

The Convergence of Payments and Commerce:

Implications for Consumers



Consumer Financial
Protection Bureau

Table of contents

Table of contents.....	1
1. Executive Summary.....	2
2. Disruption of the traditional payments model.....	5
3. Emerging use cases	9
3.1 Super apps	9
3.2 Buy Now, Pay Later	12
3.3 Embedded commerce	14
4. Emerging risks to consumers	16
4.1 Monetization of consumer financial data	16
4.2 Scale and market power	17
5. CFPB Areas of Focus	19

1. Executive Summary

In recent years, the payment space has moved from an ecosystem with clear constraints and established players to a rapidly evolving environment. While there has been significant attention paid to specific technologies and solutions (e.g., blockchain), there has been less attention paid to the broader changes occurring across the ecosystem. Retail banks, established payment networks, and online and physical world commerce organizations are creating new consumer experiences, including:

- Purchase options ranging from QR code payments on a restaurant check to contactless transactions at the point of sale and payments fully embedded in a social media feed.
- Financial services organizations ranging from traditional depository institutions to “neo-banks” with no physical presence, and now, super apps offered by non-banks that are essentially a “bank in an app,” with a variety of regulatory constructs.
- Instant loans available at the moment of purchase.

Many of the new capabilities available have the potential to streamline payments, facilitate commerce, and improve the user experience. In many cases, adoption by consumers has been rapid.

At the same time, these changes also create more opportunities for companies to aggregate and monetize consumer financial data, and for large players to dominate consumers’ financial and commercial lives. Finally, while a range of payment capabilities create more options for consumers, varying regulatory requirements may risk regulatory arbitrage.

Firms that participate in the retail financial services ecosystem traditionally generate revenue and profit from interest income on loans and fee income on other transactions. Increasingly, many firms are moving from seeing their customer’s value as generating revenue from using that company’s financial products, to the customer as a source of behavioral and financial data to be leveraged and potentially sold to create an additional revenue stream. In essence, the customer’s information could become a revenue source, a ‘lead generator’ for the financial institution, and if that organization so chooses, for other companies that can use the data for their own revenue generation activities.

This could result in a digital commerce ecosystem where, in exchange for seamless, low-to-no-cost apps and products, consumers pay with data from their spending habits.

Three new product categories have emerged that can increase consumer choice and potentially simplify their lives. At the same time, these new offerings can expose consumers to unanticipated risks and potentially decrease consumer control over their personal information:

- *Super apps.* Originating in China with WeChat and Alibaba, these apps provide their users with nearly every capability needed to conduct their online life, essentially, “the internet in an app.” In the U.S., these have morphed from the WeChat model into a “bank in an app,” providing a wide array of financial, payment and commerce functions within a single app. While using a financial services super app may be more convenient than having relationships with several different organizations, these products may limit consumer product and service choice. While consumers can opt to use a payment offering outside an app, such super apps create the potential for providers to steer consumers to specific solutions and/or limit access to some products.
- *Buy Now, Pay Later (BNPL).* Buy now, pay later providers, while continuing to provide the four-payment, no-interest loans that have gained in popularity in the last few years, now have their own apps with rewards and social media platforms. In their newest incarnations, BNPL providers position themselves not as lending solutions or even payment providers, but as marketing platforms that sell prime placement on their highly popular apps to merchants who pay affiliate fees to acquire consumers. “Our customers actually come to us to decide what they want to buy...It’s like we[’]re a marketing channel not a payment method,” declared Afterpay’s CEO in 2019,¹ the same year that the company became the second largest lead generator in Australia (trailing only Google).²
- *Embedded commerce.* Enabling a transaction while a consumer is in their social media feed can reduce purchase friction, but it creates opportunities for the social media provider to capture and sell transaction data to merchants and other third parties without the consumer’s awareness that their data is being leveraged and monetized. An embedded payment in a social media feed also creates an opportunity to enable a transaction with very little activity from the consumer, increasing the risk of an unwanted purchase.

The Consumer Financial Protection Bureau (CFPB) has a mandate to ensure that consumers have access to markets for consumer financial products and services that are fair, transparent, and competitive. In support of this mandate, the CFPB publishes reports on market trends and emergent risks to consumers. This report outlines the challenges and risks inherent in the rapid

¹ Taran Soodan, “Meet Afterpay: The Shop Now, Pay Later Method Used by Top Ecommerce Merchants,” (Mar. 2019), <https://www.ecommerce-mag.com/afterpay-used-by-top-ecommerce-merchants>.

