁸ Additionally, the amount raised from 2012 to 2019 in the IPOs totaled approximately \$30 billion, whereas fintech firms IPOs raised over \$36 billion in 2020 and 2021 alone.¹⁹⁹

¹⁹⁵ *Id.* There has also been broader growth in SPAC activity, beyond fintech. Earlier in 2022, the Securities and Exchange Commission (SEC) proposed new rules and amendments to “enhance disclosure and investor protection in initial public offerings by special purpose acquisition companies (SPACs) and in business combination transactions involving shell companies, such as SPACs, and private operating companies.” Special Purpose Acquisition Companies, Shell Companies, and Projections, 87 Fed. Reg. 29458 (May 13, 2022). In the fact sheet published with the proposed rules, the SEC observed that “Over the past two years, the U.S. public securities markets have experienced an unprecedented surge in the number of initial public offerings by SPACs. The rapid increase has heightened investor protection concerns about various aspects of the SPAC structure and the increasing use of shell companies as mechanisms for private operating companies to become public companies. See SEC, FACT SHEET: SPACs, SHELL COMPANIES, AND PROJECTIONS: PROPOSED RULES 1 (2022), <https://www.sec.gov/files/33-11048-fact-sheet.pdf>.”

¹⁹⁶ FINANCIAL TECHNOLOGY PARTNERS, *supra* note 194.

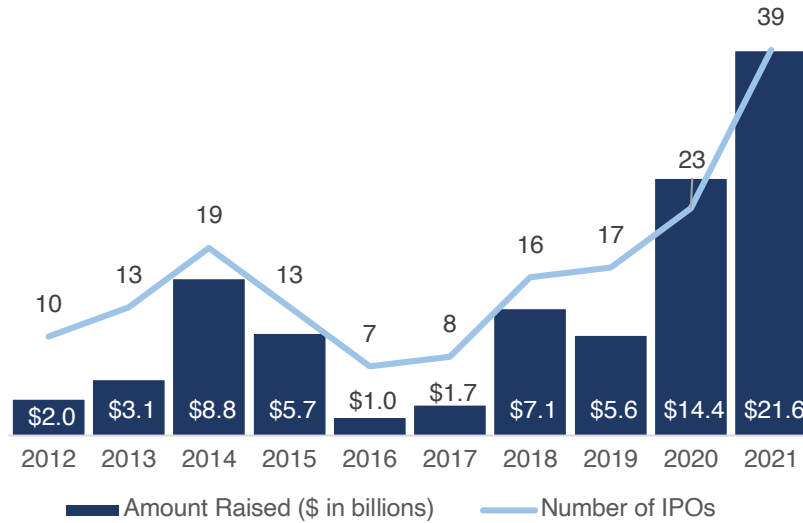
¹⁹⁷ *Id.*, at 104.

¹⁹⁸ *Id.*

¹⁹⁹ *Id.*

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Figure 13: U.S. Fintech IPOs – Amount Raised and Number of IPOs (2012–2021)



Source: Financial Technology Partners²⁰⁰

However, as noted above, data from the first quarter of 2022 shows a shift in the trajectory for fintech funding. By one estimate, funding to fintech companies fell 18% from the fourth quarter of 2021 to the first quarter of 2022, though total funding for Q1 2022 was still greater than the year ago period.²⁰¹ Additionally, fintech funding fell an additional 37% from the first quarter of 2022 to the second quarter of 2022 and 43% as compared to the second quarter of 2021 (its lowest quarterly level since the fourth quarter 2020).²⁰² Public fintech valuations have reportedly had a steeper decline than any other technology sector, falling from 25 times forward revenues in October 2021 to four times in May.²⁰³ Ultimately, the changing macroeconomic environment, with rising interest rates and inflation, may continue to hamper fintech funding and could have long term impacts on the industry and competition.²⁰⁴

2.2.5 Market Values

The stock market can provide an indication on the comparative value of public firms competing within an industry. While those market value observations are limited only to firms

²⁰⁰ FINANCIAL TECHNOLOGY PARTNERS, *supra* note 194, at 104.

²⁰¹ Imani Moise, et al., *supra* note 189.

²⁰² CB INSIGHTS, STATE OF FINTECH (Jul. 19, 2022), https://www.cbinsights.com/reports/CB-Insights_Fintech-Report-Q2-2022.pdf

²⁰³ Imani Moise, et al., *supra* note 189.

²⁰⁴ See also Nicholas Megaw & Imani Moise, *Half a trillion dollars wiped from once high-flying fintechs*, FINANCIAL TIMES (Jul. 18, 2022), <https://www.ft.com/content/338eda46-04e5-46b3-a71d-a429d21c490c>; Jason Mikula, *Even Stripe Isn't Immune to Falling Valuations*, FINTECH BUSINESS WEEKLY (Jul. 17, 2022), <https://fintechbusinessweekly.substack.com/p/even-stripe-isnt-immune-to-falling>.

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that are publicly traded, publicly traded firms tend to represent those with the largest market shares in an industry and the industry's largest participants. An individual stock price may not provide much useful information, however, when examined in tandem with peer firms or other market indicators (e.g., total number of outstanding shares or current or expected earnings), observers may gain additional insight into market expectations about specific firms or industry segments.

In 2012, based on the total market capitalization²⁰⁵ of both the KBW Nasdaq Bank Index (Bank Index)²⁰⁶ and the KBW Nasdaq Financial Technology Index (Fintech Index)²⁰⁷ incumbent IDIs represented approximately 66% of the aggregate industry.²⁰⁸ However, by the end of the second quarter of 2022 incumbent IDIs representation had fallen from 66% to 42%.²⁰⁹ Similarly, incumbent IDIs had represented seven of the top ten firms by market capitalization in 2012, but fell to only four of the top ten firms in the industry by the end of second quarter of 2022. In 2012 the weighted average P/E ratio²¹⁰ for fintech firms was almost 80% higher than that of the banks.²¹¹ However, by the second quarter of 2022 the P/E ratio for the fintech firms grew to over 4x that of the banks.²¹²

The increase in the market capitalization of fintech firms as compared to incumbent IDIs and the changing composition of the top ten firms in the industry by market capitalization both indicate some loss of market share by incumbent IDIs, while suggesting continuing market penetration by fintech firms. The difference in the past and current P/E ratios and the persistent growth in the divergence of the P/E ratios of the competing firms over time provides a market indication on the growth prospects for IDIs and that of fintech firms. Despite the

205 "Market capitalization" refers to the total dollar market value of a company's outstanding shares of stock. Generally calculated by multiplying the current stock price by the total number of common stock outstanding.

206 The KBW Bank Index is designed to track the performance of the leading banks and thrifts that are publicly traded in the U.S. The Index includes 24 banking stocks representing the large U.S. national money centers, regional banks and thrift institutions. These banks do not all serve the consumer finance markets. See NASDAQ, *KBW Nasdaq Bank Index*, <https://indexes.nasdaqomx.com/index/overview/bkx>.

207 The KBW Nasdaq Financial Technology Index is designed to track the performance of financial technology companies that are publicly traded in the U.S. Since financial technology companies are not easily categorized into a single industry group, index eligibility is not limited to securities within a particular industry classification. Companies eligible for index inclusion leverage technology to deliver financial products and services. That broad definition includes some companies that may not neatly fit within the definition of fintech firm used in this report. See NASDAQ, *KBW Nasdaq Financial Technology Index*, <https://indexes.nasdaqomx.com/index/overview/kftx>.

208 In 2012, the total market capitalization of the Bank Index was over \$605 versus \$340 billion for the Fintech Index.

209 At the end of the first quarter of 2022, total market capitalization for the Bank Index was \$1.66 trillion versus \$2.38 trillion for the Fintech Index.

210 The price-to-earnings ratio (P/E ratio) measures the current stock price of a firm relative to its earnings. It is generally calculated by dividing a firm's earnings per share (total earnings/total outstanding stock) for a designated period (usually twelve months) by its stock price. The weighted average P/E ratio is calculated by averaging the P/E ratio for the Indexes weighted by the market capitalization percentage of each firm in its respective Index. Therefore, larger firms (by market capitalization) have proportionately greater influence on the average P/E ratio.

211 In 2012 the weighted average P/E ratio for the Bank Index was 10, while for the Fintech Index it was 18.

212 At the end of first quarter of 2022 the weighted average P/E ratio was 11 for Bank Index and 38 for the Fintech Index.

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inherent limitations of the analysis, the general trend has been that the market viewed the future growth of fintech firms as being greater than that of banks. This trajectory may be shifting, however, in light of the changing macroeconomic environment; as discussed above in Firm Investments, private fintech funding declined quarter-over-quarter for two consecutive quarters in Q1 and Q2 2022.

2.3 Competition Trends in Select Consumer Finance Markets

While there are significant challenges to measuring competition in consumer finance markets—and the impact of new entrant non-bank firms on competition—it is possible to make some observations about new entrant non-bank firm activity and competitive trends in these markets. The ongoing disaggregation and re-aggregation of the value chain for delivering consumer financial products and services—as described above—has influenced the competitive landscape within each of the core consumer finance markets to varying degrees. In these markets, the competitive landscape may be shifting away from competition between incumbent IDIs and other traditional firms that have long provided bundled services to a landscape where competition is increasingly between banks and other financial and non-financial providers who, often through relationships with IDIs, are delivering a new set of bundled products and services.

In consumer *payments* many new entrant non-bank firms have emerged as competitors with consumer facing digital payments products and services, including mobile wallets and Peer to Peer (P2P) payments services. Some new entrant non-bank firms have also entered payments markets as payments processing service providers, with new entrant non-bank payment processing platforms offering customized payments solutions embedded into online retailers' sites. Other new entrant non-bank firms are providing software solutions for modern card issuance and other card services. While payment rails are somewhat insulated from new entrant non-bank firms, the growing use of such firms' solutions built on non-card rails—namely ACH—may be having some impact on relative market share and competition among payment rails and their operators.

Likewise, in *deposits*, there has been growth in the products and services that place new entrant non-bank firms as intermediaries to deposit and transaction accounts, granting such firms access to and management of customer relationships. Finally, in consumer *lending* markets, new entrant non-bank firms have grown their share of the expanding market for consumer lending products, often in collaboration with IDIs. This increases competitive pressures among incumbent firms and has increased interconnections with IDIs, with a limited number of new entrant non-bank firms acquiring, being acquired by, or becoming IDIs.

It should be noted, however that these developments are ongoing, and the ultimate impact on these core consumer finance markets and market competitiveness is still unclear.

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2.3.1 Payments Competition Trends

Non-bank firms have emerged as competitors to incumbent payments providers along several dimensions of the U.S. consumer payment ecosystem. Non-bank entrants have—largely through the provision of digital consumer payments applications—gained a significant market presence in front-end retail customer relationships, possibly disintermediating some incumbent firms’ customer relationships. Beyond this shift in the management of customer relationships, competition from new entrant non-bank firms is also impacting other layers of the payment system value chain including payment processing activities, and—to some degree—the underlying payment rails.

2.3.1.1 Consumer Facing Products and Services

Non-bank entrants have contributed to the long-term trend of increased digital payment activities among U.S. consumers. A reported 46% of U.S. consumers used a mobile device to make a payment in the 12 months ending October 2020, up from 22% in the same period ending October 2016.²¹³ The Federal Reserve Payment Study also observed that the COVID-19 pandemic likely accelerated the adoption of more innovative payment activities citing sharp increases in first-time use of P2P and digital wallets.²¹⁴

This longer-term growth trend in mobile payments is linked to the popularity and acceptance of digital payment applications (or mobile wallets), often developed by non-bank firms including Big Tech and fintech firms. Mobile wallets allow consumers to store information about their existing payment instruments (e.g., credit card, debit card, or bank account information), maintain funds within the mobile app in some cases, and spend or transfer funds using stored payment instruments or money.

The P2P product, which provides consumers a low cost or free way to transfer money to other consumers, helped spur the early and ongoing adoption of mobile wallets. P2P services typically operate over existing payment rails (e.g., ACH or card networks).²¹⁵ Non-bank service providers, such as PayPal (and later, through its acquisition of Braintree, Venmo), were early market leaders. However, the bank-sponsored P2P payments platform, Zelle, has quickly

213 KEVIN FOSTER, CLAIRE GREENE & JOANNA STAVINS, THE 2020 SURVEY OF CONSUMER PAYMENT CHOICE: SUMMARY RESULTS 7 (FEDERAL RESERVE BANK OF ATLANTA, 2021), <https://www.atlantafed.org/-/media/documents/banking/consumer-payments/survey-of-consumer-payment-choice/2020/2020-survey-of-consumer-payment-choice.pdf>. See also CLAIRE GREENE AND JOANNA STAVINS, THE 2016 AND 2017 SURVEYS OF CONSUMER PAYMENT CHOICE SUMMARY RESULTS 4 (FEDERAL RESERVE BANK OF ATLANTA, 2018), <https://www.atlantafed.org/-/media/documents/banking/consumer-payments/research-data-reports/2018/the-2016-and-2017-surveys-of-consumer-payment-choice-summary-results/rdr1803.pdf>. See also Alexander Kunst, *Online payments by type in the U.S. in 2022*, STATISTA (Apr. 1, 2022) <https://www.statista.com/forecasts/997125/online-payments-by-type-in-the-us>.

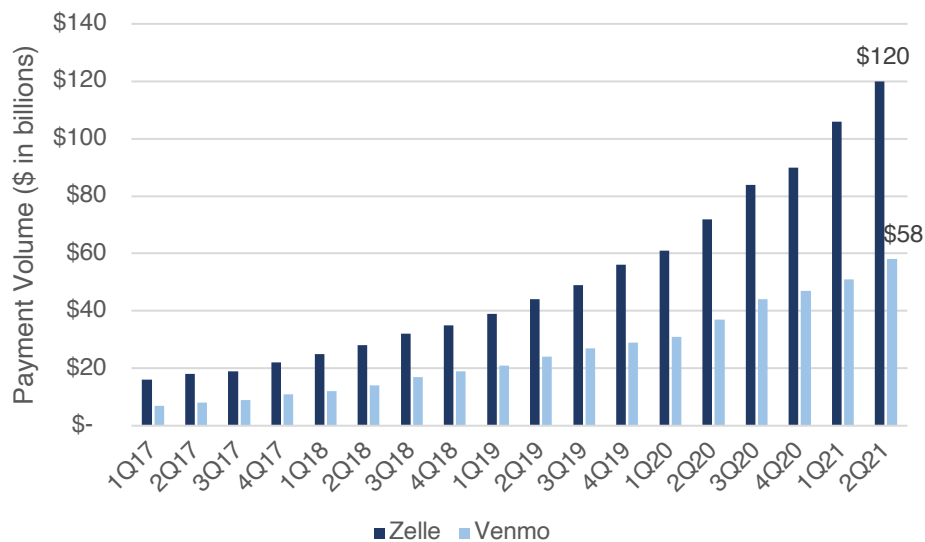
214 GEOFFREY GERDES, CLAIRE GREENE & XUJUEI (MAY) LIU, DEVELOPMENTS IN NONCASH PAYMENTS FOR 2019 AND 2020: FINDINGS FROM THE FEDERAL RESERVE PAYMENTS STUDY 2 (FRB, 2021), <https://www.federalreserve.gov/publications/files/developments-in-noncash-payments-for-2019-and-2020-20211222.pdf>.

215 *Id.*, at 13-14.

2. Assessing Impacts on Competition

grown to become perhaps the largest player in the P2P mobile payments space, measured by volume of dollars transferred.²¹⁶ While these services continue to grow in popularity, they are far from being universally accessible²¹⁷ and have been criticized because of the risks to consumers from fraudulent transactions.²¹⁸ These market services are generally free for consumers, though non-bank operators have been able to generate revenues indirectly, for example, by adapting the product to be a payment method to pay merchants.²¹⁹ Moreover, many non-bank entrants derive strategic value from the P2P service as a method to generate new customers for other services. Payment providers such as PayPal and Block, Inc. have reported that P2P has helped increase new customers and platform engagement.²²⁰

Figure 14: Mobile P2P Payment Volumes – Zelle and Venmo



Source: Barclays Research²²¹

216 Zelle reported \$490 billion in volume for 2021, up 59% from a year ago while Venmo reported \$230 billion in volume, up 44% from a year ago. See EARLY WARNING SERVICES LLC, *Nearly Half a Trillion Dollars Sent by Consumers and Businesses with Zelle® in 2021*, (Feb. 2, 2022), <https://www.earlywarning.com/press-release/nearly-half-trillion-dollars-sent-consumers-and-businesses-zelle-2021>. See also PAYPAL HOLDINGS INC., *PayPal Fourth Quarter and Full Year 2021 Results* at 3, (Feb. 1, 2022), https://s1.q4cdn.com/633035571/files/doc_financials/2021/q4/Q4-FY-21-PayPal-Earnings-Release.pdf.

217 TIMOTHY E. CHiodo ET AL., *supra* note 171, at 225. See also AnnaMaria Andriotis, *Discover Is Bringing a Payment Option Popular in Asia to the U.S.*, THE WALL STREET JOURNAL (Feb. 4, 2022), https://www.wsj.com/articles/discover-is-bringing-a-payment-option-popular-in-asia-to-the-u-s-11644843601?mod=article_inline.

218 Stacy Cowley & Lananh Nguyen, *Fraud Is Flourishing on Zelle. The Banks Say It's Not Their Problem.*, THE NEW YORK TIMES (Mar. 6, 2022), <https://www.nytimes.com/2022/03/06/business/payments-fraud-zelle-banks.html>.

219 JASON M. GOLDBERG, BRIAN MORTON, INNA BLYAKHER, MATTHEW KESSELHAUT, U.S. LARGE-CAP BANKS 2022 OUTLOOK – PAST, PRESENT & YET TO COME: CHANGING DRIVERS BUT STOCKS STILL ATTRACTIVE DESPITE 2021'S BOUNCE 59 (BARCLAYS CAPITAL INC., 2022).

220 TIMOTHY E. CHiodo, ET AL., *supra* note 171, at 121.

221 JASON M. GOLDBERG ET AL., *supra* note 219.

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Consumer-facing payments products and services have also been a common point of entry into consumer finance markets for many Big Tech firms.²²² Many Big Tech firms offer P2P services and a variety of other payments products and services through relationships with incumbents, including credit and debit card networks.²²³ The provision of such offerings can provide multiple advantages for these firms including generating a valuable source of marketable data and creating opportunities to sell their customers other financial or non-financial services.²²⁴ Additionally, Big Tech firms could generate additional revenue through advertising or e-commerce activities.²²⁵

The growing market presence of Big Tech firms appears to have also begun to impact the economics of payments. For example, Big Tech firms may earn a portion of the fees traditionally charged by incumbent payment players because of the growing share of transactions that are facilitated through their mobile wallets.²²⁶ The entrance of Big Tech firms has introduced or helped to accelerate the adoption of some new payment experiences, including contactless in-store payments and more seamless online payments. Big Tech firms appear to be continuing to invest in payment services, including efforts to introduce novel retail payment experiences by, for example, replacing in-store check-out lines with advanced sensors and biometrics or using voice recognition to pay for services.²²⁷ Reported investments in payment processing could introduce additional changes to the payment landscape.²²⁸

222 LISA QUEST, DOUGLAS ELLIOTT, DAVIDE TALIENTE & JACOB HOOK, BIG BANKS, BIGGER TECH? 9 (OLIVER WYMAN AND INTERNATIONAL BANKING FEDERATION, 2020), <https://www.oliverwyman.com/content/dam/oliver-wyman/v2/publications/2020/jul/Big%20Banks%20Bigger%20Techs%20Final%20Version.pdf>.

223 Apple, Google, Meta (f.k.a Facebook), and Samsung provide mobile payment applications which include P2P services. See NIMAYI DIXIT, 2021 US MOBILE PAYMENTS MARKET REPORT 2 (S&P GLOBAL MARKET INTELLIGENCE, 2021). Additionally, Apple launched Apple Pay in September 2014, the Apple Cash and Cash Card (virtual prepaid debit) in partnership with GreenDot and Discover in December 2017, the Apple Card (Credit Card) in partnership with Goldman Sachs and Mastercard in August 2019. See TIMOTHY E. CHIODO, ET AL., *supra* note 171, at 136-137. There has been additional reporting that Apple is developing its own internal payment processing infrastructure for future financial products. See Mark Gurman, *Apple Working to Bring More Financial Services In-House*, BLOOMBERG L.P. (Mar. 30, 2022), <https://www.bloomberg.com/news/articles/2022-03-30/apple-is-working-on-project-to-bring-financial-services-in-house>.

224 ERIK FEYEN ET AL., *supra* note 21.

225 See ARK INVESTMENT MANAGEMENT LLC, BIG IDEAS 2022 12 (2022), <https://ark-invest.com/big-ideas-2022/>.

226 Apple reportedly contracted to earn 15 basis points per credit card transaction and half a penny per debit transaction. See Mark Sullivan, *Apple Pay gets a cut of debit card (not just credit card) purchases, analyst says*, VENTUREBEAT (Nov. 3, 2014), <https://venturebeat.com/2014/11/03/apple-pay-gets-a-cut-of-debit-card-not-just-credit-card-purchases-analyst-says/>. Additionally, Bernstein analysts estimated in 2020 that Apple Pay accounted for about 5% of global transactions and could reach a 10% market share by 2025. See John Detrixhe, *Apple Pay is on pace to account for 10% of all global card transactions*, QUARTZ (Feb. 11, 2020), <https://qz.com/1799912/apple-pay-on-pace-to-account-for-10-percent-of-global-card-transactions/>.

227 Amazon, for example, has been developing in-store payments for consumers without the use of a check-out line (through reliance upon computer vision, shelf sensors, or biometrics) and allowing for voice-activated payments at gas stations. See CB INSIGHTS, EVERYTHING YOU NEED TO KNOW ABOUT WHAT AMAZON IS DOING IN FINANCIAL SERVICES (2022), <https://www.cbinsights.com/research/report/amazon-across-financial-services-fintech/>.

228 See Mark Gurman, *supra* note 223.

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In some jurisdictions outside of the U.S., Big Tech firms have gained significant presence in retail payments systems. For example, the two largest Big Tech payments firms in China, Alipay and Tenpay, account for 94% of mobile payments in the country, and Big Tech mobile payments overall are equivalent to 16% of GDP in China, far more than any other country.²²⁹ Similarly, within India's Unified Payments Interface system, two Big Tech firms, Google and PhonePe, control 85% of the market for third-party payments applications by transaction value.²³⁰ However, within the U.S., Big Tech activity to date has been more restrained, with limited direct balance sheet activities.²³¹

2.3.1.2 Payment Processing Service Providers

Consumer-facing payment product and service offerings have continued to evolve in parallel with changes to the underlying payment processing ecosystem. New and emerging payment processing service providers have sought to build scale and efficiency in the back-end infrastructure and processing elements of the payments value chain. Several large new non-bank payment processing service providers have entered the market in the last couple of decades, providing new digital services to merchants and consumers.²³²

These firms have expanded the scale and scope of financial services offered as merchants have relied upon some of these players for online commerce or in-store sales. PayPal, for example, has now become a leading payment option on U.S. e-commerce sites: over three quarters of the 1,500 largest online retailers across North America and Europe offer PayPal as a payment method, far outpacing other similar competitors.²³³ These firms generate a significant share of their revenues through fees paid by merchants embedding the payment technologies into their retail services. They may also compete by adding non-payment software services designed to meet the needs of particular industry segments, for example through nonfinancial services targeting the restaurant, fitness, or education sectors.²³⁴

Other firms that provide payment software infrastructure have emerged alongside these merchant-acquiring business models within the 'middle' layers of the value chain. The demand for modern virtual and physical debit card issuance and processing by both incumbent and

229 Agustín Carstens et al., *supra* note 41, at 4. See also FINANCIAL STABILITY BOARD, BIGTECH IN FINANCE: MARKET DEVELOPMENTS AND POTENTIAL FINANCIAL STABILITY IMPLICATIONS 5-6 (2019), <https://www.fsb.ouletingr/wp-content/uploads/P091219-1.pdf>.

230 See KAREN CROXSON, JON FROST, LEONARDO GAMBACORTA & TOMASO VALLETTI, PLATFORM -BASED BUSINESS MODELS AND FINANCIAL INCLUSION 16 (BANK FOR INTERNATIONAL SETTLEMENTS, Working Paper No. 986, 2022), <https://www.bis.org/publ/work986.pdf>.

231 LISA QUEST, *supra* note 222, at 18.

232 For example, Block, PayPal, and Stripe.

233 PAYPAL HOLDINGS INC., Q4-21 INVESTOR UPDATE 8 (2022), https://s1.q4cdn.com/633035571/files/doc_financials/2021/q4/PYPL-Q4-21-Investor-Update.pdf.

234 ALESSIO BOTTA, PHILIP BRUNO & JEFF GALVIN, THE 2021 MCKINSEY GLOBAL PAYMENTS REPORT 36 (MCKINSEY & COMPANY, 2021), <https://www.mckinsey.com/~media/mckinsey/industries/financial%20services/our%20insights/the%202021%20mckinsey%20global%20payments%20report/2021-mckinsey-global-payments-report.pdf>.