² Dovetail Studios, “Dovetail + Afterpay,” <https://dovetailstudios.com/the-story-of-dovetail-and-afterpay/>.

evolution of the payment ecosystem, with a particular focus on super apps, BNPL, and embedded payments.

The CFPB is working across the payments ecosystem to assess the extent to which a consumer's information might be used for purposes the consumer did not intend or understand. We have issued market monitoring orders to assess the business practices of large technology companies operating payment services in the United States. The CFPB has also issued market monitoring orders to five companies offering BNPL credit. We will provide reports on the information obtained in response to these orders on an ongoing basis based on the data collected.

2. Disruption of the traditional payments model

The U.S. banking and payments system has undergone a transformation driven by the growth and reach of the internet and digital technology, expanding not only the types of services offered but enabling new market entrants. Previously, banks, thrifts, and credit unions largely comprised the banking ecosystem and each type of business had a specific set of regulations and regulators to ensure that consumers could have confidence in the organizations that held and moved their money. On the payments side, there were a variety of different payment instruments available, but they fell into a few clearly delineated categories: checking accounts, credit cards, debit cards, prepaid and gift cards, and digital payments for e-commerce. The major payment networks—Visa, Mastercard, Discover, and American Express—dominated the payment card space. On the internet, consumers used their payment cards to make purchases with the payment card information either provided at the time of purchase or stored with the merchant or with a payment enabler like PayPal.

Today, smart phones are increasingly the tool of choice for financial activity.³ Over 80 percent of U.S. consumers own some brand of smart phone⁴ that is thousands of times more powerful than a supercomputer from the 1980s, and the emergence of the internet created a vast array of opportunities for consumers to buy, sell, learn, and bank with these devices. Smart phones have changed the way that consumers interact with society, business, and each other, and financial services organizations quickly adapted to deliver their services over mobile devices.

In addition to the introduction of smart phones, other improvements in technology changed the delivery of financial services in the U.S., including:

- *Migration to the cloud.* Historically, banking and payments operations were housed in mainframe computers and servers owned and operated by a financial institution or by a third party contracted by the institution. By using entities such as Amazon Web Services,

³ For example, over half of respondents to an Insider Intelligence survey who recently opened a checking account did so with their mobile phone. See Insider Intelligence, “U.S. Account Opening Benchmark 2022,” (Jul 2022), <https://www.emarketer.com/content/us-account-opening-benchmark-2022>.

⁴ Bank My Cell, “How many smartphones are there in the world?” (Apr. 2022), <https://www.bankmycell.com/blog/how-many-phones-are-in-the-world>.

companies can now migrate their technology platforms to virtual servers, reducing or eliminating the expense of managing hardware.

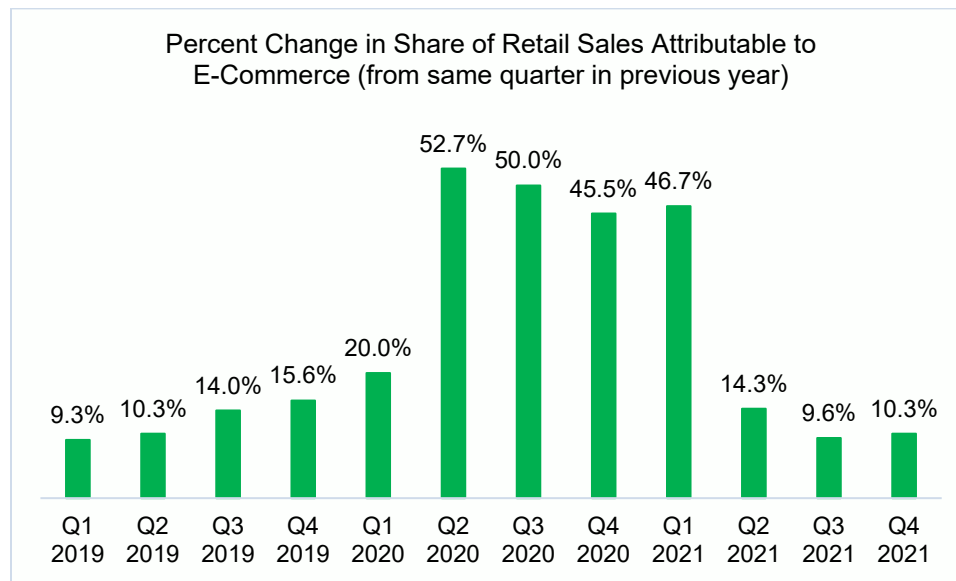
- *Application Program Interfaces (APIs).* Moving technology to the cloud lowered costs and increased capabilities, but there needed to be a way for an organization to connect with their cloud-based platforms. APIs are the tools that make this happen. Beyond the basic connectivity that APIs provide, they also enable simple and fast connections to other organizations, which can enhance the value of financial services apps for consumers, creating a new industry of cloud-based applications for any type of organization that might need or use a specific technology.
- *New entrants.* The combination of cloud-based platforms and APIs created a new industry and spawned hundreds of new companies in financial services. These new entrants, sometimes branded as “fintechs,” offer services ranging from new payment alternatives that facilitate person-to-person payments, to “neo-banks” that can offer bank-like services with no physical presence and, in some cases, limited regulation. The growth of the fintech sector has generated a huge amount of investment. In 2019, it is estimated that fintech investment in the U.S. was nearly \$60 billion, and it is forecast to grow at about 10 percent a year until 2027.⁵