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fintech financial service providers, for example, has resulted in new entrant non-bank business models that specialize in a variety of card services. With some 320 million cards issued, Marqeta, a new entrant non-bank firm that specializes in debit card issuance and processing for other firms, would be a top 25 issuer of debit cards in the U.S. if it were consolidated as a single-issuer, as opposed to a service provider to other companies.²³⁵ Such new card service providers typically operate in a relationship with a card issuing bank, often choosing a bank that is exempt from the Durbin Amendment's cap on debit card "swipe" fees, which is further discussed in Section 3 on Opportunities and Risks.²³⁶ Increasingly, the economics of card issuance may no longer accrue only to the card networks, traditional card issuing banks, and preferred cardholders (via rewards), but may now also need to be shared with front-end fintech firms and new middle-layer non-bank intermediaries.²³⁷

Competition in payment services may continue to expand given the recent influx of investment dollars and potential incumbent responses to competitive pressures. Investments in the fintech payment space reached a record \$104 billion in 2021, most of which was concentrated in merchant acquiring and processing firms. Analysts note that new entrants may have an added competitive advantage because investors expect more stable profits and margins from incumbent financial institutions than for new entrants.²³⁸ In a potentially related dynamic, incumbent card payment processors and merchant acquirers have undergone consolidation, with three significant mergers in 2019, ostensibly as they seek to compete on scale economies.²³⁹

235 MARQETA, INC., AMENDMENT NO. 2 TO FORM S-1 7 (2021), <https://investors.marqeta.com/static-files/6adb2aee-f862-404a-a730-22a6556742a5>. See also TIMOTHY E. CHIODO ET AL., *supra* note 171, at 246.

236 For a list of partnership banks, see Rex Salisbury & Anish Acharya, *supra* note 87.

237 Firms that earn revenue from card transactions may be incentivized to join card networks that set ever higher interchange fees, creating a form of reverse competition, driving swipe fees up at the cost of merchants and consumers. See Ed Mierzewski, Senior Director of Federal Consumer Programs, U.S. PIRG, Written Testimony before the U.S. Senate Judiciary Committee (May 4, 2022), at 2, <https://www.judiciary.senate.gov/imo/media/doc/Mierzewski%20testimony.pdf>.

238 JAMES E. FAUCETTE, MERYL R. THOMAS, SANDY BEATTY, JONATHAN Y. LEE & MICHAEL N. INFANTE, 2022 FINTECH & PAYMENTS OUTLOOK: WAITING FOR THE WORLD TO CHANGE 9 (MORGAN STANLEY & CO. LLC, 2022).

239 Ben Walsh, *Global Payments and TSYS Merger Shows Scale Is Driving Payments Industry*, BARRON'S (May 28, 2019), <https://www.barrons.com/articles/global-payments-tsys-merger-shows-scale-driving-payments-industry-51559066308>. See also Fiserv, Inc., *Fiserv to Combine with First Data Corporation to Create Global Leader in Payments and FinTech*, (Jan. 16, 2019), <https://newsroom.fiserv.com/news-releases/news-release-details/fiserv-combine-first-data-corporation-create-global-leader>. See also FIS, *FIS Closes Acquisition of Worldpay, Enhancing its Global Technology Leadership Serving Merchants, Banks and Capital Markets*, (Jul. 31, 2019), <https://www.fisglobal.com/en/about-us/media-room/press-release/2019/fis-closes-acquisition-of-worldpay-enhancing-its-global-technology-leadership>.

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2.3.1.3 Payment Rails

The U.S. consumer payment infrastructure consists of several key rails: (i) credit and debit card systems;²⁴⁰ (ii) ACH systems for transferring funds between bank accounts; (iii) wires; (iv) nascent private and forthcoming instant payment systems; and (v) remaining non-digital rails, such as checks and cash.²⁴¹

Despite the influx and growing activity of new entrant non-bank firms in other layers of the payments value chain, most of these new entrants' payments offerings²⁴² still rely upon the existing payment rails, and upon IDIs who have access to those rails.²⁴³ Also, as noted above, the card network market is concentrated among a small group of incumbents.²⁴⁴ This has meant relative insulation and stability for the payment rails and their operators. However, the payment rails may not be immune to change, and factors including the COVID-19 pandemic appear to have contributed to a shift toward noncash payment methods.

In 2020, the share of the number of transactions of noncash payments provided through card networks declined for the first time, while the share of transactions made through ACH networks increased.²⁴⁵ The uptick in ACH was due to a range of factors, including more direct ACH payments between consumers and businesses, the use of ACH to settle payments for popular mobile apps, and government stimulus payments in response to the COVID-19 pandemic.²⁴⁶ The decline in card payments appears to be driven by the decline in in-person payments, with consumers changing behavior in response to lockdown restrictions, and making fewer—though on average larger—remote card payments.²⁴⁷ Prior to 2020, there was a longer multi-year trend in the decline of check usage and an increase in card and ACH, which has continued.²⁴⁸ Usage of TCH's instant payment systems – the Real Time Payment (RTP) network – grew throughout the pandemic, but is still a minimal fraction of total payments volume.²⁴⁹

240 The card systems in turn consists of an ecosystem of players including card issuing banks, payment processors, the card networks, merchant acquirers, and merchant banks.

241 For a more in depth overview of the U.S. payments system, see CHERYL R. COOPER, MARC LABONTE & DAVID W. PERKINS, U.S. PAYMENT SYSTEM POLICY ISSUES: FASTER PAYMENTS AND INNOVATION (CONGRESSIONAL RESEARCH SERVICE, R45927, 2019), <https://crsreports.congress.gov/product/pdf/R/R45927>.

242 Digital assets projects could pose potential for disruption in payments rails, but discussion of such projects is out of scope for this report, and this report does not provide comment on the likelihood of any such developments or their potential impacts.

243 ERIK FEYEN ET AL., *supra* note 21, at 27.

244 AnnaMaria Andriotis, Brent Kendall & Peter Rudegeair, *supra* note 35.

245 FRB, DEVELOPMENTS IN NONCASH PAYMENTS FOR 2019 AND 2020: FINDINGS FROM THE FEDERAL RESERVE PAYMENTS STUDY 2 (2021), <https://www.federalreserve.gov/publications/files/developments-in-noncash-payments-for-2019-and-2020-20211222.pdf>.

246 *Id.*, at 5.

247 *Id.*, at 2, 6-10.

248 *Id.*, at 2, 5-6.

249 THE CLEARING HOUSE, REAL-TIME PAYMENTS FOR ALL FINANCIAL INSTITUTIONS (1Q22), <https://www.theclearinghouse.org/payment-systems/rtp>.

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Table 1: Shares of noncash payments (2018–2020)

	Number			Value		
	2018	2019	2020	2018	2019	2020
Card	73.88	74.64	74.25	7.08	7.45	7.84
ACH	17.56	17.87	19.24	65.69	66.80	69.25
Check	8.55	7.50	6.51	27.23	25.74	22.91
Total	100.00	100.00	100.00	100.00	100.00	100.00

Note: Figures may not sum because of rounding.

Source: FRB Depository and Financial Institutions Payments Study (DFIPS) 2018 (all institutions); DFIPS 2019–2020 (large institutions)²⁵⁰

Thus, new entrant non-bank firms do appear to have some impact on the market shares of payment rails, including, for example, through their aforementioned contribution to growth in utilization of ACH.²⁵¹ There are a diversity of new entrant firms offering payments products and services that are built on top of different payments rails, including ACH. Yet there is evidence of market interest in further expanding non-card digital payments solutions beyond P2P to merchants, even among some card-issuing IDs who would risk cannibalizing some of their interchange fee income.²⁵² If this trend continues, it could increase competitive pressure for card networks.

Access to the Federal Reserve System’s payments networks by new entrant non-bank firms has been extremely limited, and accordingly, has not had observable impacts on competition or market share of different payment rails. The Federal Reserve has issued guidance on how non-bank firms might qualify,²⁵³ meaning that continued attention is warranted as such firms—utilizing direct access to payment rails—could have an impact on competition amongst payments providers as well as payments networks.

250 FRB, *supra* note 245, at 4.

251 *Id.*, at 5.

252 For example, PayPal and Amazon announced a partnership to enable customers to pay with Venmo—which currently offers a P2P payment solution built on ACH—at checkout on Amazon. See PAYPAL, *PayPal and Amazon to Enable Customers to Pay with Venmo at Checkout*, (Nov. 8, 2021), <https://newsroom.paypal-corp.com/2021-11-08-PayPal-and-Amazon-to-Enable-Customers-to-Pay-with-Venmo-at-Checkout>. Additionally, it has been reported that the seven banks that own Early Warnings Services LLC, the company that operates Zelle, are similarly debating whether to create a customer to merchant payments solution through Zelle, moving funds through an account-to-account transaction on a non-card payments rail such as ACH. Banks earn little to no fees on transactions routed through such payment rails, in contrast to the interchange fee revenue earned from card transactions. Thus, it appears such a move would be incentivized by other factors, possibly including consumer demand and competitive pressure. See AnnaMaria Andriotis & David Benoit, *Banks Weigh Using Zelle to Challenge Visa, Mastercard*, THE WALL STREET JOURNAL (Apr. 6, 2022), <https://www.wsj.com/articles/banks-weigh-using-zelle-to-challenge-visa-mastercard-11649246400>. See also TIMOTHY E. CHIODO ET AL., *supra* note 171, at 221.

253 Proposed Guidelines for Evaluating Account and Services Requests, 86 Fed. Reg. 25865 (May 11, 2021).

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2.3.2 Deposit Competition Trends

By definition, IDIs hold insured deposits and non-bank firms cannot. However, there are new entrant non-bank firms—namely neobanks²⁵⁴—that manage front-end customer relationships and facilitate the taking of deposits, which are then held by an IDI or network of IDIs. Separately, there are other new entrant non-bank firms – primarily payments companies – that have evolved to include consumer balance accounts on their platforms through which consumers can make and receive payments. While these account balances are not deposits and are not insured for the consumer, there is evidence that some consumers may view and utilize these accounts as their primary transaction account.²⁵⁵ In the case of both the non-bank neobanks facilitating deposit taking and management of an insured deposit account, and the new entrant non-bank payments companies holding consumers’ funds in un-insured platform accounts, non-bank firms are providing an increasing amount of front-end consumer savings and transaction account services. This shift in non-bank firms managing customer relationships may be increasing the intensity of competition for front-end customer relationships, because the providers closest to the customer tend to earn the highest margins.²⁵⁶

The tendency toward more limited Big Tech involvement in financial services has also been reflected in deposit-related financial products and services. Regulatory requirements associated with deposit-taking and restrictions on the mixing of banking and commerce may be one factor behind this trend. Additionally, Big Tech and incumbent firms in financial services have a multi-dimensional relationship, interacting as collaborators or competitors in financial services as well as vendors and customers, for example, when some Big Tech firms sell cloud services to financial services firms. This may, in turn, lead these firms to pursue different strategies that might put them in direct competition with their IDI customers and collaborators.²⁵⁷ However, that is not to say all Big Tech firms have completely avoided deposit-related

254 As previously defined for this report, neobanks may be digital only-IDIs without traditional physical branch networks or fintech firms that provide a digital consumer interface, such as a mobile app, through which they offer financial services in arrangements with IDIs. Non-bank neobanks discussed in this section are the latter.

255 See Ron Shevlin, *The Growing Domination of Chime, Cash App, and PayPal In Banking*, FORBES (Mar. 1, 2022), <https://www.forbes.com/sites/ronshevlin/2022/03/01/the-growing-domination-of-chime-square-cash-app-and-paypal-in-checking-accounts/?sh=45f300bc565c>.

256 ERIK FEYEN, ET AL., *supra* note 21, at 27.

257 For example, some analysts have observed that Google’s strategy to grow its cloud business with the financial services industry may have been a factor that led to the end of the much-anticipated Google Plex checking account product offering. See Ron Shevlin, *Google Kills the Google Plex: It Could Have Been a Digital Checking Account Killer App*, FORBES (Oct. 1, 2021), <https://www.forbes.com/sites/ronshevlin/2021/10/01/google-kills-the-google-plex-it-could-have-been-a-digital-checking-account-killer-app/?sh=6eb691f220d5>. See also Alex Johnson, *Big Tech is Now Focused on Financial Services*, FINTECH TAKES (Apr. 13, 2022), <https://newsletter.fintechtakes.com/p/big-tech?s=r>. See also Sampath Sharma Nariyanuri, *Google’s banking push in India could be model for other markets*, S&P GLOBAL MARKET INTELLIGENCE (Mar. 3, 2022), <https://www.capitaliq.spglobal.com/web/client?auth=inherit#news/article?id=69096488&KeyProductLinkType=6>.

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offerings. Mobile device-maker Samsung announced in 2020 that it was offering its mobile device users deposit accounts through a relationship with SoFi.²⁵⁸

2.3.2.1 Customer Account Relationships

Non-bank neobanks offer deposit accounts—often interest-bearing savings accounts—to their customers through relationships with IDIs. Such non-bank intermediated deposit services may compete with those provided directly by IDIs by providing more attractive yields, lower or no fees, or by bundling the deposit service with other services and conveniences.²⁵⁹ For example, some non-banks may offer advances to cover overdraft fees accrued in their IDI account, expedited paycheck or money transfer withdrawals, or retail point-of-sale loans.²⁶⁰ The provision of these benefits by neobanks may be putting competitive pressure on IDIs to take similar measures, such as eliminating overdraft fees.²⁶¹ Additionally, many neobanks are leveraging their technology to specialize in serving particular customer segments, for example, by profession, life status, or an underserved community group.²⁶²

Meanwhile, payments firms have seen growth in the amount stored in consumer balance accounts on their platforms, though the average amount of funds stored in such accounts remains small.²⁶³ Consumers appear to be willing to store only limited amounts of funds in such accounts and may not view these accounts as viable substitutes for their main deposit accounts.²⁶⁴ Yet, there is some evidence that some consumers—younger consumers in particular—may view such accounts as their primary checking account.²⁶⁵

258 The Samsung Money by SoFi offer includes a debit card, a deposit account (with up to a reported \$1.5 million in FDIC insurance through a partnership with several banks) and ATM services through a partnership with SoFi. See SAMSUNG, *Introducing Samsung Money by SoFi: Do More With Your Money*, (May 27, 2020), <https://news.samsung.com/us/introducing-samsung-money-samsung-pay-sofi/>.

259 STUART PLESSER, DEVI AURORA & BRENDAN BROWNE, *THE FUTURE OF BANKING: THE GROWTH OF TECHNOLOGY* (S&P GLOBAL MARKET INTELLIGENCE, 2019), <https://www.spglobal.com/en/research-insights/articles/the-future-of-banking-the-growth-of-technology-and-its-impact-on-the-u-s-banking-sector>.

260 See AFFIRM, FORM 10-K 66 (2021), <https://investors.affirm.com/static-files/b85853cf-b293-46f8-a6e9-e63c0287e6f1>. See also DAVE INC., FORM S-1 8 (2022), <https://investors.dave.com/static-files/6f01feb0-1058-4350-a78e-052437d34756>. See also MONEYLION INC., FORM S-1 97 (2022) <https://investors.moneylion.com/filings-financials/all-sec-filings/content/0001213900-22-014240/0001213900-22-014240.pdf>.

261 IDIs have faced regulatory scrutiny in addition to any potential competitive pressure from new entrant non-bank competitors to eliminate overdraft fees. See Zach Fox & Ronamil Portes, *More banks cut overdraft fees as pressure builds*, S&P GLOBAL MARKET INTELLIGENCE INC. (Jan. 14, 2022), <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/more-banks-cut-overdraft-fees-as-pressure-builds-68413658>. See also Rey Mashayekhi, *Ally's move to eliminate overdraft fees puts more pressure on big banks to lose a big revenue source*, FORTUNE (Jun. 8, 2021), <https://fortune.com/2021/06/08/ally-bank-overdraft-fees-fintech-banking-challenger-banks/>.

262 See Miriam Cross, *5 new challenger banks with ultraspecific niches*, AMERICAN BANKER (Sept. 29, 2021), <https://www.americanbanker.com/list/5-new-challenger-banks-with-ultraspecific-niches>.

263 NIMAYI DIXIT, *supra* note 223, at 10-11. Cash App reportedly held roughly \$40 per customer on average as of the end of Q2 2021, while PayPal held approximately \$77 per active account.

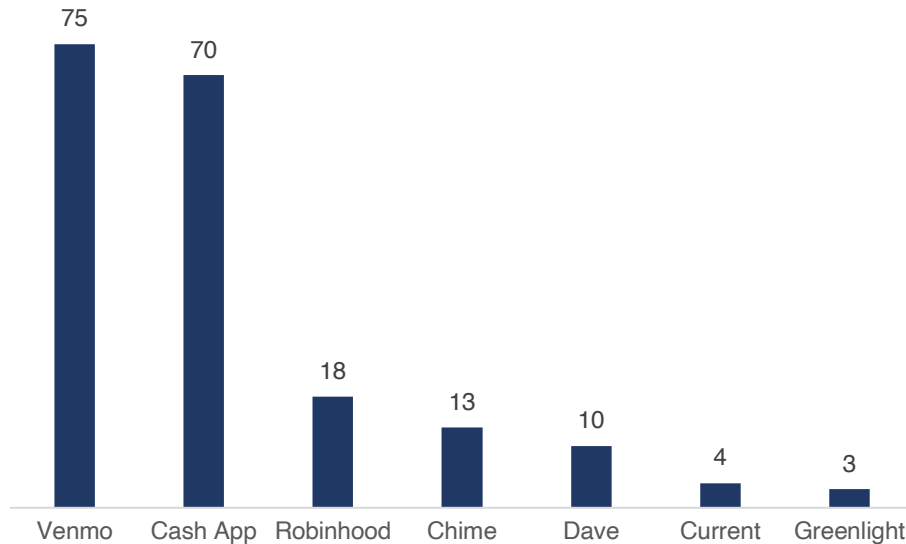
264 *Id.*

265 Ron Shevlin, *supra* note 255. Reportedly, more than a quarter of Gen Z and nearly a third of Millennials consider a digital bank – defined to include non-bank neobanks like Chime as well as payments platforms like PayPal and Cash App – their primary checking account provider.

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In any case, new entrant non-bank firms are increasingly managing the front-end customer relationship for deposit and transaction accounts. The growth in the number of customer account relationships of these new entrant non-bank firms is indicative of this ongoing trend in the customer front-end relationship. By one estimate, neobanks now have over 200 million account users in the U.S.²⁶⁶

Figure 15: Estimated U.S. Account Users of Non-bank Neobanks and Payments Companies with Balance Accounts for Consumers as of Early 2021 (in millions)



Source: Credit Suisse²⁶⁷

266 TIMOTHY E. CHIODO, ET AL., *supra* note 171, at 168. Neobanks are defined more broadly in the cited study to include non-bank neobanks as defined in this report as well as payments companies with balance accounts for consumers. These accounts are not mutually exclusive (there is likely cross-over) and not all users necessarily maintain a deposit-related account relationship with the provider. Cash App is included in this estimate. Cash App’s parent company, Block, Inc., does operate a chartered industrial loan company (ILC) – Square Financial Services. Cash App is a non-bank entity that partners with an IDI – Lincoln Savings Bank – to obtain FDIC insurance for Cash App account balances. See CASH APP, *Is my Cash App balance insured by the FDIC?*, <https://cash.app/help/us/en-us/6500-cash-app-and-fdic#:~:text=If%20you%20have%20a%20Cash,not%20covered%20by%20FDIC%20insurance>. See also CASH APP, *Cash Lincoln Savings Bank Terms of Service*, <https://cash.app/legal/us/en-us/cash-lsb-terms>. Robinhood is also included in this estimate. In addition to brokerage services offered through Robinhood Financial, LLC, a registered broker dealer, the platform offers the Robinhood Money spending account through Robinhood Money, LLC, a licensed money transmitter. Robinhood also offers the Robinhood Cash Card, which is a prepaid card issued by an IDI, Sutton Bank. Robinhood states that “funds held in the Robinhood Money spending account and Robinhood Cash Card account may be eligible for FDIC pass-through insurance.” See ROBINHOOD, *Insurance*, <https://robinhood.com/us/en/support/articles/spending-insurance/>. See also ROBINHOOD, *Deposit money into your Robinhood account*, <https://robinhood.com/us/en/support/articles/deposit-money-into-your-robinhood-account/>.

267 *Id.*

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However, neobanks have struggled with profitability, with several such firms running operating losses.²⁶⁸ Interchange fees on debit card transactions are a major revenue source for neobanks, and these firms appear to be competing to grow their user base, from which they may hope to then profit once scale is achieved.²⁶⁹ Viability of this strategy is largely dependent on investors willing to finance the losses.²⁷⁰

2.3.3 Lending Competition Trends

Many new entrant non-bank firms are leveraging data and new technologies to offer digital consumer lending products and services. New entrant non-bank firms have emerged as active players across multiple points on the value chain for a variety of different consumer lending products, including customer-facing loan acquisition, credit evaluation, loan processing, and servicing. This section examines trends in key consumer lending products offered by new entrant non-bank firms, highlighting growth in fintech firms' personal loans and credit alternatives, including buy now, pay later ("BNPL") and earned or early wage access ("EWA") offerings.

Big Tech firms have generally been less active in providing credit directly to U.S. consumers though some have partnered with other providers to offer consumers credit cards and BNPL services.²⁷¹ This may be changing; Apple announced in June 2022 that it would offer BNPL products directly through a wholly owned subsidiary, Apple Financing LLC.²⁷² The possibility and potential impacts of further entry by Big Tech firms is further explored in the Prospective Impacts section of this Report.

Outside of the U.S., Big Techs appear to have invested more in lending capabilities.²⁷³ Relying upon a limited dataset, BIS researchers estimate that globally, Big Tech credit is surpassing fintech credit but that overall market shares still remain minimal.²⁷⁴ For the U.S. market, Big

268 NIMAYI DIXIT, *supra* note 223, at 12. See also Tom Groenfeldt, *Neobanks Are Plentiful But Rarely Profitable*, *Forbes* (May 19, 2022), <https://www.forbes.com/sites/tomgroenfeldt/2022/05/19/neobanks-are-plentiful-but-rarely-profitable/?sh=5cb879407aa9>.

269 *Id.*

270 *Id.*

271 Amazon, for example, provides credit cards for its Prime customers through a partnership with JP Morgan and Visa and has partnered with Affirm to provide BNPL to its Amazon customers under an exclusive agreement through 2023. See CB INSIGHTS, *supra* note 227. See also TIMOTHY E. CHIDO, ET AL., *supra* note 171, at 136-137.

272 Tim Bradshaw, Siddarth Venkataramakrishnan, Imani Moise, Joshua Franklin & Gary Silverman, *Apple sidelines Goldman Sachs and goes in-house for lending service*, *FINANCIAL TIMES* (Jun. 8, 2022), <https://www.ft.com/content/fc4eeb5c-479a-4daf-9f8b-808ee937530f?emailId=62a1c7f404aa870023c12c58&segmentId=13b7e341-ed02-2b53-e8c0-d9cb59be8b3b>.

273 GIULIO CORNELLI, JON FROST, LEONARDO GAMBACORTA, RAGHAVENDRA RAU, ROBERT WARDROP & TANIA ZIEGLER, *FINTECH AND BIG TECH CREDIT: A NEW DATABASE* (BANK FOR INTERNATIONAL SETTLEMENTS, BIS Working Papers No. 887, 2020), <https://www.bis.org/publ/work887.pdf>.

274 *Id.*

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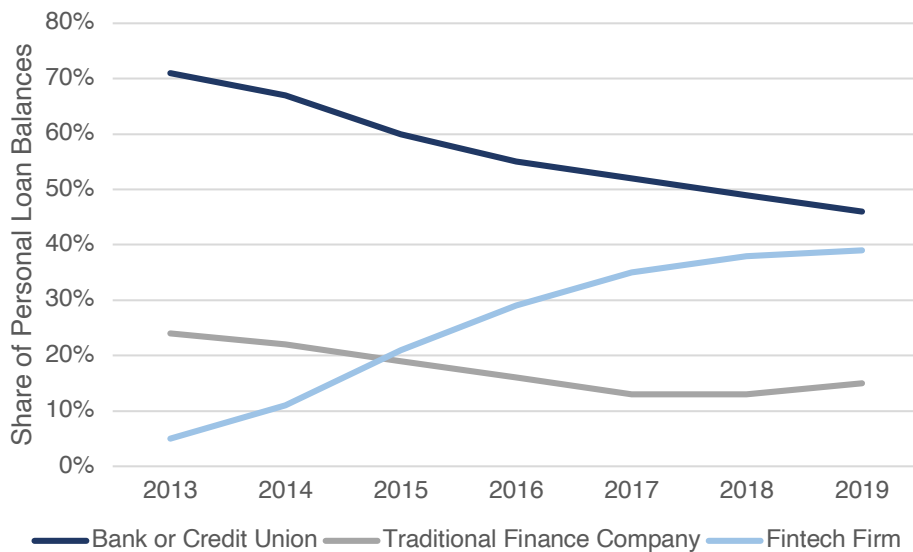
Tech and fintech credit appears to be less than 1% of total credit, though the data does not provide for specific segment market share analysis.²⁷⁵

2.3.3.1 Consumer Lending Products

2.3.3.1.1 Personal Loans

The unsecured personal loan market is estimated to serve approximately 20 million consumers with a total balance of \$167 billion as of Q4 2021, a record level.²⁷⁶ Fintech firms have grown to make up a larger share of the market as it has expanded. By one estimate, fintech firms increased their share of the balance of unsecured personal loans from 5% in 2013 to 39% in 2019.²⁷⁷

Figure 16: Personal Loan Market Share



Source: Credit Suisse²⁷⁸

Similarly, data on a set of personal lending-focused fintech firms (several of which have since acquired, been acquired by, or become IDIs) shows a compound annual growth rate of cumulative originations of nearly 32% from Q3 2016 to Q3 2021.²⁷⁹

275 *Id.*

276 TRANSUNION, *All Signs Point to a Healthy Credit Market in 2022*, (Mar. 9, 2022), <https://www.transunion.com/blog/all-signs-point-to-a-healthy-credit-market-in-2022>.

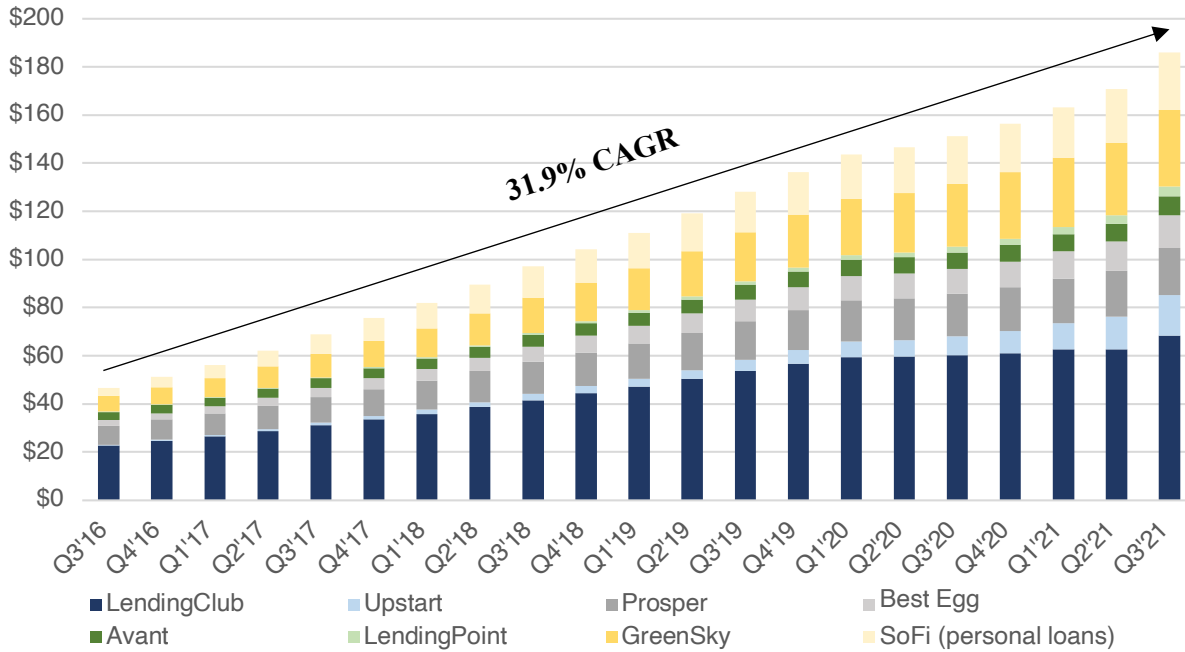
277 TIMOTHY E. CHIODO, ET AL., *supra* note 171, at 155.

278 *Id.*

279 NIMAYI DIXIT, *supra* note 88, at 5, 8. Additionally, despite seeing a sharp decline in annual originations in 2020, these personal-focused digital lenders saw robust growth in 2021, with originations growing by 119% year over year from 2020 to 2021, and up 37% relative to 2019 levels.

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Figure 17: Cumulative Originations by Personal-Focused Lenders



Source: S&P Global Market Intelligence²⁸⁰

More broadly, 2021 saw a record level of investment into digital lending, with \$20.7 billion in disclosed equity funding, nearly 90% higher than 2020.²⁸¹ However, it appears most of this surge in funding has been directed toward small- and medium-sized business lenders, with only 10% of reported funding in 2021 going to personal loan startups.²⁸²

While fintech firms employ a diverse range of business models, many such firms have sought to compete by providing enhanced digital access to consumers and leveraging consumer data and advances in analytical technologies to provide targeted offerings and faster and more accurate assessments of creditworthiness.²⁸³ The benefits and risks of these services are explored further in Section 3 on Opportunities and Risks. Many fintech lenders extend credit without leveraging their own balance sheets.²⁸⁴ They frequently operate through relationships with IDIs, upon which they might rely for regulatory purposes, certain lending privileges, or

280 *Id.*

281 CB INSIGHTS, *Funding to the digital lending space is smashing records. Here's what's driving the boom*, (Mar. 22, 2022), <https://app.cbinsights.com/research/digital-lending-startups-funding/>.

282 *Id.*

283 *Id.* See also George Whitridge, *Bank Revenue from Credit Cards Could Be Cut in Half in The Next 10 Years*, ARK INVESTMENT MANAGEMENT LLC (Dec. 19, 2019), <https://ark-invest.com/articles/analyst-research/credit-card-industry/>.

284 *Id.*

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sources of funding, including directly from banks' balance sheets, or secondary markets via loan sales, securitizations, or lines of credit.²⁸⁵

Thus, fintech firms and IDIs may often operate as both competitors and collaborators in the personal loan market. Some of the largest banks have also been some of the most active in investing in, or collaborating with, fintech lenders.²⁸⁶ Again, several large fintech lenders have been acquired by, or have converted to operate as, an IDI, which has contributed to a further blurring of the distinction between IDI and fintech lending.²⁸⁷

Residential Mortgage Lending

Fintechs and other non-bank firms have grown their market share in residential mortgage lending in recent decades. Non-bank originations rose from approximately 30% to 50% of the residential mortgage market from 2007 to 2015.²⁸⁸ Among relatively less-creditworthy borrowers (those with loans insured by the Federal Housing Authority (FHA)), non-banks have an even greater market share—75% of all mortgage originations.²⁸⁹ Even within conforming loans, Buchak et al. (2018) find that non-banks have experienced growth among less-creditworthy borrowers, particularly in heavily minority areas. Similarly, Jagtiani et al. (2019)²⁹⁰ show that in mortgage markets, fintechs have a larger market share compared to other non-banks in areas with lower average credit scores and have made more of an effort to advertise to non-metropolitan borrowers. Evidence of fintech firms potentially expanding credit access and related potential risks to consumer financial well-being are discussed in the Opportunities and Risks section.

285 Fintech lenders may also operate as direct consumer lenders by acquiring applicable regulatory licenses from the states in which they operate or are required to obtain a license. For a summary of state consumer finance licensing laws, see CONFERENCE OF STATE BANK SUPERVISORS, *50-State Survey of Consumer Finance Laws*, (Nov. 19, 2020), <https://www.csbs.org/50-state-survey-consumer-finance-laws>.

286 CB INSIGHTS, *supra* note 117.

287 SoFi was conditionally approved for a national bank and bank holding company charter in January 2022. See OCC, *OCC Conditionally Approves SoFi Bank, National Association*, (Jan. 18, 2022), <https://www.occ.gov/news-issuances/news-releases/2022/nr-occ-2022-4.html>. LendingClub closed its acquisition of Radius Bancorp, a national bank, in February 2021. See LENDINGCLUB, *LendingClub Closes Acquisition of Radius Bancorp*, (Feb. 1, 2021), <https://ir.lendingclub.com/news/news-details/2021/LendingClub-Closes-Acquisition-of-Radius-Bancorp/default.aspx>. Goldman Sachs completed its acquisition of GreenSky in March 2022. See GOLDMAN SACHS, *Goldman Sachs Closes Acquisition of GreenSky*, (Mar. 29, 2022), <https://www.goldmansachs.com/media-relations/press-releases/2022/goldman-sachs-closes-acquisition-of-greensky.html>.

288 Greg Buchak, Gregor Matvos, Tomasz Piskorski & Amit Seru, *supra* note 9.

289 *Id.*

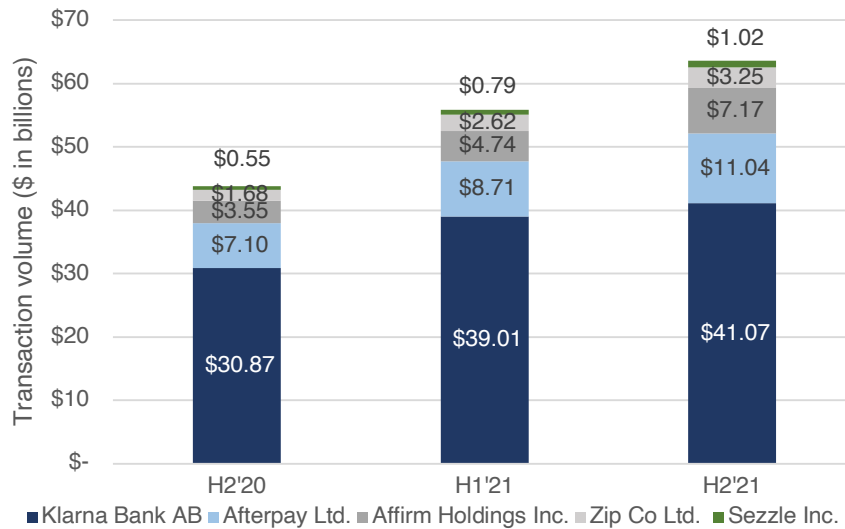
290 JULAPA JAGTIANI, LAUREN LAMBIE-HANSON & TIMOTHY LAMBIE-HANSON, *FINTECH LENDING AND MORTGAGE CREDIT ACCESS* (FEDERAL RESERVE BANK OF PHILADELPHIA, 2019), <https://www.philadelphiafed.org/-/media/frbp/assets/working-papers/2019/wp19-47.pdf>.

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2.3.3.1.2 Buy Now Pay Later (BNPL)

BNPL products have rapidly grown in popularity as a means to finance consumers' purchases, and several new entrant non-bank BNPL providers have quickly gained scale amid their successful integration in many e-commerce providers' retail sales platforms.²⁹¹ In a recent market survey, 59% of respondents reported they were somewhat or very likely to use a BNPL product within the next six months; this compares to just 33% of respondents in a similar survey conducted by the same market research company 5 months earlier who reported that they had used a BNPL product.²⁹² Three of the largest BNPL providers are now accepted in 12-14% of the 500 largest internet retailers, up from 2-6% in 2019.²⁹³ Relatedly, five major BNPL providers saw their collective total transaction volume grow by over 45% from the second half of 2020 to the second half of 2021, totaling \$63.6 billion in the latter period.²⁹⁴

Figure 18: Total transaction volume of major BNPL lenders



Source: S&P Global Market Intelligence²⁹⁵

291 For example, Klarna has grown its U.S. customer base to 25 million as of January 2022, up 71% from a year ago. See KLARNA, ANNUAL REPORT 2021 10 (2021), <https://www.klarna.com/assets/sites/15/2022/03/28054307/Klarna-Bank-AB-Annual-report-2021-EN.pdf>. Affirm reports its user base grew 150% year-over-year to 11.2 million as of Dec. 31, 2021. See AFFIRM, *Affirm Reports Fiscal Year 2022 Second Quarter Results*, (Feb. 10, 2022), <https://investors.affirm.com/news-releases/news-release-details/affirm-reports-fiscal-year-2022-second-quarter-results#:~:text=Over%20the%20last%2012%20months,transparent%2C%20and%20customizable%20payment%20terms>.

292 Becky Pokora, *Survey: Buy Now, Pay Later Is Popular With Online Shoppers*, FORBES (May 10, 2022), <https://www.forbes.com/advisor/credit-cards/buy-now-pay-later-popular-with-online-shoppers/>. The surveys were conducted in Nov. 2021 and Apr. 2022, respectively.

293 JAMES E. FAUCETTE, MERYL R. THOMAS, JEFFREY D. GOLDSTEIN, SANDY BEATTY, JONATHAN Y. LEE & MICHAEL N. INFANTE, *1Q22 Acceptance Tracker: BNPL Acceptance Growth Hit the Brakes in 1Q*, MORGAN STANLEY (2022).

294 Yizhu Wang & Ali Shayan Sikander, *Fast growth of buy now, pay later attracts regulators as products evolve*, S&P GLOBAL MARKET INTELLIGENCE (Apr. 15, 2022), https://www.capitaliq.spglobal.com/web/client?auth=inherit#news/article?id=69616724&KeyProductLinkType=14&utm_campaign=top_news_2&utm_medium=top_news&utm_source=news_home.

295 *Id.*

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More broadly, one study estimates that BNPL industry volumes in the United States have risen from \$3 billion in 2019 to \$39 billion in 2020.²⁹⁶ According to another estimate, BNPL's share of North American e-commerce sales has more than doubled from 1.6% of transaction volumes in 2020 to 3.8% in 2021.²⁹⁷

BNPL products—and their providers—are evolving quickly. Typically, a BNPL product is a small-dollar, short-term, interest-free form of point-of-sale installment financing in which consumers make a down payment upon purchase of a good followed by three installment payments at regular intervals over four to six weeks.²⁹⁸ Accordingly, these typical BNPL products are often referred to as “Pay in 4” products.²⁹⁹ However, product variety offered by BNPL providers has grown to include longer-term installment loans with financing fees, and some competitors have adopted the term “BNPL” for a variety of installment loan products that may have substantially different terms and features.³⁰⁰ The structure of the typical Pay in 4 product differs from other consumer lending products because it requires repayment in four payments or less and does not have any associated financing charges. Lenders offering Pay in 4 products with these features are not considered creditors under the Truth in Lending Act (TILA) for the purposes of these offerings, meaning the Pay in 4 products are not subject to TILA disclosure requirements.³⁰¹ While there may not be financing fees associated with Pay in 4 products, consumers may be charged late fees for missed payments. BNPL providers may also freeze accounts with late payments to prevent further borrowing, offer grace periods, and cap late fees at a set dollar amount or percentage of the missed payment.³⁰² Ultimately, BNPL providers generally report that their business model is based on merchant fees rather

296 BRIAN RILEY, BUY NOW, PAY LATER: GAINING SCALE AND THE DISRUPTING STATUS QUO IN LENDING (MERCATOR ADVISORY GROUP, 2021), <https://www.mercatoradvisorygroup.com/product/buy-now-pay-later-gaining-scale-and-the-disrupting-status-quo-in-lending/>.

297 FIS, THE GLOBAL PAYMENTS REPORT 31 (2022), <https://worldpay.globalpaymentsreport.com/en>.

298 Yizhu Wang & Ali Shayan Sikander, *supra* note 294.

299 *Id.*

300 *Id.* See also Julian Alcazar & Terri Bradford, *The Appeal and Proliferation of Buy Now, Pay Later: Consumer and Merchant Perspectives*, FEDERAL RESERVE BANK OF KANSAS CITY (Nov. 10, 2021), <https://www.kansascityfed.org/research/payments-system-research-briefings/the-appeal-and-proliferation-of-buy-now-pay-later-consumer-and-merchant-perspectives/>. See also Trina Paul, *Credit cards offer 'buy now, pay later' options – but is it better than carrying a balance?*, CNBC (May 9, 2022), <https://www.cnbc.com/select/credit-cards-offering-buy-now-pay-later-options/>.

301 15 U.S.C. § 1602(g)(1). See also 12 C.F.R. § 1026.1. TILA disclosures are required for products that offered by creditors who regularly extend “credit which is payable by agreement in more than four installments or for which the payment of a finance charge is or may be required.”

302 See AFTERPAY, *Installment Agreement – USA*, <https://www.afterpay.com/en-US/installment-agreement>. See also KLARNA, *Pay in 4: What happens if I miss a payment?*, <https://www.klarna.com/us/pay-in-4/>. See also ZIP Co, *What happens if I don't pay on time?*, <https://help.us.zip.co/hc/en-us/articles/360040937312--What-happens-if-I-don-t-pay-on-time->. Affirm does not charge late fees. See AFFIRM, *Buy now, pay later without the fees*, <https://www.affirm.com/how-it-works#legal>.

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than consumer fees.³⁰³ Merchants may be willing to pay higher fees to accept payments through BNPL products because they may provide consumers with increased purchasing power and increase the merchants' sales.³⁰⁴

The features of BNPL products have proved popular and appear to have evoked a response from competitors. For example, competition from BNPL products can cut into the profits of providers of credit card services. One study estimates that fintech firms—through their BNPL offerings—have diverted between \$8 and \$10 billion in annual revenues away from banks in the last few years.³⁰⁵ Credit card and related firms have reacted in a variety of ways, including by offering competing products, collaborating with BNPL providers, and even acquiring providers.³⁰⁶

That being said, there are some indications that the growth of BNPL may be slowing. There have been reports of some BNPL providers seeing large decreases to their valuations, and funding costs rising, in light of rising interest rates and concerns about consumer outlook.³⁰⁷

2.3.3.1.3 Earned and Early Wage Access

New entrant non-bank firms have facilitated advance payment of wages through *earned* wage access programs through which these new entrant non-bank firms partner with employers to provide these offerings to employees, and *early* wage access products, in which these firms connect directly to consumers. Consumer use of these products is growing; by one estimate, earned wage access products were used 55.8 million times, with total volume of \$9.5 billion

303 AFFIRM, FORM 10-K 24 (2021), <https://investors.affirm.com/static-files/b85853cf-b293-46f8-a6e9-e63c0287e6f1>. “We derive a significant portion of our revenue from merchant network fees earned from our merchant partners. The network fees are generally charged as a percentage of the transaction volume on our platform.” See also FINANCIAL TECHNOLOGY PARTNERS, BUY NOW PAY LATER: REVOLUTIONIZING TRADITIONAL CREDIT WITH CONVENIENCE, DATA & ECOMMERCE 6 (2021), <https://www.ftpartners.com/fintech-research/buy-now-pay-later>.

304 *Id.* See also FINANCIAL TECHNOLOGY ASSOCIATION, *Just the Facts: Buy Now Pay Later (BNPL)*, (Jul. 8, 2021), <https://www.ftassociation.org/just-the-facts-buy-now-pay-later-bnpl/>.

305 Puneet Dikshit, Diana Goldshtein, Blazej Karwowski, Udai Kaura & Felicia Tan, *Buy now, pay later: Five business models to compete*, MCKINSEY & COMPANY (Jul. 29, 2021), <https://www.mckinsey.com/industries/financial-services/our-insights/buy-now-pay-later-five-business-models-to-compete>. See also Julian Alcazar & Terri Bradford, *The Rise of Buy Now, Pay Later: Bank and Payment Network Perspectives and Regulatory Considerations*, FEDERAL RESERVE BANK OF KANSAS CITY (Dec. 1, 2021), <https://www.kansascityfed.org/research/payments-system-research-briefings/the-rise-of-buy-now-pay-later-bank-and-payment-network-perspectives-and-regulatory-considerations/>.

306 Julian Alcazar & Terri Bradford, *supra* note 300. See also FINANCIAL TECHNOLOGY PARTNERS, *supra* note 303, at 11-13. See also Trina Paul, *supra* note 300.

307 Abhinav Ramnarayan & Carmen Arroyo, *Funding Squeeze at Buy-Now-Pay-Later Pioneer Flashes Industry Warning*, BLOOMBERG (Jun. 7, 2022), <https://www.bloomberg.com/news/articles/2022-06-07/buy-now-pay-later-lender-affirm-sees-loan-package-value-plummet>. See also Supantha Mukherjee, *Klarna raises \$800 million as valuation plunges 85% in a year*, REUTERS (Jul. 11, 2022), <https://www.reuters.com/business/finance/klarnas-valuation-slumps-67-bln-with-800-mln-raise-2022-07-11/>. See also KLARNA, *Klarna closes major financing round during worst stock downturn in 50 years*, (Jul 11, 2022), <https://www.klarna.com/international/regulatory-news/klarna-closes-major-financing-round-during-worst-stock-downturn-in-50-years/>.

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in wages in 2020, approximately a three-fold increase in terms of both number of transactions and volume from 2018.³⁰⁸

Generally, earned wage access programs operate through a contract between a new entrant non-bank firm provider and an employer, allowing the provider access to employee timesheets to determine earned wages.³⁰⁹ In some cases, the new entrant non-bank firm may be providing an integrated payroll management service. Employees may pay a flat fee for the transaction, which may increase for more rapid processing and availability of funds for the consumer. In some cases, the employers may cover the costs to offer these products in lieu of payment by employees. The funds are then generally collected directly from the employer and deducted from the subsequent paycheck.³¹⁰

Early wage access products are offered directly to consumers and do not involve the employer. Consumers create an account with the new entrant non-bank firm, link a checking account, and report earned wages. Consumers may be required to provide various forms of verification of their employment and wages earned. The non-bank firms providing such products may operate on a subscription or tip model, in which the consumer pays some form of fee for the advance on their wages. As discussed above, some neobanks offer early wage access integrated with their account offerings. There may be additional costs for expedited access. Generally, repayment is automatic, with a scheduled withdraw from the consumers' linked checking account on a set date following their regular payday.³¹¹

In either setup, the earned or early wage access (“EWA”) provider (“EWA provider”) generally allows users to access 50%-100% of earned wages at a given time, with varying limitations around frequency and consecutive uses.³¹² The advances are usually funded through the EWA provider, with capital from their balance sheet, or through use of a debt facility.³¹³

The state or federal lending laws applicable to an EWA product may vary based on structure and terms.³¹⁴ These products may help workers with unexpected expenses and provide an alternative to higher cost alternatives, such as payday loans. However, similar to traditional

308 DEVINA KHANNA & ARJUN KAUSHAL, EARNED WAGE ACCESS AND DIRECT-TO-CONSUMER ADVANCE USAGE TRENDS 4 (FINANCIAL HEALTH NETWORK, 2021), https://cfsi-innovation-files-2018.s3.amazonaws.com/wp-content/uploads/2021/04/26190749/EWA_D2C_Advance-_sage_Trends_FINAL.pdf.

309 Terri Bradford & Julian Alcazar, *Ask the Fed: Exploring the rise of earned wage access programs*, FEDERAL RESERVE BANK OF KANSAS CITY (Jan. 15, 2021), <https://www.kansascityfed.org/ten/2021-winter-ten-magazine/ask-the-fed-exploring-rise-of-earned-wage-access-programs/>.

310 *Id.*

311 *Id.*

312 *Id.*

313 *Id.*

314 NATIONAL CONSUMER LAW CENTER, *Early Wage Access: A Good Option for Workers or a Fintech Payday Loan?*, (Mar. 2020), https://www.nclc.org/images/pdf/banking_and_payment_systems/pb-early-wage-access.pdf. See also Truth in Lending (Regulation Z); Earned Wage Access Programs, 85 Fed.Reg. 79404 (Dec. 10, 2020), 2020-26662.pdf (govinfo.gov).

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payday loans, there is evidence that workers that use these products often do so repeatedly, indicating in some cases that consumers may become reliant upon such products to meet their regular expenses.³¹⁵ While there are, as mentioned, some earned wage access programs that employers offer at no cost to employees, in other cases, consumers may end up in a cycle of paying to be paid.

To a certain extent, instant payments made possible through adoption of real time gross settlement services like The Clearing House's Real-Time Payments and Federal Reserve System's forthcoming FedNow Service, may help address consumers' need and demand for faster access to their paychecks.

315 *Id.*

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New entrant non-bank firms are impacting competition in consumer finance markets and changing the way all firms compete in those markets. While competition yields many benefits, it does not address all relevant public policy issues in consumer finance on its own, it is also important to consider the opportunities and risks of the new business models and capabilities of new entrant non-bank firms when evaluating changes in competition. There is room for increased competition and innovation to bring positive change to consumer finance markets, but risks must be monitored and addressed in order for consumer benefits to be sustainable over the long term.

Access to financial products and services is fundamental to consumers' full participation in the economy and to their financial well-being.³¹⁶ Core products and services include accounts to store value, facilitate receipt of income, facilitate payments for goods and services, and enable savings and investment, as well as credit products to help consumers smooth consumption and/or make important investments (such as in education or homeownership). Yet there have always been barriers to access, including logistical challenges of extending universal reach, business model challenges of being able to provide affordable access to the financial products and services needed by consumers across the income spectrum, and a history of bias against numerous marginalized groups. These biases appear through social, economic, and financial exclusion of such groups, including explicit redlining and discrimination predicated on race, the legacy of which includes the persistent racial wealth gap that is exacerbated and perpetuated by challenges in reaching lower-income consumers with affordable access to the products and services they need.