These technology shifts were already having a major impact on the financial services space when the COVID-19 pandemic hit in 2020. The pandemic forced consumers out of retail stores and bank branches and into online solutions. While Millennials and Gen Z consumers were already comfortable with online payments systems, the pandemic increased digital commerce usage across all demographics. In Q1 2019, 10 percent of retail sales were conducted online. This rose to a high of 16.4 percent in Q2 2020 and then declined to 14.5 percent in Q4 2021.⁶ Accordingly, as shown in the Figure below, the year-over-year growth rate for quarterly e-commerce sales significantly spiked during the height of the pandemic. This growth rate has continued (albeit at a slower pace) even relative to these elevated levels in recent quarters.

⁵ BlueWeave, “United States Fintech Market Witnessing Growth spurts: Forecast to Grow at a CAGR of 10.1% by 2027,” (Dec. 28, 2021), <https://www.globenewswire.com/news-release/2021/12/28/2358525/0/en/United-States-Fintech-Market-Witnessing-Growth-Spurts-Forecast-to-Grow-at-a-CAGR-of-10-1-by-2027-BlueWeave.html>.

⁶ Estimated Quarterly Retail Sales, adjusted. Retail Indicators Branch, U.S. Census Bureau.

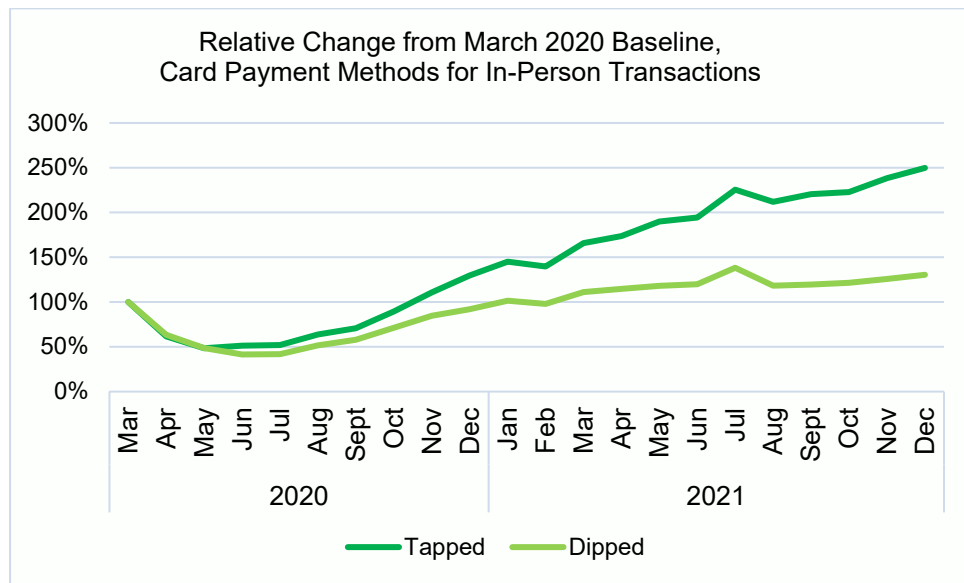
FIGURE 1: YEAR-OVER-YEAR GROWTH IN ECOMMERCE RETAIL SALES, BY QUARTER



Source: U.S. Census Bureau

In-store shopping behavior also shifted because of the pandemic. Concerns over hygiene drove merchants to increasingly adapt their point-of-sale terminals to accept contactless transactions, and consumers responded by increasing their use of in-store contactless cards and digital wallets throughout the pandemic. The chart below shows the increase in contactless “tap-to-pay” transactions relative to “dipping” (inserting a card into a payment terminal that reads chip cards), among smaller merchants.