The entrance of non-bank firms into consumer finance – particularly fintech firms leveraging innovations in technology and newly available data – has often come under the banner of expanding access and inclusion. These claims need to be scrutinized to understand the extent to which these firms may actually be serving financially excluded consumers and

316 As used in this report, “consumer financial well-being” is defined using the CFPB’s concept of financial well-being as “a state of being wherein a person can fully meet current and ongoing financial obligations, can feel secure in their financial future, and is able to make choices that allow them to enjoy life.” The CFPB has designed a financial well-being scale to serve as a guide for measuring financial well-being. See CFPB, *Measuring financial well-being: A guide to using the CFPB Financial Well-being Scale*, <https://www.consumerfinance.gov/data-research/research-reports/financial-well-being-scale/>. This report also references “financial health” generally in relation to research conducted by the Financial Health Network, which has developed its own index for measuring consumer financial health, categorizing consumers as “financially vulnerable,” “financially coping,” or “financially healthy.” See FINANCIAL HEALTH NETWORK, *FINANCIAL HEALTH PULSE: 2021 U.S. TRENDS REPORT (2021)*, https://fhn-finhealthnetwork-assets.s3.amazonaws.com/uploads/2021/10/2021_Pulse_Trends_Report.pdf. The Financial Health Network is a nonprofit organization whose founding partner is the Ford Foundation. The Financial Health Network publicly discloses its supporters and donors, which have included financial institutions including Bank of America, Capital One, Citi, JP Morgan Chase & Co., and Visa, among others; along with philanthropic organizations and individuals, including the Bill and Melinda Gates Foundation and the Kauffman Foundation, among others.

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positively impacting consumers' financial well-being. To a certain extent, however, the existence of these firms and their ability to grow and compete is evidence of outstanding market demand that the non-bank firms are able to meet. Additionally, there is evidence that some fintech firms may be improving consumer financial services by providing (i) expanded access to credit through alternative approaches to underwriting,³¹⁷ (ii) greater access to payments solutions through more user-friendly and accessible payments tools, and (iii) increased access to low-cost transaction accounts through digital banks, among other developments. There is also some mixed evidence with regard to the extent that some fintech firms and their alternative approaches to underwriting may be reducing discrimination in consumer credit underwriting.

These developments and potential improvements, however, also present risks to consumers and the financial system. For example, new uses of data and technology present data privacy risks and potential for new forms of discrimination. Alternative approaches to lending and expanded access could lead to overborrowing and increased risks of default that harm consumers' future financial well-being. Some non-bank entrants may also pose risks by enabling a greater intermingling of commerce and banking outside the bank regulatory perimeter, engaging in regulatory arbitrage, or conducting activities in an unsafe or unsound manner. These developments – potential benefits and corresponding risks – will be further explored in this section.

3.1 Opportunities and Evidence of Consumer Benefits

New entrant non-bank firms' participation in consumer financial services markets presents opportunities for increased competition, improved products and services, consumer cost savings, expanded financial infrastructure to increase reach to underserved and unserved individuals, enhanced approaches to overcome discrimination, and improved consumer financial well-being. It is important to scrutinize and determine whether data supports claims of such benefits as new entrant non-bank firms, even when well-intentioned, may not be able to provide all of the gains promised or desired. This section explores evidence of gains being made by fintech firms across key consumer finance markets in order to assess whether and how such firms may be moving such markets to better reach and meet the needs of consumers.

³¹⁷ For example, expanded access to credit is an improvement to the extent it is a result of an increased ability to accurately assess credit risk for a greater number of individuals; there are risks of predatory lending discussed in this section. Additionally, there is some evidence that developments in underwriting are helping to reduce discrimination. However, that evidence is limited and there are concerns about the potential of poorly designed AI/ML applications in particular to perpetuate or enable new forms of discrimination.

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Across market segments, fintech firms are challenging market incumbents using new business models, new technology, and newly available data.³¹⁸ The emergence of fintech firms has in many cases been made possible by consumer-initiated sharing of financial data housed at IDIs, which fintech firms use to develop their products and services. These innovations are enabling non-banks to compete by offering differentiated products that are often more personalized and accessible and, in doing so, are changing the provision of financial services and how firms compete. There is some evidence to suggest that these new fintech lenders are servicing customers that IDIs have not. This section will explore these developments further across market segments but it is important to note that the data ecosystem and the new technologies enabling new insights and capabilities are driving change across segments.

3.1.1 Credit

One of the market segments which has received a lot of attention for activity by fintech firms is credit underwriting. These firms have garnered attention for their leveraging of advances in technologies – including AI/ML – and newly available data, as well as business models differentiated from IDIs, all of which they often cite as enabling them to enhance underwriting and expand access to credit. Specifically, market participants claim that they are (i) enhancing capabilities to assess creditworthiness and thus expand access; (ii) reducing discrimination in credit decision-making; and (iii) in some segments, enabling firms to offer more affordable credit than existing alternatives accessible to consumers. While there is some limited evidence to suggest that fintech firms are serving more customers at different and sometimes lower price-points, this may be due to a variety of factors, including competitive dynamics, business decisions, different cost-structures, marketing, or use of AI/ML technologies or newly available data in underwriting models. This section will examine some of the relevant evidence often cited to support each of the claims.

With regards to assessing the claim of expanding access, research assessing use of cash flow-based underwriting models by six fintech lenders found that the cash flow-based underwriting models performed as well as traditional credit scores in terms of predictiveness of risk and loan performance.³¹⁹ It also found that combined models (e.g., models using

318 That is not to say that incumbent firms are not also innovating. As explored in Section 2 in Measures of Competition, IDIs are also investing heavily in technology.

319 FINREGLAB, THE USE OF CASH-FLOW DATA IN UNDERWRITING CREDIT: EMPIRICAL RESEARCH FINDINGS (Jul. 2019), <https://finreglab.org/cash-flow-data-in-underwriting-credit-empirical-research-findings>. The report's author, FinRegLab, is a nonprofit research group that "tests new technologies and data to inform public policy and drive the financial sector toward a responsible and inclusive financial marketplace." FinRegLab's founding supporter is Flourish, a venture firm reportedly "investing in entrepreneurs whose innovations help people achieve financial health and prosperity." FinRegLab publicly discloses its supporters and donors, which have included Mastercard's Center for Inclusive Growth, JP Morgan Chase & Co., and Capital One, among others. See FINREGLAB, *Our Funding Perspective*, <https://finreglab.org/funding/>. Note also that while the focus in this report is on consumer finance markets, cash flow underwriting is also being used in small business credit.

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traditional scores plus cash flow-based scoring) often improved the predictiveness of risk and loan performance. The study also found that the fintech lenders that participated in the study are serving borrowers who may have been otherwise unable to access credit. Additionally, cash flow data was generally found to be consistently predictive across different demographic groups and appeared to predict creditworthiness within the subpopulations at least as well as, and better than in select cases, the traditional metrics.³²⁰

A working paper published by Harvard Business School in 2021 compared the outcomes of one fintech lender’s underwriting model that utilized AI and alternative data against counterfactual outcomes based on a “traditional” credit score model and found that there was a 60% higher probability of loan applicants being rejected under the traditional model, and higher interest rates for those approved.³²¹ Notably, the report does not provide detail on the “traditional” credit score model used, and critics have noted that there could be sensitivity in the results based on the representativeness of the model particularly in estimating rejections for the counterfactual outcomes.³²² The paper also found that the non-bank lender’s model identified and benefitted what it termed “invisible prime” borrowers – borrowers with thin credit files and low scores that the non-bank model was otherwise able to determine had a low propensity to default.³²³

The Federal Reserve Bank of Philadelphia (“Philadelphia Fed”) has also published research examining the extent to which fintech lenders may be expanding reach to underserved areas. Researchers Julapa Jagtiani and Catharine Lemieux compared the loan portfolio of a non-bank lender with those of U.S. banks with assets over \$50 billion and found that the fintech’s consumer lending activities “penetrated areas that may be underserved by traditional banks, such as in highly concentrated markets and in areas that have fewer bank branches per capita.” Jagtiani and Lemieux also found the share of the fintech loans was greater in areas with

320 *Id.*

321 MARCO MAGGIO, DIMUTHU RATNADIWAKARA & DON CARMICHAEL, INVISIBLE PRIMES: FINTECH LENDING WITH ALTERNATIVE DATA (HARVARD BUSINESS SCHOOL, WP 22-024, 2021), https://www.hbs.edu/ris/Publication%20Files/22-024_80dc9115-69cc-4564-99c6-3a937f275d31.pdf.

322 The paper cites that the counterfactual model was “developed in coordination with the CFPB.” *Id.*, at 3. The CFPB has since clarified that the agency did not endorse the counterfactual model or actively engage in its development. CFPB, In re Upstart Network, Inc. November 30, 2020 No Action Letter, https://files.consumerfinance.gov/f/documents/cfpb_upstart-no-action-letter-termination_order_2022-06.pdf. Critics have also questioned how representative the model might be of those used in practice among “traditional” lenders; even when largely reliant on FICO scores, “traditional” lenders generally use bespoke models that in some way augment interpretation of the base credit score. It is unclear whether or how the counterfactual model used in this report might have captured those real-world nuances. Additionally, critics have noted that the outcomes for the “traditional” model would likely be highly sensitive to how rejection rates were modeled, and the paper does not specify how rejection under the counterfactual model was estimated.

323 MARCO MAGGIO, DIMUTHU RATNADIWAKARA & DON CARMICHAEL, *supra* note 321.

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relatively weaker local economies.³²⁴ This latter finding could represent an improvement in terms of expanded access but not necessarily responsible lending practices. For example, the CFPB has highlighted concern more generally about predatory actors targeting underserved or at-risk communities.³²⁵

In addition to expanding access to credit products, a claim that is often made is that fintech firms might be helping to reduce discrimination in lending. In November 2019, researchers at the University of California, Berkeley published a report assessing discrimination in mortgage lending, comparing fintech lenders to their IDI counterparts. The analysis found that fintech lenders demonstrated reduced disparities in interest rates charged to individuals that identified as racial or ethnic minorities and showed no discrimination in rejection rates. Specifically, the authors found that fintech lenders discriminate in pricing approximately one-third less than lenders overall, and that lenders using algorithmic models did not discriminate in accept/reject decisions. Notably, the authors hypothesized that the difference was due to competitive dynamics and a reduction of face-to-face underwriting.³²⁶ Subsequent research has found some evidence of discrimination in fintech rejection rates for mortgage loans and identified further explanations for disparities in lending by traditional models and lenders, indicating fintech lenders may present more limited enhancements in addressing bias and discrimination.³²⁷

Finally, with regard to the claim that fintech firms might in some cases be able to provide credit at more affordable rates than may otherwise be available to certain consumers, there is limited evidence this may be the case in specific scenarios, though the causes of such lower prices are not clear and may not be sustainable. A firm hired by one fintech company compared installment loan offerings of that fintech lender against high-cost installment loans, payday loans, and credit cards. The authors found that the fintech's loans were roughly on par with credit card pricing (assuming the consumer only makes minimum monthly

324 JULAPA JAGTIANI & CATHARINE LEMIEUX, DO FINTECH LENDERS PENETRATE AREAS THAT ARE UNDERSERVED BY TRADITIONAL BANKS? 1 (FEDERAL RESERVE BANK OF PHILADELPHIA, WP 18-13, March 2018), <https://www.philadelphiafed.org/consumer-finance/consumer-credit/do-fintech-lenders-penetrate-areas-that-are-underserved-by-traditional-banks>.

325 CFPB, FAIR LENDING REPORT OF THE CONSUMER FINANCIAL PROTECTION BUREAU 3, 6, 9 (2022), https://files.consumerfinance.gov/f/documents/cfpb_2021-fair-lending_report_2022-05.pdf.

326 ROBERT BARTLETT ET AL., CONSUMER-LENDING DISCRIMINATION IN THE FINTECH ERA (UNIVERSITY OF CALIFORNIA BERKELEY, 2019), <https://faculty.haas.berkeley.edu/morse/research/papers/discrim.pdf>. While the research found *reduced* disparities in interest rates charged to borrowers that identified as racial or ethnic minorities, disparities were still found to exist. The research found that fintech lenders still charged borrowers that identified as Black or Latino interest rates 7.9 basis points higher than those charged to otherwise-equivalent borrowers.

327 NEIL BHUTTA, AUREL HIMO & DANIEL RINGO, HOW MUCH DOES RACIAL BIAS AFFECT MORTGAGE LENDING? EVIDENCE FROM HUMAN AND ALGORITHMIC CREDIT DECISIONS (FRB, 2021), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3887663.

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payments), but cheaper than non-traditional high-priced installment loans and payday loans.³²⁸ However, this research does not provide evidence that the relatively lower prices were the result of any greater efficiency realized that could lead to such prices being sustained over the long term; such lower prices could be part of a pricing strategy for marketing or competitive reasons. There is additional research from the Federal Reserve Bank of St. Louis, which assessed data from a credit bureau, fintech lender, and market research group, finding that across all levels of credit risks, fintech lenders offered on average lower annual percentage rates (APRs) when compared with those of credit card firms.³²⁹

Collectively, this research suggests fintech lenders may be reaching an expanded number of consumers, including consumers who have been unserved by IDIs, though further evaluation would help assess the benefits to consumers from this expanded access, and identify any efforts needed to protect consumers from harmful financial products and services. Additionally, there is limited evidence that some fintech lenders may be contributing to at least marginal improvements in the reduction of discrimination in credit decisioning and pricing. Finally, in some scenarios, fintech lenders might be providing lower-cost credit than is otherwise available to certain consumers. For all of these observations, however, the evidence is unclear as to whether the purported improvements are primarily due to new technology, newly available data, different business models, different target customer bases, different cost-structures, marketing, or competitive dynamics. Ultimately, evidence is limited as to the key drivers or sustainability of such improvements and more study is needed in order to draw more definitive conclusions.

3.1.2 Payments

The development of the data ecosystem – namely the ability to access and share consumer financial data and facilitate transactions via APIs – has led to innovations in product and service offerings in all markets for consumer financial products, including payment services. In its most recent biennial survey on household use of banking and financial services, the FDIC found that 32.3% of banked households used a non-bank peer-to-peer (“P2P”) payment service, making P2P payments services the most used non-bank financial service included in the survey among banked households.³³⁰ These non-bank service providers have clearly found a way to provide utility for customers beyond what IDIs have been able to provide, filling a gap in the market. Many – if not most – of these services require consumers to link to

328 LAURA CUMMING & HANNAH GDALMAN, TRUE COST OF A LOAN: A STUDY BY THE FINANCIAL HEALTH NETWORK PREPARED FOR OPORTUN (FINANCIAL HEALTH NETWORK, Oct. 2021), <https://oportun.com/wp-content/uploads/2021/10/Ooportun-FHN-TCL-Report-2021-Oct.pdf>.

329 EDLAR BEISEITOV, UNSECURED PERSONAL LOANS GET A BOOST FROM FINTECH LENDERS (FEDERAL RESERVE BANK OF ST. LOUIS, 2019), <https://www.stlouisfed.org/publications/regional-economist/second-quarter-2019/unsecured-personal-loans-fintech>.

330 FDIC, HOW AMERICA BANKS: HOUSEHOLD USE OF BANKING AND FINANCIAL SERVICES: APPENDIX TABLES 3 39 (2019), <https://www.fdic.gov/analysis/household-survey/2019appendix.pdf>.

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an account with an IDI, from which the non-bank firm (typically through a data aggregator) will pull consumer information to verify account information and account balances to facilitate payments. Consequently, many non-bank payments services are generally not accessible to unbanked consumers; the FDIC reports only 8.8% of unbanked households had used a non-bank P2P payment service, making it the lowest used non-bank financial service included in the survey among unbanked households.³³¹

New innovations in faster payments, including The Clearing House (“TCH”)’s Real Time Payments (RTP) Network and forthcoming FedNow service from the Federal Reserve System, which provide or will provide real time gross-settlement payment rails on top of which firms can build innovative products and services, also show promise for consumer benefit, with the ability to receive payments faster and manage payments with greater precision.

Ultimately, non-bank firms are extending greater accessibility to payments services, primarily to consumers that do have a bank account with an IDI; increasing competition; and providing greater financial infrastructure to better serve consumers’ needs. Non-bank payments firms are part of a broader trend of new entrant and incumbent firms that leverage technology to increase consumers’ money mobility, enabling consumers to easily move bank deposits and other money claims across any number of different transaction accounts. Increased money mobility allows consumers to more readily use the digital financial services of their choice without having to “switch” primary transaction accounts.³³² This trend has helped usher in the adoption of digital wallets as well as neobanks, discussed below.

3.1.3 Deposits

Digital-only, or neobanks, exist both as IDIs and non-banks that partner with IDIs. Both IDI and non-bank neobanks have been able to leverage technology to provide purely digital deposit-taking services. The focus on digital – with the associated lack of expense related to maintaining physical branches – has meant neobanks can invest heavily in designing their technology stack. This has generally made them more adept at providing customized digital offerings and more readily able to integrate with third-party offerings, providing consumers with easily connected access to an array of digital financial services.

The exclusively digital nature of neobanks provides them with a cost advantage over traditional IDIs, allowing them to service individual accounts at a fraction of the cost of that of traditional IDIs with physical branches. This cost advantage enables neobanks to reach and serve customers that traditional IDIs may find unprofitable, and neobanks have widely

331 *Id.*

332 For a broader discussion on opportunities and risks to consumers related to money mobility, see ERIN B. TAYLOR, MONEY IN A MOBILE AGE: EMERGING TRENDS IN CONSUMERS’ FINANCIAL PRACTICES (FEDERAL RESERVE BANK OF SAN FRANCISCO, Working Paper 2017-03, 2017), <https://www.frbsf.org/community-development/wp-content/uploads/sites/3/money-in-a-mobile-age.pdf>.

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promoted offerings aimed at benefitting rather than penalizing consumers with weaker financial profiles including zero overdraft fees on accounts, early wage access services, and credit-building credit cards.³³³ As previously noted in Section 2 on deposit competition trends, industry observers have pointed to competitive pressure from neobanks as a contributing factor to the recent moves by many traditional IDIs to eliminate overdraft fees.³³⁴

3.2 Risks

The difference in the regulations and supervision applied to IDIs and new entrant non-bank firms that are increasingly engaging in similar activities presents potential risks, including different forms of regulatory arbitrage. To the extent core banking services are being re-bundled by non-bank firms outside the bank regulatory perimeter, it also presents prudential concerns. The mixing of commerce and banking poses risks to safety and soundness with increased exposure to non-bank firms' commercial activities, as well as concerns of conflicts of interest, unfair advantages, and preferential treatment that could lead to competition asymmetries and concentration of market power. Additionally, the growth of the consumer data ecosystem, in terms of size and its extension beyond the supervisory perimeter, poses concerns about data privacy and security. New uses of data and technology could also create the potential for new forms of discrimination, including increased opportunities for predatory targeting and price discrimination. Some products and innovations leading to expanded access can lead to adverse consumer outcomes, with risks of overborrowing and predatory lending in the credit space in particular.

3.2.1 Regulatory arbitrage

New entrant non-bank firms have generally entered consumer finance markets over the last decade by offering some unbundled function(s) of traditional banking. Some functions, such as payments, require state licensing, and firms that engage in the provision of products and services covered by consumer protection regulations may be subject to such regulations. However, non-bank firms have not been subject to the type of comprehensive supervision and regulation equivalent to IDIs. As a function of being subject to extensive regulation and supervision, IDIs are afforded certain privileges, including certain rights of preemption of state laws. In certain situations, some non-bank firms may seek relationships with IDIs to utilize these privileges to offer products through the non-bank firm's digital platform without those activities being subject to the same regulation and supervision that helps incentivize prudent

333 S&P GLOBAL MARKET INTELLIGENCE INC, 2021 US MOBILE BANKING MARKET REPORT (2021), at 10-12, <https://www.capitaliq.spglobal.com/apisv3/docviewer/documents?mid=174136895>.

334 Zach Fox & Ronamil Portes, *More banks cut overdraft fees as pressure builds*, S&P GLOBAL MARKET INTELLIGENCE INC (Jan. 14, 2022), <https://www.capitaliq.spglobal.com/web/client?auth=inherit#news/article?id=68413658>. See also Rey Mashayekhi, *Ally's move to eliminate overdraft fees puts more pressure on big banks to lose a big revenue source*, FORTUNE (Jun. 8, 2021), <https://fortune.com/2021/06/08/ally-bank-overdraft-fees-fintech-banking-challenger-banks/>.

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behavior by IDIs. Additionally, new entrant non-bank firms may be able to take advantage of regulatory arbitrage in the payments space through relationships with small card issuers, which are afforded an exemption from a regulatory limit on interchange fees due to their small size. Ultimately, large new entrant non-bank firms could compete with larger issuers in the market while benefiting from an exemption meant for smaller firms.

Within credit markets, certain practices, such as tipping, may amount to regulatory arbitrage. Some new entrant non-bank lenders have been found to effectively require tips in order for loans to be funded but may not include the fees in their disclosures on the cost of the loan.³³⁵ These practices may be enabled by lack of supervision applicable to IDIs.

Also within credit markets, some new entrant non-bank firms may seek relationships with IDIs primarily as a means for the non-bank firm to evade state consumer protections and engage in harmful lending practices.³³⁶ Without proper oversight, new entrant non-bank firms might not have the same incentives to engage in responsible lending to creditworthy borrowers that IDIs do by nature of their business model.³³⁷ Many states have implemented licensing requirements for non-bank consumer lenders,³³⁸ usury laws placing interest rate caps on consumer loans, and other consumer protections applicable to non-bank firms operating in their state and IDIs chartered by their state. IDIs, including those with national charters and those chartered by other states, are subject to and can avail themselves of federal laws that authorize them to charge interest consistent with the laws of the state in which they are located.³³⁹ Both types of chartered IDIs may make loans to borrowers in other states, or may assign loans that may be enforced in other states, including those in which usury laws exist and impose more restrictive interest rate caps. To the extent that lack of compliance with state usury laws raises concerns about unsafe and unsound lending, this may be partially

335 Connecticut Department of Banking, Temporary Order to Cease and Desist In the Matter of Solo Funds Inc. (2022), <https://portal.ct.gov/-/media/DOB/Enforcement/Consumer-Credit/2022-CC-Orders/Solo-Funds-Inc--Temp-CDRestNOI-CDCPOLER.pdf>.

336 Note that there are a variety of relationship models for non-bank firms and IDIs, as well as a variety of motivations for forming them. This section considers one subset of these relationships within the lending space, but not all non-bank firm and IDI lending relationships are created to evade state consumer protections.

337 Some non-bank lenders may be more willing to engage in higher-risk lending than IDIs, in part because they operate using an originate-to-distribute business model that relies more on upfront fee income rather than loan performance. If left without sufficient regulation and oversight, this business model can lead to imprudent lending. See *also* BANK FOR INTERNATIONAL SETTLEMENTS, FINTECH CREDIT 4, 26, 32 (2017), https://www.bis.org/publ/cgfs_fsb1.pdf.

338 Non-bank firms are able to lend to consumers independently but are subject to the rules and requirements of the state in which they operate as a lender. Some states require a license to offer consumer loans. See CONFERENCE OF STATE BANK SUPERVISORS, 50-STATE SURVEY OF CONSUMER FINANCE LAWS (Nov. 19, 2020), <https://www.csbs.org/50-state-survey-consumer-finance-laws>.

339 Congress has authorized IDIs to export the interest rates permitted by the law in their home state to borrowers in other states. See 12 U.S.C. § 85; 12 U.S.C. 1463(g); 12 U.S.C. § 1831d(a).

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mitigated by the fact that these IDIs are subject to prudential regulation and supervision that establish certain minimum standards for underwriting and lending.³⁴⁰

Within this framework, there is ostensibly an alignment of incentives if all aspects of the lending activities are regulated and supervised as if conducted by the IDI. However, there are risks that a non-bank firm may seek to use or “rent” the charter of an IDI that is located in a state with a less restrictive interest rate cap to pursue high-cost lending schemes. Such relationships could be used to facilitate evasion of state protections that results in consumer harm.

There are similar regulatory arbitrage concerns related to charters for non-depository institutions. Again, concern about preemption of state protections is generally mitigated by the fact that the entities that are able to obtain such preemption are subject to prudential regulation and capital requirements that are designed to protect their insured deposits and ensure safety and soundness, ultimately aligning incentives to ensure responsible lending. By definition, non-depository institutions do not hold deposits; they do not use deposits as a source of funding and are not subject to the regulation and oversight that accompany deposit insurance. Any form of chartering of non-depository institutions without an equivalent substitute for such regulation, oversight, and sensitivity to risk as is created with deposits as a source of funding could present opportunities for predatory lending.

Regulatory arbitrage concerns also exist with regards to payments relationships between non-banks and IDIs. There is an area of differential regulatory treatment among IDIs with regards to regulation of interchange transaction fees for electronic debit transactions. Known as the Durbin Amendment, Section 1075 of the Dodd-Frank Act amended the Electronic Fund Transfer Act to place limits on the interchange transaction fees that debit card issuers with total assets of \$10 billion or more may receive or charge.³⁴¹ Debit card issuers below that threshold are not limited in the interchange fees that they may charge merchants, providing them with a greater ability to obtain income from such fees as part of their business model. This regulatory difference has been key to many non-bank fintech firms’ business models and strategies, driving them to enter relationships with IDIs below the \$10 billion total asset threshold to not be limited in the interchange fees that the relationships are permitted to charge, allowing the non-bank fintechs to potentially earn greater income than if they were subject to the cap. Following this business model, non-bank payments firms and non-bank neobanks can thus scale up their operations to be larger than the \$10 billion threshold and avoid the interchange fee limits applied to their large IDI competitors by running their debit

340 Safety and soundness regulation has not always been sufficient in incentivizing IDIs to lend responsibly, as the events leading to the 2007-08 financial crisis demonstrate. There have since been responsive changes to regulation and supervision, most notably the Dodd-Frank Act, but regulation and supervision cannot guarantee responsible behavior of firms. See S. Rep. No. 111-176, at 15-17 (2010), <https://www.congress.gov/111/crpt/srpt176/CRPT-111srpt176.pdf>.

341 15 U.S.C. § 1693o-2. See also 12 C.F.R. § 235.5.

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transactions through IDIs – or a network of IDIs – that each have total assets under the \$10 billion threshold.

Such use of the Durbin Amendment exemption warrants further examination. However, some could still argue that the exemption – and even such use of it – provides a needed benefit in helping community banks and other smaller IDIs, which serve a critical role in reaching otherwise hard to reach communities, to remain competitive in otherwise concentrated consumer card markets. This is consistent with the broader approach taken in the Dodd-Frank Act of exempting community banks from a host of post-crisis rulemakings or otherwise tailoring the rulemakings for community banks in service of a variety of policy goals including competitiveness.³⁴² At the same time, the exemption does cause asymmetry in competition and is important to note as an area presenting a form of regulatory arbitrage.

3.2.2 Prudential concerns

Traditional views of banking have held that there are synergies, efficiencies, and other benefits from business models that combine the range of banks' assets, liabilities, and activities.³⁴³ Recent entry by non-bank firms into consumer finance markets has been by firms offering some unbundled function(s) of traditional banking. As the market has evolved and these entrants have matured, there has been some movement toward re-bundling of services as some non-bank firms seek to provide a fuller suite of products and services to meet consumers' finance needs. Large payments firms, in particular, have expanded from offering payments services to also offering balance accounts that pay interest and even credit products.

Prudential concerns emerge as non-bank firms seek to re-assemble the components of banking – particularly deposit taking and the extension of credit. The liquidity transformation and credit intermediation functions of banking present risks that prudential regulation and supervision have sought to mitigate, in combination with deposit insurance and Federal Reserve liquidity support.³⁴⁴ By remaining outside of the bank regulatory perimeter, non-bank firms are not subject to these controls and do not have access to these tools to address and mitigate risks posed. The presence of such firms outside the bank regulatory perimeter while offering a similar set of products and services posing similar prudential risks to banks

342 See generally CONGRESSIONAL RESEARCH SERVICE, OVER THE LINE: ASSET THRESHOLDS IN BANK REGULATION (2021), <https://sgp.fas.org/crs/misc/R46779.pdf>.

343 Anil K. Kashyap, Raghuram Rajan & Jeremy C Stein, *Banks as Liquidity Providers: An Explanation for the Co-Existence of Lending and Deposit-Taking*, 57 JOURNAL OF FINANCE 33 (2002).

344 See Michael J. Hsu, Acting Comptroller of the Currency, OCC, Remarks before the American Fintech Council (Nov. 2, 2021), <https://www.occ.gov/news-issuances/speeches/2021/pub-speech-2021-115.pdf>. Banks are also subject to restrictions on governance, concentration, affiliate and insider transactions, and other measures that potentially address both prudential and competitive concerns.

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ultimately poses risks to consumers, and – if these operations scale – the stability of the financial system.

3.2.3 *Mix of commerce and banking*

The United States has a long history of maintaining a separation of commerce and banking.³⁴⁵ Some non-bank firms, including large technology platforms and some retailers, have shown interest in obtaining Industrial Loan Company (ILC) charters, which allow for a commercial entity to own a depository institution. This interest from commercial entities presents some potential reasons for concern in relation to the mixing of commerce and banking.

One concern is that the entities providing financial services would be subject to the risks of their commercial affiliates, which could cause complications for regulators – particularly given the lack of consolidated supervision for ILC parent companies – and could ultimately pose threats to the stability of the financial system.³⁴⁶

There are long-standing concerns about commercial firms obtaining advantages in accessing credit through their affiliated bank. There are also broader concerns about conflicts of interest and the potential for a dominant firm to exclude rivals, or to give preferential treatment to firms and/or consumers to incentivize use of financial or commercial offerings, creating competition asymmetries. Large technology platforms may be able to leverage their network and data in ways that could lead to significant concentration of market power, which is further explored in the box on prospective impacts on competition. Finally, the mixing of banking and commerce raises concerns about the concentration of financial, economic, and political power more generally.

3.2.4 *Reliability and fraud*

Issues with reliability and fraud are widely cited concerns with the provision of digital financial services. While these issues have and continue to affect both IDIs and non-bank firms, new entrant non-bank firms general focus on digital channels for the provision of financial services may position them to be particularly exposed.

Issues of reliability and fraud have been reported in relation to the full spectrum of digital financial services. For example, consumers may not recognize they are not transacting

345 See, e.g., Competitive Equality Banking Act of 1987, Pub. L. No. 100-86 (1987). “[S]eparating banking and commerce [is] a policy that has long been the keystone of our banking system...” See also Bernard Shull, *The Separation of Banking and Commerce: Origin, Development, and Implications for Antitrust* at 255-279, THE ANTITRUST BULLETIN (Vol. 28, Issue 1, Mar. 1983).

346 In 2016, the federal banking regulators recommended that Congress “repeal the exemption that permits corporate owners of industrial loan companies (ILC) to operate outside of the regulatory and supervisory framework applicable to other corporate owners of insured depository institutions.” FRB, FDIC & OCC, REPORT TO THE CONGRESS AND THE FINANCIAL STABILITY OVERSIGHT COUNCIL PURSUANT TO SECTION 620 OF THE DODD-FRANK ACT 28 (2016), <https://www.federalreserve.gov/newsevents/pressreleases/files/bcreg20160908a1.pdf>.

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directly with an IDI when they utilize the services of a non-bank neobank, potentially causing confusion about the degree to which they are protected by traditional banking provisions.³⁴⁷ Additionally the CFPB has received numerous complaints related to certain non-bank neobanks, with consumers reporting sudden account closures, unexpected loss of access to their funds, and alleged cases of fraudulent transactions for which some consumers report challenges in seeking remediation.³⁴⁸ Some neobanks have acknowledged a surge in fraudulent deposits, and cite that the service interruptions and account closures may be a result of their attempts to crack down on such fraud.³⁴⁹

Additionally, there have been reports on significant fraud related to digital payments involving both bank and non-bank providers; according to one study, nearly 18 million Americans were defrauded through P2P or digital wallets in 2020.³⁵⁰ There have also been reports and anecdotal evidence of cyber fraud targeting fintech lending, at times imposing significant losses on fintech firms and their lending partners.³⁵¹

Fighting financial crime is a major expense. One study estimates that the total projected cost of financial crime compliance was \$49.9 billion across financial institutions in the U.S. in 2021.³⁵² Yet even that spending has not made financial institutions immune to fraud and reliability issues, and all firms are likely to require additional resources to ensure product and service reliability and combat fraud.³⁵³

347 Some states have brought actions against fintech firms and neobanks for representations regarding their status as a “bank.” STATE OF CALIFORNIA DEPARTMENT OF FINANCIAL PROTECTION AND INNOVATION, SETTLEMENT AGREEMENT IN THE MATTER OF: THE COMMISSIONER OF FINANCIAL PROTECTION AND INNOVATION V. CHIME FINANCIAL, INC. (2021), <https://dfpi.ca.gov/wp-content/uploads/sites/337/2021/04/Admin.-Action-Chime-Financial-Inc.-Settlement-Agreement.pdf>. See also STATE OF ILLINOIS DEPARTMENT OF FINANCIAL AND PROFESSIONAL REGULATION, SETTLEMENT AGREEMENT AND CONSENT ORDER IN THE MATTER OF CHIME FINANCIAL, INC. (2021), <https://idfpr.illinois.gov/banks/cbt/Enforcement/2021/2021%2003%2025%20Chime%20-%20IL%20Settlement%20Agreement%20and%20Consent%20Order.pdf>.

348 Carson Kessler, *A Banking App Has Been Suddenly Closing Accounts, Sometimes Not Returning Customers' Money*, PROPUBLICA (Jul. 6, 2021), <https://www.propublica.org/article/chime#:~:text=Indeed%2C%20many%20account%20closures%20occurred,new%20accounts%20for%20suspicious%20payments>. See also Eliza Haverstock & Jeff Kauflin, *Fintech's Fraud Problem: Why Some Merchants Are Shunning Digital Bank Cards*, FORBES (Dec. 3, 2021), <https://www.forbes.com/sites/elizahaverstock/2021/12/03/fintechs-fraud-problem-why-some-merchants-are-shunning-digital-bank-cards/?sh=4d59819675bd>.

349 *Id.*

350 Stacy Cowley & Lananh Nguyen, *Fraud Is Flourishing on Zelle. The Banks Say It's Not Their Problem.*, NEW YORK TIMES (Mar. 6, 2022), <https://www.nytimes.com/2022/03/06/business/payments-fraud-zelle-banks.html>.

351 See John Reosti, *Fintech lender on the hood for millions in fraud from one client's losses*, AMERICAN BANKER (May 13, 2022), <https://www.americanbanker.com/news/fintech-lender-on-the-hook-for-millions-in-fraud-from-one-client-losses>. See also Yizhu Wang, *Rampant cyber fraud targeting fintechs is testing banks' risk controls*, S&P GLOBAL MARKET INTELLIGENCE (Jun. 21, 2022), <https://www.capitaliq.spglobal.com/web/client?auth=inherit#news/article?id=70827183>.

352 LEXISNEXIS, TRUST COST OF FINANCIAL CRIME COMPLIANCE STUDY: UNITED STATES AND CANADA EDITION at 8 (2021), <https://risk.lexisnexis.com/insights-resources/research/true-cost-of-financial-crime-compliance-study-for-the-united-states-and-canada>.

353 *Id.*

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3.2.5 Data privacy and security

Consumer data and innovations in AI/ML technologies that utilize a greater amount and variety of data are powering many non-bank firms' capabilities and product and service offerings. This has led to an unprecedented demand for consumer data, with non-bank firms playing key roles in the burgeoning consumer data ecosystem with interest both in accessing and generating consumer data. This poses new data privacy and security risks.³⁵⁴

With regards to demand for access, non-bank firms may buy or obtain consumer data through consumer reporting agencies and other data providers, and many also obtain user-permissioned access to data from consumers' financial accounts. Non-bank firms generally access consumer financial account data through a data aggregator: an intermediary firm that provides the technological solution to facilitate access and sharing of data. Data aggregators have long relied on a practice known as credential-based screen-scraping, in which the data aggregator asks the consumer to provide their login credentials for their financial institution to the data aggregator, which is then stored to allow the data aggregator to enter and access all of the financial account information at will.

The practice of data aggregators obtaining and storing consumers' login credentials to maintain ongoing, unlimited access to consumers' financial data at will presents multiple concerns. The broad access that data aggregators and their data recipient clients are granted through obtaining consumer login credentials may present concerns for data privacy and create liability for financial institutions, which are required by regulation to protect consumer data. There is particular concern about consumers' awareness of their interaction with data aggregators and the degree of access being granted.³⁵⁵ Additionally, data aggregators' frequent and ongoing logins to consumers' third-party accounts increases the amount of account traffic, making it more difficult for financial institutions to detect credential misuse, potential fraud and other malicious activity.

354 For a thorough overview of data privacy and how data rights have been discussed and implemented in financial services, see Kaitlin Asrow, *Defining Data Rights and the Role of the Individual*, in OPEN BANKING 31-54 (Linda Jeng ed., 2022).

355 A survey commissioned by the Financial Health Network, a nonprofit organization whose donors have included financial institutions including Bank of America, Capital One, Citi, and JP Morgan Chase & Co., among others (see footnote 316), found that 93% of fintech app users and borrowers are not aware of data aggregators' presence in their financial lives. See FINANCIAL HEALTH NETWORK, FINANCIAL DATA: THE CONSUMER PERSPECTIVE (2021), https://finhealthnetwork.org/wp-content/uploads/2021/04/Consumer-Data-Rights-Report_FINAL.pdf. Additionally, a survey conducted by the Clearing House, a banking association and payments company owned by large IDIs, found that 80% of consumers surveyed were "largely unaware that apps use third-party providers to gather users' financial data." See THE CLEARING HOUSE, 2021 CONSUMER SURVEY: DATA PRIVACY AND FINANCIAL APP USAGE (2021), https://www.theclearinghouse.org/-/media/New/TCH/Documents/Data-Privacy/2021-TCH-ConsumerSurveyReport_Final. In requesting users' log in credentials, data aggregators may use interfaces with graphics that resemble that of the IDI; consumers may not realize they are providing their credentials to a third-party data aggregator rather than logging in to their IDI's site. See Penny Crosman, *PNC sues Plaid for trademark infringement*, AMERICAN BANKER (Dec. 23, 2020), <https://www.americanbanker.com/news/pnc-sues-plaid-for-trademark-infringement>.

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Stakeholders across the financial data ecosystem have largely recognized the shortcomings of credential-based third-party access to consumer financial data and have launched a variety of initiatives to facilitate a transition to more secure, reliable forms of data sharing, namely tokenized access through application programming interfaces (APIs),³⁵⁶ which do not require consumers to share their login credentials with data aggregators. Initiatives include developing technical standards for such APIs, designing model agreements for banks and fintechs, and creating a central utility through which financial institutions can securely connect and share data.

Despite these efforts, the transition to tokenized API access has still been slow, due in part to open policy questions on the scope of data access, permissible uses, liabilities, and other related issues. Progress has been particularly hampered by competitive tensions among industry stakeholders who are not always incentivized to cooperate, as well as regulatory uncertainty around key issues of concern, including information security requirements and liability concerns.³⁵⁷ Ongoing regulatory efforts discussed further in Section 5, may help facilitate a faster transition to more secure, consumer-permissioned, and controlled data access. In particular, the CFPB's ongoing Section 1033 rulemaking has the potential to resolve a number of open policy questions discussed above, and prudential regulators' interagency proposed guidance on third-party risk management may help to provide greater clarity to market participants.³⁵⁸

A separate but related concern is the large and growing amount of consumer financial data being held by data aggregators who are generally not subject to supervision of their data practices. Data aggregators may store the data they retrieve from consumers' financial accounts and share with other parties. Although data aggregators have internal security and risk management teams and independent auditors, there is virtually no regulatory oversight of data aggregators' storage of consumer financial information akin to the supervision of

356 APIs are technology-enabled agreements or protocols that enable a computer system or source of data to interact with or be used by other software.

357 In addition to the outreach conducted for this report, Treasury conducted outreach in fall 2021 with stakeholders in the consumer financial data sharing market, including IDIs, non-bank fintech firms, data aggregators, and industry groups, think tanks, and consumer advocacy organizations. See also *Preserving the Right of Consumers to Access Personal Financial Data*, Hearing before the U.S. House of Representatives Committee on Financial Services Task Force on Financial Technology, 117th Congress (2021). See also Kelly Thompson Cochran, Deputy Director, FinRegLab, Written Testimony before the U.S. House Committee on Financial Services Task Force on Financial Technology (Sep. 21, 2021), <https://financialservices.house.gov/uploadedfiles/hhrg-117-ba00-wstate-cochranch-20210921.pdf>.

358 See Consumer Access to Financial Records, 85 Fed. Reg. 71003 (Nov. 6, 2020). See also Proposed Interagency Guidance on Third-Party Relationships: Risk Management, 86 Fed. Reg. 38182 (Jul. 19, 2021). See also *Preserving the Right of Consumers to Access Personal Financial Data*, Hearing before the U.S. House of Representatives Committee on Financial Services Task Force on Financial Technology, 117th Congress (2021). See also Kelly Thompson Cochran, Deputy Director, FinRegLab, Written Testimony before the U.S. House Committee on Financial Services Task Force on Financial Technology (Sep. 21, 2021), <https://financialservices.house.gov/uploadedfiles/hhrg-117-ba00-wstate-cochranch-20210921.pdf>.

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IDIs' data security.³⁵⁹ As use of non-bank financial services and the data ecosystem continue to grow, so too does the amount of consumer financial data being stored outside of the financial regulatory perimeter.

There is also a general concern that the large amount of consumer data being collected and used poses risks to consumers' privacy and broader societal surveillance risks. Use of alternative data³⁶⁰ may subject growing amounts of consumer behavior to commercial surveillance, including consumers' non-financial behavior. Including alternative data on consumers' non-financial behavior in underwriting lending decisions may lead to spillover effects with people altering behavior that is not directly related to their creditworthiness or ability to repay in order to try to improve their credit rating. For example, lenders might consider the brand of mobile phone a consumer has as alternative data for assessing creditworthiness. Consumers may respond by altering their choices to buy the brand that might be most correlated with creditworthiness. This could be disruptive to consumers' lives and have unintended and unforeseen consequences.

Related to data privacy, there are also concerns that with the increasing prevalence of collection and utilization of consumers' data, consumers may lack alternatives to access the products and services they need without "agreeing" to some form of data collection.³⁶¹ Some new entrant non-bank firms monetize consumer data and may rely on that practice as an additional source of income. Existing disclosures may be inadequate in informing consumers of the ways in which their data is being shared and used and providing consumers with any meaningful control of what data is shared and how it is handled and used. Consumers may thus be unaware and unable to make informed decisions about important issues related to their data privacy.³⁶²

3.2.6 Bias and discrimination

AI/ML technologies also present new challenges to ensuring transparency and fairness – particularly as it relates to credit underwriting – and risks of new forms of discrimination.

359 In some instances, a data aggregator may be subject to periodic examination by a federal bank regulator as a "bank service provider" if it is providing a service to a bank within the scope of the federal bank regulator's statutory authorities. See 12 U.S.C. § 1867(c)(1) and 12 U.S.C. § 1464(d)(7). However, data aggregators that access banking entities to scrape consumer data may not be providing a service to a bank.

360 As used in this report, "alternative data" means new and large-scale information not typically found in the consumer's credit files of the nationwide consumer reporting agencies or customarily provided by consumers as part of applications for credit.

361 See Bhaskar Chakravorti, *Why It's So Hard for Users to Control Their Data*, HARVARD BUSINESS REVIEW (Jan. 30, 2020), <https://hbr.org/2020/01/why-companies-make-it-so-hard-for-users-to-control-their-data>. See also Daniel Solove, *The Myth of the Privacy Paradox*, 89 GEO. WASH. L. REV. 1 (Jan. 28, 2021), <https://www.gwlr.org/the-myth-of-the-privacy-paradox/>. See also Mary Madden, *The Devastating Consequences of Being Poor in the Digital Age*, NEW YORK TIMES (Apr. 25, 2019), <https://www.nytimes.com/2019/04/25/opinion/privacy-poverty.html>.

362 See *Preserving the Right of Consumers to Access Personal Financial Data*, Hearing before the U.S. House of Representatives Committee on Financial Services Task Force on Financial Technology, 117th Congress (2021).

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Principally, the concerns include (i) the difficulty or even impossibility of explaining AI/ML model outputs, and the difficulty this poses for complying with fair lending requirements; (ii) the potential for such models to perpetuate discrimination by utilizing and learning from data, including so-called “proxy” data, that reflect and reinforce historical biases; and (iii) the potential for AI/ML technologies to allow firms to inappropriately target certain communities or discriminate based on membership in protected classes. These challenges and risks are broadly known and recognized and have been widely covered, including in previous reports from regulators and federal agencies.³⁶³ These are tools that many non-bank firms have leveraged to provide products and services, but the risks posed are not unique to non-bank firms. While regulatory oversight to which IDIs are subject may help better protect against risks or inhibit IDIs from taking certain risks, all firms leveraging AI/ML technologies should be aware of bias and discrimination risks.

Among consumer advocacy organizations’ and regulators’ longstanding concerns with AI/ML models used for financial decision-making is the “black box” issue. That is, that the analytical process of advanced and dynamic algorithms is inscrutable, leading to a lack of “explainability” of any decisions made based on the outputs of such algorithms. This opacity could obfuscate discrimination, impede independent review, and present challenges for compliance with federal consumer protection laws. AI/ML models utilize vast amounts of data and run complex analyses to provide new insights based on pattern recognition. Identifying which factors led to a certain output is one challenge; understanding the pattern that was recognized, the statistical significance of any correlations found, and the likelihood that relying on those correlations will disproportionately harm particular populations is another. The ability for firms and regulators to do all of those things is critical to protect against factors and attributes being combined in ways that could serve as proxies for protected classes, and lead to discrimination, unintentional or otherwise. This necessitates robust testing as well as ongoing monitoring as ML algorithms continue to “learn” and evolve and as the predictive power of factors used by models may change over time.³⁶⁴ Despite recent advances in such testing and monitoring,³⁶⁵ concerns remain that AI/ML applications may not be sufficiently transparent and could lead to discriminatory decision-making.

363 See, e.g., EXECUTIVE OFFICE OF THE PRESIDENT, *BIG DATA: A REPORT ON ALGORITHMIC SYSTEMS, OPPORTUNITY, AND CIVIL RIGHTS* (2016), https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/2016_0504_data_discrimination.pdf. See also Carol Evans & Karen Pence, *How Can Regulation Facilitate Financial Inclusion in Fintech*, FEDERAL RESERVE BANK OF SAN FRANCISCO (Aug. 19, 2021), <https://www.frbsf.org/community-development/publications/community-development-investment-review/2021/august/how-can-regulation-facilitate-financial-inclusion-in-fintech/>.

364 See, e.g., Pranshu Verma, *These robots were trained on AI. They became racist and sexist.*, THE WASHINGTON POST (Jul. 16, 2022), <https://www.washingtonpost.com/technology/2022/07/16/racist-robots-ai/>.

365 See, e.g., IAN HARDY, *ROBUST EXPLAINABILITY IN AI MODELS* (ZESTAI, 2020), <https://www.zest.ai/resources/robust-explainability-in-ai-models>.

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Within the context of credit underwriting, the Equal Credit Opportunity Act (“ECOA”) and Fair Credit Reporting Act (“FCRA”) require lenders to provide “adverse action” notices under certain conditions, including the denial of a credit application, to help inform consumers, promote transparency and fairness, and protect against discrimination.³⁶⁶ The aforementioned challenges raise serious questions about the ability to provide accurate notices when using AI/ML models in underwriting. There are a number of industry efforts to facilitate fair lending compliance, but concerns remain for the industry at large, in which many firms have remained hesitant.³⁶⁷

Industry, consumer advocacy organizations, and regulators also have concerns about the inputs for AI/ML models, including concerns about data accuracy and completeness, selection bias, and use of data that reflects historical biases. Concerns about inputs apply to all models, but there is heightened concern around use of data that reflects historical biases with AI/ML models given that ML models “learn” from the data they process and could perpetuate observed biases present in the historical data in future decisions.

Finally, policymakers, academics and consumer advocates have raised concerns that the same data and technological innovations that non-bank firms have leveraged to offer more personalized financial products and services can also be deployed to inappropriately target consumers and discriminate based on membership in protected classes in an unfair or abusive way.³⁶⁸

3.2.7 Consumer financial well-being

Increased competition and expanded access do not on their own necessarily motivate or result in firms serving consumers’ best interests. In credit markets, there are risks that – under competitive pressures or the banner of expanding access – some non-bank firms may extend credit without sufficiently considering a consumer’s financial capabilities, including the ability to repay. Additionally, some firms may exploit information asymmetries to market products that are unfair, deceptive, or abusive. Such lending practices could be imprudent and ultimately negatively impact consumers’ financial well-being.

366 See, e.g., 15 U.S.C. §§ 1681m, 1691(d).

367 See, e.g., ZESTAI, FIVE BUILDING BLOCKS FOR COMPLIANT AI-DRIVEN LENDING (2021), <https://www.zest.ai/resources/five-building-blocks-for-compliant-ai-driven-lending>; see also FINREGLAB, *FinRegLab to Evaluate the Explainability and Fairness of Machine Learning in Credit Underwriting* (Apr. 14, 2021), <https://finreglab.org/wp-content/uploads/2021/04/FinRegLab-Machine-Learning-Explainability-Press-Release-4-13-21.pdf>; see also FINREGLAB, THE USE OF MACHINE LEARNING FOR CREDIT UNDERWRITING (Sep. 2021), <https://finreglab.org/ai-machine-learning/explainability-and-fairness-of-machine-learning-in-credit-underwriting/the-use-of-ml-for-credit-underwriting-market-data-science-context>.

368 ANIKO HANNAK ET AL., MEASURING PRICE DISCRIMINATION AND STEERING ON E-COMMERCE WEB SITES (NORTHEASTERN UNIVERSITY, 2014), <http://www.ccs.neu.edu/home/cbw/static/pdf/imc151-hannak.pdf>. See also Carol Evans & Karen Pence, *supra* note 363.

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Products and services could develop in ways that better consider impacts on consumer financial well-being and better meet consumers' needs. However, the market may not be sufficiently incentivized to do so on its own, and methods of providing accountability for or incentivizing such behavior may be worth further consideration.

3.3 Outstanding Gaps

Access to financial services has never been universal, and there have been and continue to be challenges to providing all consumers with affordable access to the products and services they need. There is some evidence that non-bank firms may be helping to move the market in the direction of better reaching consumers and meeting their financial needs, but gaps persist and there is room for non-bank firms and IDIs to do more.