FIGURE 2: RELATIVE CHANGE IN CARD PAYMENT METHODS FOR IN-PERSON TRANSACTIONS



Source: CardFlight Small Business Report, (Jan. 20, 2022)

The combination of technological change and the consumer behavioral changes driven by the COVID-19 pandemic has altered the financial services space, creating new products and services that can increase convenience and reduce friction for consumers. However, these factors have also opened up opportunities for organizations to capitalize and monetize consumer information.

3. Emerging use cases

Emerging technologies create opportunities for new offerings and markets, and the disruption in the financial services and payment space has created several new use cases, with three being most notable:

- *Super apps.* Apps that combine several services into a single app accessed by a smart phone
- *Buy Now, Pay Later.* An “instant” loan that consumers can use to fund a purchase at the point of sale
- *Embedded commerce.* Incorporation of a payment capability within any area of a social media feed

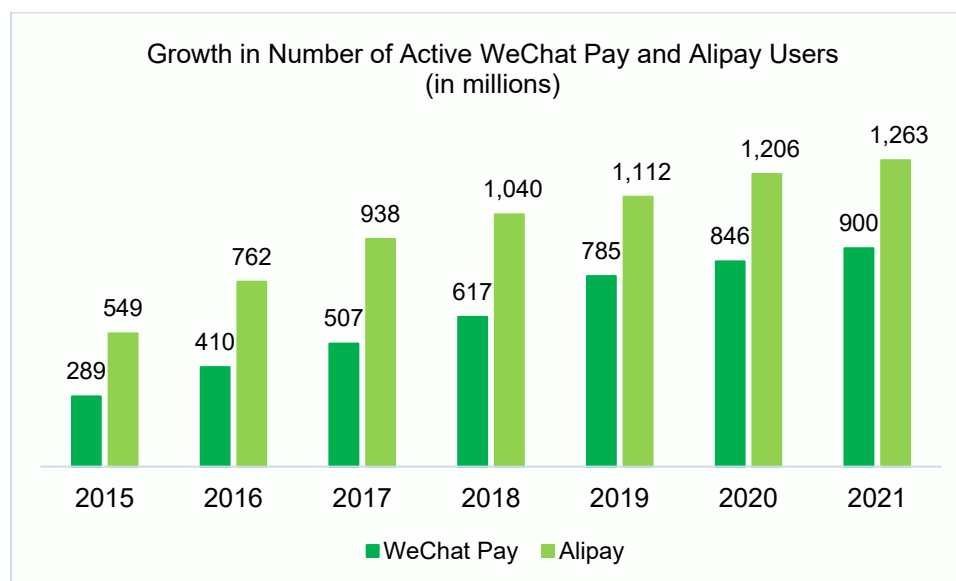
Each are described in more detail below.

3.1 Super apps

The concept of the super app evolved from the efforts of two Chinese companies, Alibaba (now the Ant Group) and Tencent, to provide a trusted transaction capability along with internet access for commerce. When Alibaba started its equivalent to E-Bay, Tao Bao, and an e-commerce site, T-Mall, buyers and sellers were initially reluctant to use the service. Buyers were not sure that they would get the goods they ordered after they sent their payment, and sellers were concerned that they would not get paid after the goods had shipped. In 2004, Alipay was introduced to address this issue. Alipay created an escrow function where funds would be held by Alibaba until the customer had received the goods in satisfactory condition. By removing this significant risk, usage of Alipay took off.