Despite progress in expanding access to financial services, many low-income individuals remain underserved or even unserved. There is a direct inverse relationship between household income and unbanked rates, with less than one percent of households with annual income of \$75,000 or more being unbanked, compared to 23.3% of households with annual income of less than \$15,000.³⁶⁹ There are corresponding disparities in financial well-being. Individuals in households with incomes over \$100,000 are nearly five times as likely to be financially healthy as people whose annual household income is under \$30,000. Just 12% of households in that latter income category were considered financially healthy in the Financial Health Network's 2021 annual survey. The Federal Reserve Board found that in 2020, adults in households with incomes of \$100,000 or more were nearly twice as likely as adults in households with incomes of \$25,000 or less to be doing at least okay financially.³⁷⁰

There are fundamental cash flow and lack of income issues for low-income individuals that cannot be resolved through financial product and service offerings. More than one-fourth of adults were either unable to pay their monthly bills or were one \$400 financial setback away from being unable to pay them in full in 2020.³⁷¹ Financial services cannot remedy all financial needs and should not be used as a substitute for directly addressing underlying economic issues.

369 FDIC, *supra* note 330.

370 FINANCIAL HEALTH NETWORK, *supra* note 316, at 4, 21, 23-24, 26

371 *Id.*, at 34.

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This section considers the outlook for the state of competition in consumer finance markets with a particular focus on Big Tech firms.³⁷² This section summarizes key concerns and arguments related to potential developments related to Big Tech firms and how they might impact competition.

Big Tech firms have generally sought to enter consumer finance markets through relationships with IDIs and third-party fintech firms.³⁷³ Through these arrangements, Big Tech firms provide consumer-facing solutions integrated with their platforms, but avoid direct involvement in banking.³⁷⁴ These firms have primarily offered access to services within the payments space, but some firms have begun offering merchant and—to a lesser extent—consumer lending products through IDI relationships as well.³⁷⁵ While Big Tech’s involvement in core consumer finance markets has been somewhat limited in scope and their operations in the space still make up small fractions of their overall businesses, some observers have expressed concern that Big Tech firms could expand their services in core consumer finance markets and rapidly establish a dominant position.³⁷⁶ For example, Big Tech firms may have incentives and be able to leverage their existing relationships, consumer data, and other resources to further enter the market, expand their networks and offerings, and scale rapidly to ultimately have capabilities that others—including IDIs—do not have and cannot replicate.³⁷⁷

372 As used here and defined in the Glossary, the term “Big Tech firms” refers to firms that are large technology companies whose primary activity is platform-based digital services, and whose primary business is non-financial. The discussion here is scoped to focus on these firms’ direct involvement and/or potential direct involvement in the provision of consumer financial products and services within the deposits, payments, and lending space. While there are Big Tech firms that are increasingly involved in the provision of back-office technology infrastructure, such as cloud computing, issues related to the provision of technology infrastructure are not the focus of this section. Additionally, while there are incumbent non-bank firms in consumer finance markets that may fit the definition of large platform-based technology companies, such firms’ primary business is financial, and they are not meant to be included in the term Big Tech firm as used here.

373 The notable exception to this was Meta (f.k.a. Facebook)’s former digital currency project, Diem (f.k.a. Libra), in which Meta sought to be more directly involved (through the Diem Association) in the management of the proposed payments solution. Digital assets are out of scope for this report, and this section will not discuss these particular issues as they relate to the commingling of Big Tech and financial services.

374 This is due in part to the traditional separation between banking and commercial business.

375 See CB INSIGHTS, THE BIG TECH IN LENDING REPORT: HOW AMAZON, FACEBOOK, GOOGLE & APPLE ARE BATTLING FOR THE \$3T+ MARKET (2021), https://www.cbinsights.com/reports/CB-Insights_Big-Tech-Lending.pdf.

376 Google, Apple, Facebook, Amazon, and Microsoft (GAFAM) account for five of the six largest companies in the world and represent 18 percent of the S&P 500’s market capitalization as of February 2020. Additionally, in terms of market capitalization, Apple alone is three times the size of JP Morgan Chase and is larger than the top 20 global fintech firms combined. See OLIVER WYMAN & INTERNATIONAL BANKING FEDERATION, *supra* note 42, at 15.

377 See KAREN CROXSON, JON FROST, LEONARDO GAMBACORTA & TOMASO VALLETTI, PLATFORM -BASED BUSINESS MODELS AND FINANCIAL INCLUSION 2, 9-10 (BANK FOR INTERNATIONAL SETTLEMENTS, Working Paper No. 986, 2022), <https://www.bis.org/publ/work986.pdf>.

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Consideration of future developments and potential impact on competition (positive or negative) is largely speculative. Treasury does not seek to make predictions on what may or may not occur. Rather, this section summarizes key concerns that may warrant further consideration in light of potential further entry by Big Tech firms in consumer finance markets, because Big Tech firms may be uniquely positioned and motivated to have a significant impact on competition in these markets.³⁷⁸

Whether or how Big Tech firms might seek to expand their reach in core consumer finance markets and the impact that might have on competition is uncertain, and different paths could present different benefits and risks. Big Tech firms could realize efficiencies that may allow them to lower costs and expand access to consumer financial products and services.³⁷⁹ Big Tech firms may offer value for consumers through better user interface designs and more targeted or responsive products and services. To the extent that they might challenge entrenched players in the financial services industry, these firms could provide increased competition that could be beneficial to consumers, at least in the short term.

At the same time, Big Tech firms could themselves gain an entrenched position in financial services through anticompetitive conduct, resulting in negative impacts on competition. Alternatively, Big Tech firms may use resources gleaned from participation in consumer finance markets to further support or entrench dominant positions they already hold in other markets.³⁸⁰ Five areas where concerns are often raised about Big Tech's potential impact on competition include: data economies, network effects, leveraging, predatory pricing, and mergers and acquisitions. These issues are further explored below.³⁸¹

378 See, e.g., remarks from FRB Chair, Jerome Powell, on the potential systemically important levels of impact Big Techs could quickly grow to have in finance markets, specifically considering Meta (f.k.a. Facebook)'s former Diem (f.k.a. Libra) project. "Well, really due to the possibility of quite broad adoption. Facebook has a couple billion plus users, so you have, I think for the first time, the possibility of a very broad adoption. And if there were problems there associated with money laundering, terrorist financing, any of the things that we are all focused on, including the company, they would immediately rise to systemically important levels just because of the mere size of the Facebook network. And the company has said so explicitly." *Monetary Policy and the State of the Economy, U.S. House Committee on Financial Services, 116th Congress (2019)* (statement by Jerome H. Powell). <https://www.govinfo.gov/content/pkg/CHRG-116hhrg39738/html/CHRG-116hhrg39738.htm>.

379 See KAREN CROXSON, ET AL., *supra* note 377, at 2.

380 See Jonathan Kanter, Assistant Attorney General, DOJ, Keynote at CRA Conference (Mar. 31, 2021), <https://www.justice.gov/opa/speech/assistant-attorney-general-jonathan-kanter-delivers-keynote-cra-conference>.

381 This section does not provide an analysis of Big Tech firms' present impact on competition in the U.S. economy generally, but instead considers these issues (data economics, leveraging, network effects, merger and acquisition activity, and predatory pricing) within the context of potential future increased engagement by Big Tech firms in core consumer finance markets specifically. This list of issues and their coverage is non-exhaustive but is meant to provide a high-level overview of common issues and concerns cited with respect to Big Tech entry in core consumer finance markets.

4.1 Data Economies

New entrant Big Tech firms may enter with data advantages because of either the scale of data available to a firm (e.g., access to more financial data points regarding a larger number of consumers) or the scope of available data (e.g., access to a broader array of financial and non-financial data regarding consumers).

Generally, Big Tech firms have access to large and diverse datasets. Possession of such large datasets gathered across multiple business lines could result in at least two competitive advantages in consumer finance markets. First, Big Tech firms may be able to use their non-financial data about consumers to offer more targeted financial products or services to consumers. For example, Big Tech firms may be better able to assess the credit risk of consumers and offer targeted interest rates and loan structures, using data gleaned from an individual's online activity. Second, a Big Tech firm could benefit from synergies between consumer financial data and data gathered specifically through consumers' use of the firm's platform. For example, subject to consumer financial protection laws, a Big Tech firm could potentially use an individual's debt payment data in combination with web browsing data to tailor the pricing of financial services provided by the firm to that individual. If these benefits are significant, Big Tech firms may be able to offer more targeted products or services and extend financing potentially at lower prices than traditional financial companies that do not have access to similar consumer data. The use of this data in consumer finance markets, and the combination of this data with consumers' financial data raises concerns about data privacy and potential bias and discrimination explored in the preceding Section on Opportunities and Risks.³⁸²

While it is clear that Big Tech firms possess large and diverse datasets, it is not clear whether, as an empirical matter, economies of scale and scope in data do in fact exist and whether any resulting advantages present a threat to competition. That is, could firms realize unique competitive advantages from data resources, and could they do so in a way that could not be replicated? The heart of these questions is whether access to large and diverse data resources create unique advantages, and whether such data resources are accessible for market participants.

There are multiple points of view as to whether economies of scale and scope in data exist—that is, whether such large and diverse amounts of data create advantages. Some argue that such economies do not exist because what is critical for creating customized offerings or

³⁸² As discussed in the Opportunities and Risks section, use of non-financial consumer data in financial decision-making could be disruptive to consumers' lives and have unintended consequences. Additionally, the same tools and use of data that enable personalization could be used to target consumers in an unfair or abusive manner. The potential impacts of Big Tech firm's expansion into core consumer finance markets may increase the importance of data governance policies.

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predictive analysis—key benefits associated with data resources—is actually high-quality algorithms or narrower sets of data more relevant to consumer preferences and behaviors.³⁸³ Others, however, argue that such data resources do confer unique advantages which may create a reinforcing market lead—that is, data resources enable firms to offer products or services more tailored or better priced to consumers, driving increased engagement and consumer activity, in turn generating more data, growing the data resource that ultimately helps further inform and enhance the ability of the firm to provide products and services consumers desire.³⁸⁴

If economies of scale or scope in data do exist in consumer finance, then whether the related advantages impact competition becomes relevant. There is debate over whether Big Tech firms could gain or already possess a competitive advantage by generating and limiting access to uniquely valuable data³⁸⁵ resulting in an “essential facility”—an input that is necessary to compete that is held exclusively by some firm.³⁸⁶ It is true that data themselves are non-rivalrous (i.e., one firm’s use of data does not necessarily preclude another firm’s use of those same data) and have very low (often zero) marginal cost of production and distribution. Additionally, the rise of data brokers helps facilitate access to some big data for firms that do not generate it themselves as part of their business model.³⁸⁷ However, all types of firms often collect and keep data, and despite growth in data aggregation services increasing the amount of data made available, the largest and most valuable data sets are generally not ubiquitous and open for use by all. More importantly, there may not be sufficient incentives to motivate Big Tech firms (or other non-bank entities) to share or make data available.³⁸⁸ Data portability and sharing standards could help address or prevent formation of data as an essential facility, thus mitigating potential negative impacts to competition.³⁸⁹ However, poorly implemented standards may carry competitive risks as well as smaller players may face relatively higher compliance costs, resulting in an advantage for large, incumbent firms. As discussed in Section 3 above, further availability and use of consumer data could also lead

383 Catherine Tucker, *Digital Data, Platforms and the Usual [Antitrust] Suspects: Network Effects, Switching Costs, Essential Facility*, REVIEW OF INDUSTRIAL ORGANIZATION (Feb. 2019), <https://link.springer.com/article/10.1007/s11151-019-09693-7>.

384 See, e.g., Agustín Carstens, General Manager, Bank for International Settlements, Introductory remarks for the Asia School of Business Conversations on Central Banking webinar, “Finance as information”: Public policy for big techs in finance (Jan. 21, 2021), <https://www.bis.org/speeches/sp210121.pdf>.

385 Uniquely valuable data as used here refers to data that is unique to the firm – generated by the firm or otherwise not replicable or accessible – which confers value, again under the assumption that economies of scope and scale exist in data.

386 Catherine Tucker, *supra* note 383.

387 This data, when used in consumer finance, is likely to be regulated under the Fair Credit Reporting Act, which limits its use, requires certain levels of accuracy and transparency, and gives consumers dispute right. See Fair Credit Reporting Act, 15 U.S.C. § 1681.

388 See Catherine Tucker, *supra* note 383, at 2.

389 See also KAREN CROXSON, ET AL., *supra* note 377.

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to an expansion of the market for digital surveillance of consumers. Doing so would likely exacerbate data privacy and security concerns and may further increase the importance of data governance standards.

4.2 Network Effects

Big Tech firm's entry into consumer finance markets has so far mostly involved offering a narrow range of products directly to consumers, such as credit card offerings through relationships with IDIs. However, Big Tech firms have grown to be some of the largest firms in the world by developing platforms that connect consumers to providers of services or products. A concern that is often expressed is that if Big Tech firms offer consumer financial products, they could rapidly scale and replicate network effects from which they benefit in other markets, potentially limiting the ability of new entrants (and even market incumbents with smaller networks) to compete effectively.

Classic (direct) network effects occur when the value of a product to the consumer increases as additional consumers purchase the product (e.g., telephones). Social network platforms, for example, clearly exhibit this property, as the value to users of the service grows as more users join. Big Tech firms may benefit from direct network effects if they offer payment services, but in most other consumer finance markets there is no direct increase in the value to consumers of additional consumers using financial services offered by or through the Big Tech firm's platform. For example, the value of BNPL products to consumers does not rise as additional consumers purchase goods through a particular BNPL provider.

Another type of network effect, sometimes called an "indirect network effect," occurs when consumers and producers benefit from the expanding size of a market.³⁹⁰ For example, a marketplace platform that matches lenders and borrowers may benefit from indirect network effects, as the increasing size of the marketplace enables better matches and more options for both borrowers and lenders.³⁹¹ Big Tech firms with these types of platforms could benefit from indirect network effects, with the value of the platform growing with their ability to attract a large number of financial services providers, merchants, or consumers. Such network effects can lead to rapid horizontal growth, and in practice, platform markets are often concentrated, with only a few firms serving consumers.³⁹² Additionally, multihoming—the

390 See Michael Katz and Carl Shapiro, *Network Externalities, Competition, and Compatibility*, THE AMERICAN ECONOMIC REVIEW 424 (Jun. 1985).

391 These effects are present in many other markets as well. For example, consider grocery stores as a kind of platform. As the number of products offered on store shelves rises, the value to the consumer of shopping at that establishment rises, and as the number of consumers in a store rises, the benefit to a supplier to being on store shelves rises as well. However, consumers can, at a relatively low cost, shop at multiple grocery stores just as producers can supply their goods to multiple stores.

392 Patrick F. Todd, *Digital Platforms and the Leverage Problem*, NEBRASKA LAW REVIEW (Vol. 98, Issue 2, Article 12, 2019) 493, <https://digitalcommons.unl.edu/nlr/vol98/iss2/12/>.

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ability of consumers or producers to simultaneously use multiple networks or platforms—and product/network interoperability may help mitigate negative impacts of indirect network effects on competition.³⁹³ In some cases, multihoming or interoperability may be prohibitively expensive or otherwise not viable, and “lock-in” to a sub-optimal network may occur, to the detriment of competition and consumers. Indeed, firms that have or seek dominance in certain markets may have an incentive to discourage multi-homing in order to limit competition.³⁹⁴ However, where multihoming or interoperability are viable and switching costs are low, indirect network effects may be a less significant factor in limiting market competition.

Network effects could positively impact both providers and consumers, and other market forces, including multihoming and interoperability, could help counter risks to competition. However, there may be a risk of Big Tech firms gaining an entrenched position in consumer finance markets because of network effects; further consideration of these risks and potential impact on markets and consumers may be prudent.

4.3 Leveraging

Within the space of competition policy analysis, leveraging refers to the use of market power in one market to obtain a competitive advantage in a different market. Forms of leveraging can include self-preferencing, tying or bundling of products, refusals to deal, and the creation of walled gardens, among other forms. The existing framework for assessing leveraging distinguishes between anti-competitive and pro-competitive leveraging based on impact to competition, affirming a view that leveraging in some instances may be beneficial.³⁹⁵ Full coverage of these issues and how they apply to Big Tech firms and digital platforms generally is beyond the scope of this report. However, these broader concerns are relevant to Big Tech entry into core consumer finance markets, and some discussion of them is warranted.

The broader debate on digital platforms and leveraging remains ongoing,³⁹⁶ including examinations of the roles that dynamics employing leverage, tying, bundling, and cross-selling may play in the online marketplace.³⁹⁷ It has long been the prevailing view that companies

393 See, e.g., Feng Zhu and Marco Iansiti, *Why Some Platforms Thrive and Others Don't*, HARVARD BUSINESS REVIEW (Jan. - Feb. 2019), <https://hbr.org/2019/01/why-some-platforms-thrive-and-others-dont#:~:text=charging%20transaction%20fees-,Vulnerability%20to%20Multi%2DHoming,an%20additional%20platform%20is%20low.>

394 See FIONA M. SCOTT MORTON, SUSAN ATHEY, PLATFORM ANNEXATION (2021), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3786434.

395 Patrick F. Todd, *supra* note 392, at 506-513, 514-518.

396 See Lina M. Khan, *The Separation of Platforms and Commerce*, COLUMBIA LAW REVIEW (Vol. 119 No. 4, 2019) <https://columbialawreview.org/content/the-separation-of-platforms-and-commerce/>; TIM WU, THE MASTER SWITCH: THE RISE AND FALL OF INFORMATION EMPIRES, ALFRED A KNOPF PUBLISHING (2010); Patrick F. Todd, *supra* note 392.

397 Compare Patrice Bougette, Oliver Budzinski & Frederic M. Marty, *Self-Preferencing and Competitive Damages: A Focus on Exploitative Abuses*, 67(2) ANTITRUST BULLETIN 190 (2022)(some forms of self-preferencing may constitute anti-competitive leveraging or other predatory behavior) with Jay Pil Choi and Doh-Shin Jeon, *A Leverage Theory of Tying in Two-Sided Markets with Nonnegative Price Constraints*, 13(1) AMERICAN ECONOMIC JOURNAL: MICROECONOMICS 283 (2021)(establishing a theory of anticompetitive tying in online platform markets).

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may incur a cost for leveraging if they do so in a way that meaningfully reduces the value of the platform to customers or providers,³⁹⁸ and it was therefore not economically rational to engage in anticompetitive leveraging. For example, platform operators often have an incentive to attract third-party providers even as they offer their own products or services on their platform in order to enhance the value of the platform and attract more customers.³⁹⁹ The concern raised more recently, however, is that as platforms mature, they may come to dominate certain markets, and third-party providers may become reliant upon the platform to access those markets. This reliance could enhance the gatekeeper power of platform operators and enable them to engage in exclusionary conduct and anti-competitive leveraging.⁴⁰⁰ Some argue that assuming the dual role of gatekeeper and market participant on the same platform creates conflicts of interest that enables the platform operator to entrench their dominance.⁴⁰¹ Ultimately, the concern is that a dominant platform operator could leverage its position to concentrate market power in a manner detrimental to competition and consumers.⁴⁰²

The potential for Big Tech firms to use leveraging to gain market dominance in core consumer finance markets recalls concerns reminiscent of those traditionally related to the mix of banking and commerce. Importantly Big Tech firms have avoided the taking and holding of insured deposits, and consequently many of the core concerns of mixing banking and commerce are avoided. However, the potential of these firms obtaining large market shares across various markets may create conflicts of interest across financial and non-financial activities and potentially raise concerns about financial stability risks, particularly given the large size of these firms.⁴⁰³

4.4 Predatory Pricing

As Big Tech firms enter new markets, an often-voiced concern is that these firms may pursue a ‘predatory pricing’ strategy, initially charging prices below cost in order to gain scale and drive out competition, then raising prices once their market position is entrenched. In such cases, the short-run profitability of the “predatory” firm is harmed by below-cost pricing, but the firm may engage in the behavior with the hopes of establishing a dominant market position and achieving long-run recoupment through markups.⁴⁰⁴ It is unclear whether

398 See PATRICE BOUGETTE, OLIVER BUDZINSKI & FREDERIC M. MARTY, SELF-PREFERENCING AND COMPETITIVE DAMAGES: A FOCUS ON EXPLOITATIVE ABUSES 9-10, (GREDEG, 2022), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4028770.

399 Patrick F. Todd, *supra* note 392, at 493.

400 *Id.*

401 Lina M. Khan, *supra* note 396, at 973.

402 *Id.*

403 See OLIVER WYMAN & INTERNATIONAL BANKING FEDERATION, *supra* note 42.

404 Some antitrust experts argue current antitrust analysis may not capture means through which firms—particularly large platforms—may recoup losses. See Lina M. Khan, *Amazon’s Antitrust Paradox* at 756-768, YALE LAW JOURNAL (Vol. 123, No. 3, Jan. 2017), <https://www.yalelawjournal.org/note/amazons-antitrust-paradox>.

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such a strategy can be profitable, particularly in cases where there is free entry and exit or if firms have ready access to credit. Some have argued that the economics of platform markets—which may particularly benefit from scale—may make such a strategy rational.⁴⁰⁵

Relatedly, Big Tech firms may be able to offer below-cost prices on one product or service by subsidizing their losses with profits from another product or service. This could be a form of leveraging, as discussed above, in which a firm uses market power in one industry to gain an entrenched position in another industry. Alternatively, this could be a reduction in the cost of production via synergies in production. For example, a firm may use the byproduct of one service (e.g., consumer data as a byproduct of providing a consumer financial service) to facilitate or enhance the provision of another service (e.g., advertising) from which the firm generates sufficient profit to cover losses in the first market.⁴⁰⁶ Consequently, when all services are considered, the price of the first service providing the useful byproduct is above the firm's costs. In this way, the firm may be able to profitably price certain services with the appearance of being below cost without the need for long-run recoupment through higher prices. While this may result in some competitors with different business models being unable to compete and maintain their business, this might be considered competition on the merits and not anticompetitive in that it reflects an innovation that lowers the social cost of product or service provision.⁴⁰⁷

However, if a firm gained sufficient market power, it may then be incentivized to use its market power to raise prices, cut costs by reducing the quality of services, or resist further innovation that threatens its market power. While other firms may be incentivized to enter the market in such a scenario where a large incumbent has become complacent or increased markups, the viability of new entry could vary, and in any case, there may be harms to consumer in the short run. These concerns warrant further consideration.

4.5 Merger and Acquisition Activity

Another concern regarding Big Tech entry is that they may limit competition from fintech firms and other financial firms through acquisition—a concern often raised about Big Tech firms in other markets. Croxson et al. (2020) show that the average size of acquiring firms has risen over time in the payment platform space—both for vertical and horizontal mergers.⁴⁰⁸ The prevailing view of merger analysis has held that there are both potential gains from

405 *Id.*, at 749, 788.

406 Such a scenario involving monetization of consumer data may also present data privacy concerns, as explored in the previous section on Opportunities and Risks.

407 For example, Behringer and Filistrucchi (2014) argue that adopting the Areeda-Turner Rule for two-sided markets yields a rule that considers revenues and costs from both sides of the market. See STEFAN BEHRINGER & LAPO FILISTRUCCHI, AREEDA-TURNER IN TWO-SIDED MARKETS (REVIEW OF INDUSTRIAL ORGANIZATION, 2015), <https://link.springer.com/article/10.1007/s11151-015-9460-5>.

408 KAREN CROXSON, ET AL., *supra* note 377, at 17-18 (Graph 6).

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more productive firms acquiring less productive firms or firms making acquisitions based on production or product synergies, resulting in lower prices, higher quality, or more innovation, as well as the potential for reduced competition resulting in price increases, quality reductions, or innovation harms.⁴⁰⁹ The general view of mergers and acquisitions as inherently efficiency-enhancing has been challenged in recent years.⁴¹⁰

There has been particular concern regarding Big Tech firms acquiring competitors for the purpose, or with the effect, of eliminating nascent competition to services they already dominate.⁴¹¹ In some cases, an incumbent may acquire a firm and maintain the acquired firm's product or service after the transaction. In the absence of productivity gains, this strategy relies on a mechanism to limit further entry to maintain supracompetitive profits. In other cases, firms may make a "killer acquisition" of a firm, after which they discontinue some of the rival's products. In markets such as core banking services with regulatory barriers to entry, such as chartering restrictions, concerns over killer acquisitions may be well-founded. For example, Cunningham et al. (2021) argue that in the pharmaceutical industry, where patents granting market power create strong barriers to entry, as much as seven percent of acquisitions may be for the sole purpose of eliminating competitors.⁴¹² In some financial markets and activities, with barriers to entry such as chartering or access to payment rails, there may be some level of vulnerability to anticompetitive acquisitions. In other consumer finance markets where regulatory hurdles to entry are lower, these types of acquisitions may not be as significant a concern.

Even in the absence of such an acquisition, expectations of M&A activity may produce a chilling effect on funding for new firms, limiting entry. Kamepalli et al. (2021) present a model where the expectation of acquisition of firms by multi-sided tech platforms is followed by meaningful declines in investment for startup firms similar to the target, though it is unclear

409 See, e.g., Joseph Farrell & Carl Shapiro, *Horizontal Mergers: An Equilibrium Analysis*, THE AMERICAN ECONOMIC REVIEW (Mar. 1990), at 110-113. See also Vojislav Maksimovic & Gordon Phillips, *The Market for Corporate Assets: Who Engages in Mergers and Asset Sales and Are There Efficiency Gains?*, THE JOURNAL OF FINANCE (Dec. 2002).

410 See Brian Deese, Director, National Economic Council, Brian Deese Remarks on President Biden's Competition Agenda (Jul. 14, 2022), <https://www.whitehouse.gov/briefing-room/statements-releases/2022/07/14/brian-deese-remarks-on-president-bidens-competition-agenda/>.

411 See, e.g., DOJ, *Justice Department Sues to Block Visa's Proposed Acquisition of Plaid*, (Nov. 5, 2020), <https://www.justice.gov/opa/pr/justice-department-sues-block-visas-proposed-acquisition-plaid>. In this case, DOJ alleged that Visa sought to acquire Plaid, in part, to eliminate a nascent competitive threat.

412 See Colleen Cunningham, Florian Ederer & Song Ma, *Killer Acquisitions*, JOURNAL OF POLITICAL ECONOMY (Mar. 2021).

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whether this model is applicable to the consumer finance market.⁴¹³ Continued monitoring of Big Tech mergers and acquisitions and consideration of merger policy is appropriate.⁴¹⁴

413 SAI KRISHNA KAMEPALLI, RAGHURAM RAJAN & LUIGI ZINGALES, KILL ZONE (NATIONAL BUREAU OF ECONOMIC RESEARCH, Feb 2021), https://www.nber.org/system/files/working_papers/w27146/w27146.pdf. The Kamepalli et al. model relies on switching costs and limited financing, which may be absent from consumer finance markets.

414 The Competition EO highlighted the Biden Administration’s policy “to enforce antitrust laws to meet the challenges posed by new industries and technologies, including the rise of the dominant Internet platforms, especially as they stem from serial mergers, the acquisition of nascent competitors, the aggregation of data, unfair competition in attention markets, the surveillance of users, and the presence of network effects.” See Promoting Competition in the American Economy, 86 Fed. Reg. 36987-36989 Section 1 (Jul. 14, 2021).

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Core consumer finance markets have seen an influx of new entrant non-bank firms that are impacting competition. As a result, new approaches to the provision of financial services in core consumer finance markets have allowed these new entrants to emerge as both competitors of and collaborators with incumbent IDIs. Over the longer term, these new entrants could potentially help to fill gaps in consumer finance markets by improving efficiency and transparency, broadening access, reducing costs, or increasing financial choice and opportunities.

When done responsibly, competition and innovation can deliver benefits to consumers.⁴¹⁵ These potential benefits include the promotion of competition among IDIs and non-bank firms that helps to reduce costs and further expand consumer access to safe and affordable financial services. However, competition alone cannot address all policy objectives related to protecting consumers and promoting their financial well-being. At times, regulatory and supervisory frameworks must be adjusted to appropriately address new or migrating risks resulting from changes in the market landscape, including for consumer financial services. To respond to those changes, policymakers should prioritize policies that maintain a level regulatory playing field, promote competition and innovation, and protect consumers and financial sector stability.

The recommendations in this report focus primarily on how the federal banking regulators and the CFPB can use existing authorities to advance two objectives: *First*, enable competition in the delivery of consumer financial services that can benefit consumers while appropriately managing risks; and *second*, promote regulatory oversight across financial institutions that is commensurate to the activities and risks associated with new structures for delivering financial services to consumers. The recommendations are organized into five categories: (i) encouraging enhanced measurements of competition and review of concentration in banking; (ii) enabling competition in responsible consumer credit underwriting; (iii) enabling effective oversight of bank-fintech relationships; (iv) encouraging competition in responsible small-dollar lending; and (v) enabling secure data sharing.

Each of the following recommendations are offered for consideration by the applicable federal agency.

415 ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT, OECD HANDBOOK ON COMPETITION POLICY IN THE DIGITAL AGE 57-64 (2022), <https://www.oecd.org/daf/competition/oecd-handbook-on-competition-policy-in-the-digital-age.pdf>.

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5.1 Encouraging Enhanced Measurement of Competition and Review of Concentration in Banking

As prior sections demonstrate, the consumer finance markets have undergone significant change and evolution since DOJ issued its 1995 Bank Merger Review Guidelines, and since the Bank Merger Act was enacted in 1960. Treasury supports review of bank merger oversight policies in light of ongoing consolidation and the potential waning utility of certain traditional measurements of competition due to the evolving marketplace and limitations of official data sources.

The Competition EO called on DOJ, in consultation with the federal banking regulators, to review its merger oversight policies and practices.⁴¹⁶ In December 2021, DOJ requested public comment on its competitive analysis of bank mergers in response to the Competition EO.⁴¹⁷ Similarly, in March 2022, the FDIC published a request for information regarding its analysis of bank merger transactions, including considerations of geographic markets, market share indicators and “competition by non-bank institutions.”⁴¹⁸ DOJ and the federal banking agencies should continue their review and consideration of these and other relevant factors to enhance measurements of competition and merger oversight.

5.2 Enabling Competition in Responsible Consumer Credit Underwriting

Millions of American consumers live paycheck-to-paycheck, often hindered by a combination of insufficient income, lack of access to savings, or limited credit visibility. While access to credit cannot substitute the need for policies that help ensure all Americans have an opportunity to earn a living wage, achieve stable employment, and gain retirement security, it can be an important factor in the financial well-being of households. Without sufficient credit options, consumers can become increasingly vulnerable to the risks of unexpected expenses and income volatility. A single unplanned car repair or minor medical procedure can quickly

416 Promoting Competition in the American Economy, 86 Fed. Reg. 36992 Section 5(e) (Jul. 14, 2021). DOJ previously issued a request for comments in September 2020. See DOJ, *Antitrust Division Seeks Public Comments on Updating Bank Merger Review Analysis*, (Sep. 1, 2020), <https://www.justice.gov/opa/pr/antitrust-division-seeks-public-comments-updating-bank-merger-review-analysis>.

417 DOJ, *Antitrust Division Seeks Additional Public Comments on Bank Merger Competitive Analysis*, (Dec. 17, 2021), <https://www.justice.gov/opa/pr/antitrust-division-seeks-additional-public-comments-bank-merger-competitive-analysis>.

418 FDIC, Request for Information and Comment on Rules, Regulations, Guidance, and Statements of Policy Regarding Bank Merger Transactions, 87 Fed. Reg. 18740 (Mar. 31, 2022). DOJ previously issued a request for comments in September 2020. This earlier request also solicited input on if and how DOJ might include “non-traditional banks” in its competitive analysis. See DOJ, *Antitrust Division Seeks Public Comments on Updating Bank Merger Review Analysis*, (Sep. 1, 2020), <https://www.justice.gov/opa/pr/antitrust-division-seeks-public-comments-updating-bank-merger-review-analysis>.

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become a household crisis.⁴¹⁹ In the absence of stable and affordable credit, consumers may turn to alternatives that are costly and harm their long-term financial well-being.

Conventional credit underwriting,⁴²⁰ with its reliance on traditional automated scoring models (e.g., classic FICO), is a well-established system for allocating consumer credit, but may leave gaps. Evidence suggests that traditional credit scoring alone, can leave out or underscore creditworthy consumers simply because they lack established credit histories with mainstream lenders (e.g., mortgage lenders, credit cards), and may particularly impact borrowers that are young, low-income, or minority.⁴²¹ Also discussed in Section 3, some firms are using new underwriting approaches that present opportunities for better assessing creditworthiness while reducing bias in credit decision-making; and, in some segments, are offering more affordable credit than existing alternatives accessible to consumers. This could create new competition to serve individuals who are currently being left out of a number of consumer financial services markets. However, the evidence supporting such benefits remains limited and requires additional scrutiny. In addition, the expanded use of alternative data analytics⁴²² in credit underwriting has risks.⁴²³ These include the risk that models based on new complex algorithms would amplify the shortcomings of conventional credit underwriting approaches, including the risk of discrimination, or accelerate the emergence of new risks to consumer welfare.⁴²⁴ While policymakers must address the potential risks posed by these new technologies, a broad rejection of prospective new forms of consumer credit underwriting is not costless to those consumers who are inadequately served by the status quo.⁴²⁵

419 Roughly 46% of all U.S adults in 2020 would face a hardship if presented with a \$400 unexpected expense. FRB, REPORT ON THE ECONOMIC WELL-BEING OF U.S. HOUSEHOLDS IN 2020 33 (2021), <https://www.federalreserve.gov/publications/files/2020-report-economic-well-being-us-households-202105.pdf>.

420 References to “credit underwriting” or a “credit underwriting system” are intended to describe the combined components of a lender’s consumer loan origination process, which might typically include: pre-qualification (e.g., eligibility and fraud check); application processing (e.g. completeness and accuracy), underwriting (e.g. automated credit scores and other risk metrics), credit decision (e.g., deny or approve loan amount and interest rate), quality check (e.g., compliance with internal policies and regulations); and loan funding. Financial technology, including alternative data analytics, can be used in different components of a credit underwriting system to increase speed and efficiency through automation.

421 CFPB, WHO ARE THE CREDIT INVISIBLES? 2 (2016), https://files.consumerfinance.gov/f/documents/201612_cfpb_credit_invisible_policy_report.pdf. See also LAURA BLATTNER & SCOTT NELSON, HOW COSTLY IS NOISE? DATA AND DISPARITIES IN CONSUMER CREDIT 2 (arXiv, 2021), <https://arxiv.org/abs/2105.07554>.

422 In this report, “alternative data analytics” refers to the use of machine learning or other complex algorithms to extract insights from alternative data to make faster and, presumably, better decision-making in the credit underwriting process.

423 See Section 3 for discussion of relevant risks.

424 See Section 3 for discussion of concerns regarding alternative data and commercial surveillance. See also MICHAEL AKINWUMI, JOHN MERRILL, LISA RICE, KAREEM SALEH & MAUREEN YAP, AN AI FAIR LENDING POLICY AGENDA FOR THE FEDERAL FINANCIAL REGULATORS (BROOKINGS, 2021), <https://www.brookings.edu/research/an-ai-fair-lending-policy-agenda-for-the-federal-financial-regulators/>.

425 AARON KLEIN, REDUCING BIAS IN AI-BASED FINANCIAL SERVICES (BROOKINGS, 2020), <https://www.brookings.edu/research/reducing-bias-in-ai-based-financial-services/>.

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As a general principle, non-bank firms and IDIs that engage in the same activities to provide consumer financial services should be held to the same risk-based standards with respect to those activities. A lack of sufficient clarity regarding the application of existing law or supervisory standards to available credit underwriting approaches can impact the willingness of responsible lenders to use those approaches. Today, many of these new approaches have been put to market by non-bank firms, which, depending on the facts and circumstances, may be subject to the same consumer protection statutes as an IDI but have generally not been subject to prudential regulation or supervision comparable to IDIs.⁴²⁶ This difference in regulatory scrutiny can, create a type of regulatory arbitrage that benefits lenders that operate outside the bank regulatory perimeter.⁴²⁷ With appropriate oversight, new modeling techniques for analyzing a borrower's ability and willingness to repay could benefit both prudent IDI lenders and overlooked but creditworthy consumers.

As with prior developments in the evolution of credit underwriting, including the advent of credit scoring, the use of alternative data analytics in credit underwriting raises questions regarding how to effectively harness its potential benefits, while protecting consumers and safety and soundness.⁴²⁸ The use of alternative data analytics in consumer credit underwriting needs to be done responsibly. Imprudently expanding access to unsecured credit could damage consumers' credit histories and risk scores, which could preclude future access to and increase costs of loans that build equity (e.g., mortgages or small business loans). Without proper regulatory guidance and oversight, algorithmic bias and other risks associated with certain uses of alternative data analytics could lead to otherwise avoidable outcomes, including discriminatory outcomes that harm consumers. Regulators and market participants would benefit from more evidence from the field, including academic, industry and civil society analyses to increase awareness of the potential opportunities, risks, and mitigation techniques associated with these evolving underwriting approaches. Additional transparency regarding expectations for model risk management may help guide lenders to more responsible practices and help them better assess the full spectrum of risk associated

426 While it is true that non-bank firms are generally not subject to supervision comparable to IDIs under federal law, in some states a non-bank lender may be subject to more scrutiny under state law.

427 As noted in Section 1, while federal banking regulators have taken some steps to clarify the requirements for non-banks to avail themselves of certain IDI privileges, regulators are legally bound to apply certain core elements of effective oversight (e.g., robust prudential regulation and supervision, restrictions on affiliate transactions).

428 The federal banking regulators along with the CFPB and NCUA jointly recognized the benefits of responsibly using alternative data in credit underwriting (e.g., improve the speed and accuracy of credit decisions, help firms evaluate the creditworthiness of consumers). See FRB, CFPB, FDIC, NCUA & OCC, INTERAGENCY STATEMENT ON THE USE OF ALTERNATIVE DATA IN CREDIT UNDERWRITING (2019), https://files.consumerfinance.gov/f/documents/cfpb_interagency-statement_alternative-data.pdf.

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with available credit underwriting approaches.⁴²⁹ In addition, policymakers have yet to fully grapple with the implications for consumer privacy and data security associated with a widespread use of alternative data in the provision of consumer financial services.

Federal regulators have authorities to help establish a coordinated approach to enable competition and innovation in consumer credit underwriting that may benefit U.S. consumers, while appropriately mitigating associated risk. IDIs—on their own and through relationships with non-bank firms—continue to play a meaningful role in consumer credit markets. Therefore, the federal banking regulators can use the existing supervisory infrastructure for model risk management to monitor and guide the responsible use of new consumer credit underwriting approaches by IDI lenders. In addition, the CFPB and Department of Housing and Urban Development (“HUD”) can take action to address emerging fair lending issues relating to the use of alternative data analytics in consumer credit underwriting. Working together, relevant federal agencies (banking regulators, CFPB, HUD, and the Federal Trade Commission (“FTC”)) can help maintain a level regulatory playing field among IDI and non-bank lenders by supporting a coordinated approach to supervisory expectations regarding the risk that available credit underwriting approaches violate any applicable laws and regulations, including those related to consumer protection statutes. Doing so would help enhance competition by allowing regulated institutions to engage with innovations that can benefit consumers, while operating on a level playing field with proper supervision for safety and soundness and consistency with consumer protection statutes.

5.2.1 Recommendations

Federal banking regulators, in consultation with CFPB and other federal agencies, should continue to support responsible consumer credit underwriting approaches that are designed to increase credit visibility, reduce bias, and prudently expand access to credit to U.S. consumers.

First, Treasury recommends that federal banking regulators leverage the existing supervisory framework for model risk management to provide additional clarity and consistency across IDIs with respect to the use of alternative data and new complex algorithms in credit underwriting systems. This includes IDIs acting as lenders through bank-fintech relationships. Federal banking regulators each have an existing, principles-based approach for supervising IDIs’ model risk management programs for credit underwriting models, which is set forth in model risk management guidance and related supervisory practices, such as exam procedures (collectively, the “MRM Supervisory

429 MICHAEL AKINWUMI, JOHN MERRILL, LISA RICE, KAREEM SALEH & MAUREEN YAP, AN AI FAIR LENDING POLICY AGENDA FOR THE FEDERAL FINANCIAL REGULATORS (BROOKINGS, 2021), <https://www.brookings.edu/research/an-ai-fair-lending-policy-agenda-for-the-federal-financial-regulators/>. See also BANK POLICY INSTITUTE & COVINGTON, ARTIFICIAL INTELLIGENCE: RECOMMENDATIONS FOR PRINCIPLED MODERNIZATION OF THE REGULATORY FRAMEWORK (2020), <https://bpi.com/wp-content/uploads/2020/10/Artificial-Intelligence-Recommendations-for-Principled-Modernization.pdf>.

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Framework”).⁴³⁰ The approaches reflected in the MRM Supervisory Framework have long been applied to both established and new credit underwriting approaches.⁴³¹

Second, Treasury recommends that federal banking regulators should continue to engage with supervised institutions that are seeking to prudently implement new credit underwriting approaches—including those using alternative data analytics to inform credit decisions—through IDI-initiated pilots and new tools. New underwriting approaches that are appropriately designed to increase credit visibility, reduce bias, and prudently expand access to credit to U.S. consumers should be supported. IDI-initiated pilots may help identify new approaches for analyzing a borrower’s ability to repay, improving fairness assessments and related design safeguards,⁴³² tailoring adverse action notices, enhancing fraud detection or making other improvements reliant on the use of alternative data and new complex algorithms. Such pilots should be monitored within established risk-based parameters determined through ongoing model risk management supervision (including consumer compliance risk) and incentivize self-testing and correction.⁴³³

Third, Treasury recommends that the federal banking regulators assess current credit underwriting, fair lending and consumer lending guidance to identify potential gaps relevant to implementation of model risk management supervision, including the lack of guidance or other information that would be useful to an IDI in its development of risk management processes for underwriting approaches and related products that use alternative data or new

430 The MRM Supervisory Framework includes guidance and supervisory practices to assist banks to develop risk-based processes for model development, implementation, use, and validation as well as governance policies and controls. See FRB & OCC, SUPERVISORY GUIDANCE ON MODEL RISK MANAGEMENT (SR Letter 11-7, 2011), <https://www.federalreserve.gov/supervisionreg/srletters/sr1107a1.pdf>. See also OCC, CREDIT SCORING MODELS APPENDIX (OCC Bulletin 97-24, 1997), <https://www.occ.treas.gov/news-issuances/bulletins/1997/bulletin-1997-24.html>. See also FDIC, ADOPTION OF SUPERVISORY GUIDANCE ON MODEL RISK MANAGEMENT (FIL-22-2017, 2017), <https://www.fdic.gov/news/financial-institution-letters/2017/fil17022.pdf>. In addition, the federal banking regulators approach to supervising fair lending is set out in interagency policy statements and examination procedures. See Policy Statement on Discrimination in Lending, 59 Fed. Reg. 73 (Apr. 15, 1994). See also OCC, FDIC, FRB, OTS & NCUA, INTERAGENCY FAIR LENDING EXAMINATION PROCEDURES (2009), <https://www.ffiec.gov/pdf/fairlend.pdf>.

431 While certain new credit underwriting approaches, including those reliant on alternative data analytics, may present some unique model risk management challenges as compared to more conventional approaches, most could be described as a difference of degree, rather than kind. Risks associated with explainability and bias, for example, may be amplified by the complexity of certain advanced modeling techniques, but those categories of risk fit within the existing MRM Supervisory Framework.

432 For example, IDIs may choose to develop or assess new methods for (i) identifying and removing protected class and proxy data, (ii) testing credit scores and third-party models for disparate impact, (iii) evaluating the quality of the data used and potential issues (e.g., gaps, over/under-representativeness), or (iv) mitigating risk of algorithmic discrimination through design safeguards.

433 Bank-initiated pilots should be run in conjunction with the existing model risk management process and be part of ordinary course, ongoing model risk management supervision. Such pilots should not be subject to any special immunity for violations of law. However, traditional incentives for self-testing and self-correction should be available. See, e.g., 12 C.F.R. § 1002.15.

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complex algorithms.⁴³⁴ By design, the principles underlying the MRM Supervisory Framework provide IDIs with the flexibility to calibrate the stringency of the various approaches for evaluating credit underwriting models based on the risk and specific use-case of a model.⁴³⁵ However, supervisory practices developed under the existing MRM Supervisory Framework may not sufficiently address consumer compliance risk and model validation concerns that can be uniquely heightened by the use of alternative data analytics and other uses of new complex algorithms in consumer credit underwriting.⁴³⁶ There are also important questions regarding how new approaches will behave throughout future credit cycles and other changed environments. Addressing these potential concerns effectively might require an increased supervisory focus on an IDI's processes for evaluating whether, and to what extent, such underwriting systems are, for example, (i) achieving sustainable outcomes that are demonstrably less discriminatory and more accurate than relevant benchmarks (e.g., traditional credit scoring),⁴³⁷ (ii) providing consumers who are denied credit sufficient information about the factors actually considered or scored by a creditor and determinative in a denial of credit,⁴³⁸ and (iii) able to withstand stress tests and macroeconomic shifts. In addition, given the frequent reliance on credit models provided or supported by a third party, it may be important for federal banking regulators to clarify or reiterate expectations for the levels of model validation and monitoring documentation sufficient to evaluate compliance of third-party credit scores and models with consumer laws and other risk management standards applicable to activities of the IDI.⁴³⁹

434 The federal banking regulators should conduct such assessments through a consistent and transparent process that invites input from a range of stakeholders.

435 Through on-going supervision regulators have the ability to guide IDIs in their model validation techniques, including evaluation of (i) conceptual soundness, (ii) ongoing monitoring, including process verification and benchmarking, and (iii) outcomes analysis, including back-testing and use of optimization techniques.

436 For example, risk management of consumer credit underwriting systems that rely on alternative data analytics might cause an IDI to increase focus on its model risk management processes related to: (i) specific model validation techniques and outcomes (e.g., explainability), (ii) third-party risk management (e.g., vendor model transparency), (iii) data quality and suitability (e.g., use of valid and predictive alternative data), and (iv) compliance with consumer laws (e.g., Section 5 of the FTC Act (UDAPs), the Equal Credit Opportunity Act, Fair Housing Act, and Fair Credit Reporting Act).

437 Traditional credit scores continue to be readily used throughout the credit lifecycle, including when funding is sought through asset-backed securitization by fintech firms using customized scoring models. For example, Mercator Advisory Group found that more than 95% of U.S. consumer asset-backed securitizations rely on FICO scores. See PAYMENTS JOURNAL, *U.S. Asset Backed Securitizations Almost Universally Leverage the FICO Score, Even during the COVID Crisis*, (Oct. 4, 2021), <https://www.paymentsjournal.com/us-asset-backed-securitizations-almost-universally-leverage-the-fico-score/>.

438 12 C.F.R. § 1002.9(b)(2); 12 C.F.R. § 1002, Supp. I, Comment for 1002.9, Paragraph 9(b)(2)-2. See also, CFPB, CONSUMER FINANCIAL PROTECTION CIRCULAR 2022-03 (2022), https://files.consumerfinance.gov/f/documents/cfpb_2022-03_circular_2022-05.pdf.

439 See, e.g., OCC, THIRD-PARTY RELATIONSHIPS: RISK MANAGEMENT GUIDANCE (Bulletin 2013-29, 2013), <https://www.occ.gov/news-issuances/bulletins/2013/bulletin-2013-29.html>; and Proposed Interagency Guidance on Third-Party Relationships, 86 Fed. Reg. 38182 (Jul. 19, 2021). Both documents speak to reliance on third party risk modeling, including credit modeling. The guidance sets forth supervisory expectations that banking organizations that engage third parties for credit modeling should evaluate the credit modeling risk under the same standards applicable to the bank as if it were modeling itself.

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Fourth, where appropriate to address gaps in model risk management supervision, Treasury recommends that federal banking regulators, in consultation with the CFPB and other relevant federal agencies, clarify or supplement the existing MRM Supervisory Framework to help ensure that IDIs' model risk management processes sufficiently guard against the risk of outcomes that are unsafe or unsound or violate consumer protection laws. Any resulting adjustments to the MRM Supervisory Framework may need to be targeted and risk-focused. For example, there are strong connections between model risk management of an IDI's credit underwriting systems and its obligations under Section 5 of the FTC Act regarding UDAPs, the Equal Credit Opportunity Act, the Fair Housing Act and other consumer protection laws. These connections may be most salient where the use of alternative data is combined with new complex algorithms to assist in credit decision-making.

Fifth, consistent with safety and soundness, federal banking regulators' expectations for risk management of credit underwriting systems should be informed by the methods available to identify those policies or practices that pose a risk for violations of applicable consumer protection statutes, and any applicable guidance provide by the CFPB, HUD, FTC, or other relevant agencies. Accordingly, Treasury also recommends that the federal banking regulators continue to coordinate with the CFPB and other relevant federal agencies regarding agency principles or practices for identifying and mitigating violations of fair lending statutes by IDI and non-bank lenders that use alternative data analytics in consumer credit underwriting systems.

To further support IDIs' appropriate oversight of new modeling techniques and related products, Treasury recommends that federal banking regulators and the CFPB continue to monitor industry developments, engage with relevant stakeholders (including industry, academics, and community-focused organizations), and study available approaches to test and improve the fairness, accuracy and explainability of credit model outcomes, including through the use of alternative data and new complex algorithms.

5.3 Enabling Effective Oversight of Bank-Fintech Relationships

As discussed in Section 1, the use of bank-fintech relationships has become an increasingly popular approach for accelerating the development and distribution of fintech-driven consumer financial services. In particular, the growth of marketplace lending and other forms of BaaS may represent an evolution of the way that banking services are delivered to consumers. Bank-fintech relationships operate in a variety of structures, with differing

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roles and responsibilities for the IDI and third-party fintech firm.⁴⁴⁰ When done responsibly, bank-fintech relationships can be beneficial for competition and consumers. However, the increasing variety and complexity of these relationships highlight the need for a clear and consistently applied oversight framework to reinforce the bank regulatory perimeter and protect consumers.

Federal banking regulators have long held authorities to provide oversight with respect to an IDI's activities conducted through third-party relationships, including bank-fintech relationships.⁴⁴¹ In a bank-fintech relationship, the IDI is ultimately responsible for managing the consumer banking activities it conducts directly or through third parties, and for identifying and controlling the risks arising from such activities as if the activities were handled within the IDI. As a result, the IDI's federal banking regulator may regulate and supervise IDI activities such as lending, deposit-taking, payments conducted directly, or with or through a third-party relationship as though all aspects of the activities were performed by the IDI itself. Accordingly, the activities performed on behalf of the IDI by a fintech firm or other third-party would be subject to the laws and regulations applicable to the IDI and subject to supervision and examination by the IDI's federal regulator.