In 2011, TenCent launched WeChat, China’s equivalent to WhatsApp, and it quickly became the most popular social media app in China. WeChat Pay was added shortly after the launch of Alipay and both have grown dramatically.

FIGURE 3: GROWTH IN THE NUMBER OF WECHAT PAY AND ALIPAY USERS



Source: Mercator Advisory Group analysis of Alibaba and Tencent financial statements

The dramatic growth in Alipay and WeChat Pay is not just driven by chat and commerce use cases. These two providers have taken a different approach to how consumers access the services available on the internet. In the U.S., apps are the tools that drive smart phone usage, and individual apps like Facebook and Instagram reside on the device as standalone offerings. In China, the WeChat app is a comprehensive ecosystem where users can find almost anything they need so users can stay engaged within a single app. The WeChat financial services offering includes bill payment, person-to-person payments, insurance, investments, and other core financial offerings. Alipay has a similar set of financial services offerings for their users. Both platforms are also available for use by third-party providers to add functionality and value to the app. These apps are essentially “the internet in an app.”

The data collected in these Chinese super apps to deliver the offering also creates a significant opportunity to capture a massive amount of information for other purposes. In the case of WeChat, the available data captured can include commerce and payment activity as well as the consumer’s use of the chat app capability as shown below.

TABLE 1: WECHAT SUPER APP DATA CAPTURE

Personal data	Social Information
Identity: Name, user alias/ID, cell phone number, password, gender	Publicly visible information: WeChat profile, profile ID, photo
Connectivity information: Detailed location data (GPS, IP address, compass, accelerometer), public posts that contain location information	Chat driven information: All information made available to other users via WeChat, communications with user groups
User volunteered information: Emergency contacts, managed devices, email address, Facebook (Connect token, username), credit card number, facial mapping/detection, Apple sign-in information.	Additional data: On-device contact list, web search terms used, social media profiles visited

Source: Mozilla Foundation, “WeChat: Privacy Not Included,” (Sep. 8, 2021).

The volume of data created through WeChat raises potential concerns about broad access to data that super apps bring to the ecosystem. According to one source: “China’s do-everything app, WeChat, has become one of the most powerful tools in Beijing’s arsenal for monitoring the public, censoring speech, and punishing people who voice discontent with the government.”⁷

With about 3.5 million apps available on Google Play and about 2.2 million apps available through the Apple app store, the U.S. market is developing differently and, according to one analyst, it’s unlikely that the “internet in an app” model that is so popular in China will get traction in the U.S.⁸ Most consumers in the U.S. seem comfortable with the process of loading and using multiple apps, and the variety of available apps allows consumers to tailor app usage to their own needs. In the U.S., the super app concept is following a more targeted path: instead of the “internet in an app,” the “bank in an app” approach is gaining traction. Beyond mobile banking apps offered by most financial services companies, this concept combines additional services related to financial services and payments to add value and retain the user. A major benefit to the super app concept in the U.S. is the simplicity and convenience it provides users. By providing access to a variety of financial services within a single app, the friction created by having to work with a number of different providers is minimized or eliminated. But the price of this convenience is limited choice, as determined by the wallet provider.

⁷ Jing Yang, “WeChat Becomes a Powerful Surveillance Tool Everywhere in China,” Wall Street Journal (Dec. 22, 2020), <https://www.wsj.com/articles/wechat-becomes-a-powerful-surveillance-tool-everywhere-in-china-11608633003>.

⁸ Statista, “Number of apps available in leading app stores as of 1st quarter 2021,” (Jan. 27, 2022), <https://www.statista.com/statistics/276623/number-of-apps-available-in-leading-app-stores/>.

An example of the U.S. super app “bank in an app” is the PayPal wallet. PayPal’s vision of the super app is a digital wallet that allows a consumer to aggregate their financial activity into a single app, including their credit and debit cards, investment and savings information, purchase information, and discounts and coupons derived from the consumer’s previous purchase behavior.⁹

The concept of a financial services super app is becoming more prevalent (both Apple Pay and Google Pay offer components of a super app), and it’s possible that they will continue to expand their offerings to stay competitive. In fact, Apple recently announced plans to expand their financial services offerings.¹⁰ While financial services super apps can be a valuable tool for consumers, they can potentially be exploited to take advantage of consumers who aren’t fully aware of what it is that they have, and what it is that they agreed to.