However, if the fintech firm and not the IDI is providing the services to consumers, then the federal banking regulator's ability to regulate and examine the consumer banking-related services provided by the third-party fintech firm may be more limited. In these instances, the fintech firm's activities may continue to be subject to federal and state consumer protection laws, but the supervision of those activities may not fall within the jurisdiction of the federal

440 As discussed in Section 1, this report generally organizes these arrangements into three broad categories: operational partnerships (e.g., credit scoring models), customer-oriented partnerships (e.g., enhanced online interface), and front-end fintech partnerships (e.g. marketplace lending). See FRB, COMMUNITY BANK ACCESS TO INNOVATION THROUGH PARTNERSHIPS 1 (2021), <https://www.federalreserve.gov/publications/files/community-bank-access-to-innovation-through-partnerships-202109.pdf>.

441 The federal banking regulators' principal authority governing the examination and regulation of companies that perform services for unaffiliated depository institutions, commonly referred to as third-party service providers, derives from the Bank Service Company Act (BSCA). Section 1867(c) provides the federal banking regulators with the authority to regulate and examine the performance of certain services by a third-party service provider for a depository institution "to the same extent as if such [banking-related] services were being performed by the depository institution itself on its own premises." See 12 U.S.C. § 1867(c)(1) and 12 U.S.C. § 1464(d)(7)(D).

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banking regulators.⁴⁴² To help reduce regulatory gaps and maintain a level playing field, the CFPB and other federal agencies (HUD and FTC) may also need to act with respect to the activities of fintech firms and other non-banks that provide services critical to these business arrangements. There could be significant benefits from enhanced coordination among the full suite of relevant federal agencies to help ensure that parties to a bank-fintech relationship are appropriately supervised and promptly held accountable for violations of applicable law or regulation or unsafe or unsound practices.

5.3.1 Recommendations

Federal banking regulators should implement a clear and consistently applied supervisory framework for bank-fintech relationships. The federal banking regulators recently proposed interagency guidance on risk management of third-party relationships (“TPRM Guidance”),⁴⁴³ which, if finalized, would replace each agency’s current guidance, and provide a uniform framework for IDIs to manage their third-party relationships. Importantly, the proposed TPRM Guidance reaffirms that the IDI is ultimately responsible for conducting its activities, including activities conducted through a third party, in a manner that is safe and sound, fair to consumers, and in compliance with all applicable laws and regulations, including those related to consumer protection.⁴⁴⁴ Treasury recommends that the federal banking regulators finalize the TRPM Guidance. Finalization of the interagency TPRM Guidance, and associated supervisory practices, is an important step toward establishing a clear and consistently applied supervisory framework for third-party relationships, including bank-fintech relationships.

The contractual arrangements underlying a bank-fintech relationship should support a robust, risk-based approach to reviewing an IDI’s banking activities. As noted in the proposed TPRM Guidance, an IDI has responsibility to appropriately evaluate and manage the risk associated with each third-party relationship.⁴⁴⁵ Neither the IDI nor its federal banking regulator should have to face unreasonable obstacles to gain access to personnel, audit

442 As discussed above, fintech firms may be subject to a variety of state and federal consumer protection laws. The CFPB holds primary federal jurisdiction over non-banks with respect to the federal consumer protection statutes enumerated in the Dodd-Frank Wall Street Reform and Consumer Protection Act (e.g., ECOA and TILA), and its supervisory authority over non-bank firms varies based on the non-bank’s activities and size. State regulators are the primary authority governing many non-bank financial services providers, including mortgage providers, money services businesses, consumer finance companies, payday lenders, check cashers, and debt-collection firms. There are over 100 state agencies with some jurisdiction over non-bank firms. However, the majority of non-bank jurisdiction falls under banking departments, or agencies containing banking and non-banking departments under a single commissioner. Not every state has assigned a department authority to supervise all, or in some states any, non-bank financial service providers. See CONFERENCE OF STATE BANK SUPERVISORS, REENGINEERING NONBANK SUPERVISION: OVERVIEW OF NONBANK SUPERVISION 8-16 (2019), https://www.csbs.org/sites/default/files/chapter_two_-_overview_of_state_nonbank_supervision_2.pdf.

443 Proposed Interagency Guidance on Third-Party Relationships: Risk Management, 86 Fed. Reg. 38182 (Jul. 19, 2021).

444 *Id.*, at 38187.

445 *Id.*, at 38187-38196.

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materials, user data analysis or other information in the control of the service provider fintech firm for the purpose of evaluating whether the relevant activities are being conducted in compliance with the laws, regulations, and risk management standards applicable to the IDI; and contractual clarity could minimize these obstacles. These contractual arrangements should be carefully considered by the IDI prior to the relationship becoming effective, and then supervised with appropriate scrutiny thereafter, taking into account the size, complexity, and risk profile of the relationship relative to the IDI's functions.

Treasury recommends that as the federal banking regulators finalize the TPRM Guidance, they include language to help encourage IDIs to negotiate effective oversight provisions in their contracts with fintech firms and other third-party service providers that align with the IDI's internal oversight and risk management of its consumer banking activities, including those activities performed on behalf of the IDI by a fintech firm or another non-bank. These expectations might include matters that typically should be explicitly addressed in the various written agreements that define the roles and responsibilities of the parties critical to executing the objectives of the bank-fintech relationship. For example, with respect to activities performed by the fintech firm on behalf of the IDI, the IDI could require through contract that the fintech firm adheres to certain compliance and risk management practices, including requirements applicable to the IDI that would not otherwise be applicable to the fintech firm if it were not in a relationship with the IDI. The written agreements governing the bank-fintech relationship could provide the IDI access to information necessary to assess whether the applicable activities are in compliance with all regulations and risk management policies to which the IDI's consumer banking activities are subject, such as fair lending regulation and model risk management.

5.4 Encouraging Competition in Responsible Small-Dollar Lending

5.4.1 *Bank-Fintech Lending Relationships*

Bank-fintech lending relationships have emerged as a popular model for deploying new or enhanced credit products and services to consumers. These relationships come in many different forms, but often provide consumers access to small-dollar, unsecured credit products.⁴⁴⁶ In some cases, these bank-fintech lending relationships are designed to leverage new technology to lower the cost of underwriting, and allow lenders to safely offer smaller, more diverse, and more affordable consumer loans. In other cases, they can be used to lure vulnerable consumers to high-cost, predatory loan products.

Consumer lending conducted by IDIs, including through bank-fintech relationships should be supervised for consistency with principles for responsible and prudent consumer lending. Typically, there is an expectation that IDIs identify and manage third party risk,

446 Examples include IDI and non-bank providers of BNPL, cash advance products, and similar products.

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including where new and innovative technologies are part of an IDI's third party business arrangement.⁴⁴⁷ In the Interagency Lending Principles for Offering Responsible Small-Dollar Loans ("SD Lending Guidance"),⁴⁴⁸ regulators acknowledged characteristics that would generally apply to a responsible small-dollar loan program, including: (i) "a high-percentage of customers successfully repaying [loans] in accordance with original loan terms," (ii) terms and safeguards that minimize adverse customer outcomes, including cycles of debt due to rollovers or reborrowing, and (iii) "repayment outcomes and program structures that enhance a borrower's financial capabilities." These three characteristics reflect a loan program's consideration of its impacts on borrowers' financial capabilities (i.e., creditworthiness and related financial attributes). The SD Lending Guidance demonstrates that a prudent consumer lending program considers a borrower's ability to repay and other relevant and reasonably ascertainable impacts on the borrower's financial capabilities. Doing so can be both a sound underwriting practice and beneficial to consumers.

Separately, as discussed in Section 3, when bank-fintech lending relationships lack proper regulatory oversight or alignment with principles for responsible lending, they can be abused in ways that harm consumers. Such relationships can provide an opening for so-called "rent-a-charter" schemes that market themselves as innovative fintech lending platforms, but operate with essentially the same harmful business model as a traditional payday lender.⁴⁴⁹ For many consumers, these products can appear indistinguishable from safer offerings, due in part to a lender's use of nontransparent pricing strategies.⁴⁵⁰ In addition to exorbitantly priced credit, "rent-a-charter" lenders deploy products using other practices that are both unsafe and unsound for the lender and unfair to consumers. Likewise, high-cost, high-default loan programs that do not sufficiently consider a borrower's financial capabilities may warrant review for unsafe or unsound practices and violations of law, including consumer

447 See Proposed Interagency Guidance on Third-Party Relationships: Risk Management, 86 Fed. Reg. 38182 (Jul. 19, 2021).

448 FRB, FDIC, NCUA & OCC, INTERAGENCY LENDING PRINCIPLES FOR OFFERING RESPONSIBLE SMALL-DOLLAR LOANS (2020), <https://www.federalreserve.gov/newsevents/pressreleases/files/bcreg20200520a1.pdf>.

449 These high-cost, high-default business models often primarily derive profits from consumers who do not have the ability to repay. See Letter from Accountable.US, Americans for Financial Reform Education Fund, Center for Responsible Lending, Consumer Action, Consumer Federation of America, Consumer Reports, the Leadership Conference on Civil and Human Rights, NAACP, National Association of Consumer Advocates, National Community Reinvestment Coalition, National Consumer Law Center, Public Citizen, U.S. PIRG, UnidosUS, and the Woodstock Institute to The Honorable Martin Gruenberg, Acting Chairman of the FDIC, Rohit Chopra, Director of the CFPB, and Michael Hsu, Acting Comptroller of the Currency, dated Feb. 4, 2022, https://www.nclc.org/images/pdf/high_cost_small_loans/FDIC-rent-a-bank-letter-2.4.22.pdf. See also Comments of CRL, NCLC et al, Comment Letter from the Center for Responsible Lending, the National Consumer Law Center, the Consumer Federation of America, and the National Fair Housing Alliance to the FRB, FDIC, and OCC Re: Proposed Interagency Guidance on Third-Party Relationships: Risk Management, dated Oct. 18, 2021, <https://www.responsiblelending.org/sites/default/files/nodes/files/research-publication/comment-crl-cfa-nclc-nfha-proposed-joint-third-party-guidance-oct2021.pdf>.

450 Pricing models built on voluntary "tips" and opaque, hard-to-avoid service fees can weaken price competition, while taking advantage of vulnerable borrower's low-price sensitivity (e.g., due to financial distress).

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protection statutes, and inconsistency with supervisory principles for responsible consumer lending.

5.4.1.1 Recommendations

Bank-fintech lending relationships that use the privileges of an IDI should be subject to regulatory standards for responsible consumer lending programs. IDIs have existing obligations to make certain assessments related to a borrower's ability to repay,⁴⁵¹ including when participating in a bank-fintech relationship. Separately, the SD Lending Guidance provides useful guideposts for reviewing and monitoring an IDI's practices related to its small-dollar lending programs. Federal banking regulators should take action to apply the SD Lending Guidance more consistently across similarly situated IDIs.⁴⁵² To increase consistency in supervisory practices, such as exam procedures, related to small-dollar lending programs, Treasury makes the following recommendations.

First, Treasury recommends that federal banking regulators review and, as appropriate, revise supervisory practices with respect to the SD Lending Guidance to address (i) coverage for larger loans (e.g., \$10,000 or more), and (ii) with greater specificity, the ways in which the SD Lending Guidance applies to a bank-fintech lending relationship, including the activities performed by a fintech firm or other third-party with or on behalf of an IDI lender. Where needed, the supervisory framework for evaluating an IDI loan program's governance and risk management practices should be updated to include a review of the IDI's process for assessing and monitoring loan program characteristics consistent with the SD Loan Guidance. For example, (i) an IDI's risk management policies with respect to a consumer lending program might include a process for identifying and assessing program specific approaches for considering borrowers' financial capabilities (e.g., ability to repay, creditworthiness, and impacts of the loan program structures on borrower outcomes) and (ii) any agreements governing a bank-fintech lending relationship would provide the IDI with data and other information necessary to monitor and assess the loan program's ongoing consistency with the IDI's policies, aforementioned loan program characteristics, and adherence to applicable laws and regulations.

Second, Treasury also recommends that the federal banking regulators endeavor through these and other actions to continue providing IDIs with sufficient specificity on how they can

451 Under Section 39 of the Federal Deposit Insurance Act, the agencies adopted the Interagency Guidelines Establishing Standards for Safety and Soundness, which state that institutions should assess the borrowers' ability to repay and financial condition. See 12 C.F.R. Appendix A to Part 364, Section 2 (C) & (D). To the extent that agencies identify concerns about an IDI's practices (including those related to the IDI's third party relationship), agencies can address those concerns, as appropriate, through supervisory or enforcement responses.

452 It may be beneficial for the agencies to consider whether a supervisory framework for small-dollar loan programs can be applied effectively and consistently across IDIs by acting on an agency-by-agency basis rather than jointly.

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provide small-dollar loan products or related products while operating in compliance with applicable law and regulation.⁴⁵³

5.4.2 *Alternative Forms of Non-bank Lending*

Not all non-bank lenders operate through relationships with IDIs, and it may be the case that not all forms of short-term liquidity that is subsequently repaid are considered credit under various regulations. Even generally responsible products may not always perform as they appear, and strategies with respect to consumers may change over time.⁴⁵⁴ Therefore, broader supervision of alternative forms of non-bank lending may be warranted.

5.4.2.1 *Recommendations*

Non-bank lenders providing alternative forms of consumer credit should be subject to appropriate regulation and supervision. To help protect consumers and enhance consistency of regulation and supervision of consumer lending products, Treasury recommends several actions for the CFPB. First, Treasury recommends that the CFPB continue to investigate and monitor developments related to small-dollar installment loan products and consider what guidance might be appropriate and possible for the agency to provide.⁴⁵⁵ Additionally, Treasury recommends that the CFPB review its authorities to consider if and how the agency might provide direct supervision of larger non-bank consumer lenders, including BNPL and installment loan providers. Finally, Treasury recommends that the CFPB revisit its 2020 advisory opinion regarding earned wage access programs, and review whether earned wage access products meeting the requirements specified by the advisory opinion should not be considered credit products subject to requirements under TILA and Reg Z.⁴⁵⁶

5.5 **Enabling Secure Data Sharing**

Enabling consumers to access and share their financial data can facilitate innovative consumer financial products and services and increase competition in the provision of consumer financial services. Section 1033 of the Dodd-Frank Act provides consumers with certain rights to access their financial data. Many consumers authorize third parties to access their financial data on their behalf. For example, a consumer may give permission to a data aggregator or other service provider to extract data from the consumer's account at a bank to facilitate

453 For example, market participants argue that regulatory uncertainty may exist with respect to the applicability of the SD Lending Principles. See GOVERNMENT ACCOUNTABILITY OFFICE, REGULATORS HAVE TAKEN ACTIONS TO INCREASE ACCESS, BUT MEASUREMENT OF ACTIONS' EFFECTIVENESS COULD BE IMPROVED 36 (2022), <https://www.gao.gov/assets/gao-22-104468.pdf>.

454 Lauren Saunders, Associate Director, National Consumer Law Center, Written Testimony before the U.S. House Financial Services Committee Task Force on Financial Technology (Nov. 2, 2021), at 20, <https://financialservices.house.gov/uploadedfiles/hrg-117-ba00-wstate-saundersl-20211102.pdf>.

455 See CFPB, BUY NOW, PAY LATER: MARKET TRENDS AND CONSUMER IMPACTS (2022), https://files.consumerfinance.gov/f/documents/cfpb_buy-now-pay-later-market-trends-consumer-impacts_report_2022-09.pdf.

456 Truth in Lending (Regulation Z); Earned Wage Access Programs, 85 Fed. Reg. 79404 (Dec. 10, 2020).

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other services to the consumer from a fintech firm (e.g., payments, budget planning, loan applications). As a result, a complex data ecosystem—consisting of consumers, data holders (e.g., IDIs), data aggregators, and data users (e.g., fintech firms)—has developed to enable this type of indirect, consumer-authorized data access.⁴⁵⁷

As noted in Section 3, the industry’s efforts to move to tokenized API access, a more secure approach to consumer-authorized data sharing, has been hampered by various inconsistencies across industry participants, including with respect to information security requirements and liability for consumer data misuse. As consumer demand for more digital financial products and services has increased, so has the number and variety of firms operating within the data ecosystem with access to sensitive consumer financial data. However, not all participants in the data ecosystem have comparable obligations and liabilities for safeguarding consumer financial data. On the one hand, many data holders (e.g., IDIs) can be subject to supervision and regulatory enforcement of their obligations regarding information security. On the other hand, data aggregators and data users are a more diverse group of entities that often lack such obligations or oversight. This can create concerns among data ecosystem participants, especially to the extent data holders are unclear as to their obligations to safeguard financial data that the consumer has authorized for sharing.

5.5.1 Recommendations

Federal banking regulators and CFPB should help promote a more unified approach to oversight of consumer-authorized data sharing. The CFPB’s ongoing rulemaking under Section 1033 of the Dodd-Frank Act could resolve a number of open policy questions regarding consumer financial data access and data sharing.⁴⁵⁸ In addition, prudential regulators’ TPRM Guidance, if finalized, may help to provide greater clarity to market participants on the applicability of third-party service provider obligations of IDIs to customer-permissioned data transfers.⁴⁵⁹ The federal banking regulators and CFPB should support a unified approach to

457 The ecosystem is further complicated by the fact that a given participant may play more than one role within the data ecosystem at the same time. The role of data aggregators can be particularly significant, as they connect many data users (e.g., fintech firms) to information from many data holders (e.g., IDIs), and at times may themselves have multiple roles.

458 See Consumer Access to Financial Records, 85 Fed. Reg. 71003 (Nov. 6, 2020).

459 The notice seeks comment on whether federal banking regulators should collectively adopt or revise guidance that the OCC issued in 2020 stating that banks have due diligence obligations even in situations in which they only have API agreements or no contractual relationships with data aggregators. See Proposed Interagency Guidance on Third-Party Relationships: Risk Management, 86 Fed. Reg. 38197-38198 (Jul. 19, 2021). See also OCC, THIRD-PARTY RELATIONSHIPS: FREQUENTLY ASKED QUESTIONS TO SUPPLEMENT OCC BULLETIN 2013-29 (Mar. 5, 2020), <https://www.occ.gov/news-issuances/bulletins/2020/bulletin-2020-10.html>. See also *Preserving the Right of Consumers to Access Personal Financial Data*, Hearing before the U.S. House of Representatives Committee on Financial Services Task Force on Financial Technology, 117th Congress (2021). See also Kelly Thompson Cochran, Deputy Director, FinRegLab, Written Testimony before the U.S. House Committee on Financial Services Task Force on Financial Technology (Sep. 21, 2021), <https://financialservices.house.gov/uploadedfiles/hhr-117-ba00-wstate-cochran-20210921.pdf>.

5. Recommendations

ensuring that participants in the data ecosystem are subject to appropriate standards for the activities conducted with respect to consumer financial data.

First, consistent with the Competition EO, Treasury recommends that CFPB finalize its ongoing Section 1033 rulemaking.⁴⁶⁰ The rulemaking should provide clarity regarding, among other things, the scope of financial data subject to a consumer’s right to access pursuant to Section 1033. Relatedly, to protect the security of consumers’ data and the operational integrity of IDI data holders, Treasury recommends that the federal banking regulators make clarifications to the final TPRM Guidance to address an IDI data holder’s assessment of consumer-authorized access by third-party data aggregators and data users, as well as related cybersecurity, privacy, and other considerations. The guidance should also address the scope of the IDI data holder’s obligations, if any, for protecting consumer-authorized data from misuse by a “fourth-party” data user (e.g., a data user that receives consumer-authorized data from an IDI data holder through a data aggregator). Following the finalization of Section 1033 rulemaking and the TPRM Guidance, the CFPB and federal banking regulators should continue to consult, as appropriate, to harmonize implementation of the resulting frameworks.

Second, Treasury recommends that the CFPB review its authorities to consider if and how the agency might supervise data aggregators. As noted in Section 3, data aggregators play a central and expanding role in the data ecosystem. Large and growing amounts of consumer financial data are being held by data aggregators who are generally not subject to supervision of their information security and general data practices. The CFPB should supervise data aggregators and their information security and data privacy practices consistent with its authorities, in coordination with the federal banking regulators when appropriate. The CFPB should supervise data aggregators with a level of scrutiny that is commensurate with the activities conducted with respect to consumer financial data and, where appropriate, that supervision should be comparable to the supervision applicable to IDIs for the handling of similar financial data.

⁴⁶⁰ Promoting Competition in the American Economy, 86 Fed. Reg. 36998-36999 Section 5(t)(i) (Jul. 14, 2021).

Glossary

In this Report, the following terms have the meanings assigned to them below:

Alternative data means new and large-scale information not typically found in the consumer’s credit files of the nationwide consumer reporting agencies or customarily provided by consumers as part of applications for credit.

Alternative data analytics refers to the use of machine learning or other complex algorithms to extract insights from alternative data to make faster and, presumably, better decision-making in the credit underwriting process.

AI/ML means artificial intelligence/machine learning. “Artificial intelligence” refers to processes or tasks performed by computers that have traditionally required human intelligence. “Machine learning” refers to the subset of artificial intelligence in which computers are built to “learn” from experience and improve without being explicitly programmed.

Bank regulatory perimeter means the boundary of rights and privileges – and conditions on those rights and privileges, including limits on conduct and subjection to oversight and enforcement – applicable to IDIs.

Consumer financial well-being is defined using the CFPB’s concept of financial well-being as “a state of being wherein a person can fully meet current and ongoing financial obligations, can feel secure in their financial future, and is able to make choices that allow them to enjoy life.”

Core banking services means taking deposits, making loans, and facilitating payments.

Core consumer finance markets means the markets for deposit accounts (and their substitutes), payment services, digital wallets, various types of credit or lending (including mortgages, student loans, auto loans, credit cards, personal loans, or other alternative credit products).

Federal banking regulators means the Federal Deposit Insurance Corporation (FDIC), the Federal Reserve Board (FRB), and the Office of the Comptroller of the Currency (OCC).

Incumbent firms means IDIs and non-bank firms that are not new entrant non-bank firms.

Insured depository institutions or IDIs means insured banks, bank holding companies, savings institutions, and, in certain contexts, insured credit unions

Federally insured banks mean depository institutions that are insured by the FDIC.

Glossary

Federally insured credit unions mean depository institutions that are insured by the National Credit Union Administration (NCUA).

Mobile wallets means digital wallets that store payment information on a mobile device.

Neobank means a technology company that provides banking services that are accessed exclusively online. Such companies may be digital only-IDIs without traditional physical branch networks or fintech firms that provide a digital consumer interface, such as a mobile app, through which they offer financial services in arrangements with IDIs.

New entrant non-bank firms means non-incumbent non-bank firms that offer consumer financial products and services. New entrant non-bank firms may be one of the following:

Big Tech firms which refers to large technology companies whose primary activity involves the provision of platform-based digital services.

Fintech firms which are companies that specialize in offering digital financial services to consumers or enable other financial service providers to offer digital financial services used by consumers.

Retail firms is a general term which encompasses all non-IDIs that are not fintech or Big Tech firms.

Non-bank firms means companies that are not IDIs that offer consumer financial products and services.

Appendix I: List of Outreach Participants

Government and International Organizations

U.S. Federal and State

- Board of Governors of the Federal Reserve
- Consumer Financial Protection Bureau
- Conference of State Banking Supervisors
- Department of Justice
- Federal Deposit Insurance Corporation
- Federal Reserve Bank of San Francisco
- Federal Reserve Bank of St. Louis
- Federal Trade Commission
- National Credit Union Administration
- Office of the Comptroller of the Currency
- Utah Department of Financial Services

Non-U.S.

- Bank for International Settlements
- United Nations Secretary-General's Special Advocate for Inclusive Finance for Development

Experts and Advocates

- AFL-CIO
- Americans for Financial Reform
- Bipartisan Policy Center
- Brookings Institution
- Center for Financial Services Innovation
- Center for Responsible Lending
- Chris Brummer, Georgetown Institute of International Econ & Law
- Consumer Federation of America
- Davis Polk & Wardwell LLP

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- Federal Financial Analytics
- Financial Health Network
- FinRegLab
- Greenlining Institute
- Institute for International Finance
- Institute for Local Self-Reliance
- Karen Mills, Harvard Business School
- Local Initiatives Support Coalition
- Mercatus Center
- National Community Reinvestment Coalition
- National Consumer Law Center
- Oliver Wyman
- Open Markets Institute
- Paul Hastings LLP
- The Milken Institute

Trade Associations

- American Bankers Association
- American Fintech Council
- Bank Policy Institute
- Electronic Transactions Association
- Financial Data and Technology Association
- Financial Innovation Now
- Financial Technology Association
- Independent Community Bankers of America
- National Association of Federally-Insured Credit Unions

Firms

- Affirm
- Avant

Appendix I: List of Outreach Participants

- Better
- Block
- Chime
- Citigroup
- Credit Suisse
- Cross River Bank
- Equifax
- Experian
- FICO
- Financial Data Exchange
- JP Morgan
- Kabbage
- Lending Club
- MoCaFi
- MorningStar
- MX
- Opportun
- Plaid
- PNC
- QED Investors
- Stripe
- The Clearing House
- Transunion
- Trustly
- Upstart
- Vaultree
- Zest