3.2 Buy Now, Pay Later

Buy Now, Pay Later (BNPL) is a form of unsecured short-term credit that allows consumers to split purchases into four equal interest-free installments at the point of sale, with the first installment due at checkout.¹¹ As is the case with many digital- and mobile- focused financial products, BNPL’s popularity has soared in recent years: approximately one in six Americans used the product in 2021,¹² and its share of overall U.S. ecommerce has doubled in each of the past two years.¹³

In terms of accessibility, cost, and ease of use, BNPL has proven to be a popular alternative to credit cards. Since consumers may perceive legacy credit cards to involve time-consuming applications with high rejection rates and revolving interest, they may be drawn to BNPL’s short, seamless application process with high approval rates and a simple four-installment repayment

⁹ PayPal’s CEO Dan Schulman laid out his vision for a super app at last year’s Investor Day: “Our digital wallet can bring together previously disparate capabilities that range from payments to shopping to financial services, and even new forms of digital identification into one super app. I think that all of these capabilities need to be linked by a common platform that shares data and machine learning, and those together can drive personalized recommendations in order to maximize a consumer’s financial health in order to maximize the transactions they do in the digital era.” See Dan Schulman, “PayPal investor day CEO remarks,” (Feb. 11, 2021), https://s1.q4cdn.com/633935571/files/doc_events/investor-day/2021/Transcript-CEO-Remarks.pdf.

¹⁰ Matthew Fox, “Apple’s plan to expand in-house fintech sends current partners tumbling, including Goldman Sachs,” Business Insider (Mar. 30, 2022), <https://markets.businessinsider.com/news/stocks/apple-expand-in-house-fintech-partners-goldman-green-dot-corecard-2022-3>.

¹¹ There is no single definition of BNPL, but the CFPB generally considers four payment products to be BNPL and longer-term loans to be point-of-sale financing.

¹² Insider Intelligence, “Spotlight: US Buy Now, Pay Later Regulation,” (Feb. 2022).

¹³ Worldpay, “Global Payments Report,” (2022), <https://worldpay.globalpaymentsreport.com/en>.

schedule with zero interest. While BNPL providers typically allow repayment via debit or credit card, the overwhelming majority of users choose to repay with debit.¹⁴ Many consumers who opt to use a debit card as their repayment method do so because they are actively eschewing credit card debt.¹⁵

The overarching business structure of the BNPL providers is low margin/high volume, relying on a small cut of a high frequency of transactions on everyday purchases in the range of \$50 to \$500. However, there is an important revenue model shift that reflects broader marketplace developments and portends potentially large downstream consumer impacts.

In its original iteration (BNPL “1.0”), BNPL providers offered their product through partnering and integrating with individual merchants. Consumers interacted with BNPL on the website checkout pages of partnered retailers, and providers earned revenues from merchant discount fees charged to those retailers that typically ranged from 1.5 to 7 percent of the purchase amount.¹⁶ Providers could justify charging merchant discount fees that were often higher than standard credit card merchant service fees of about 2 percent¹⁷ because of BNPL’s ability to improve four key retail sales metrics: more unique site visitors, higher shopping cart conversion, higher average order sizes, and increased repeat visits.¹⁸

Recently, many BNPL providers have pivoted to a “lead generation” business model (BNPL “2.0”), driving consumer traffic directly through their own apps and monetizing that traffic by charging referral (or affiliate) fees to merchants willing to pay for prime advertising space. Those

¹⁴ Christine St Anne, “The customer metric driving Afterpay’s growth,” (2021), <https://www.rfigroup.com/australian-banking-and-finance/news/customer-metric-driving-afterpay%E2%80%99s-growth>.

¹⁵ Fifty-six percent of BNPL users prefer BNPL to credit cards, and 38 percent say BNPL will eventually replace their credit cards altogether. From C+R Research, “Buy Now, Pay Later Statistics And User Habits,” https://www.cresearch.com/blog/buy_now_pay_later_statistics.

¹⁶ Julian Alcazar and Terri Bradford, “The Appeal and Proliferation of Buy Now, Pay Later: Consumer and Merchant Perspectives,” The 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/>.

¹⁷ Nilson Report, “Merchant Processing Fees in the United States,” No. 1216, at 9.

¹⁸ Afterpay, a large Australian BNPL provider that was recently acquired by Square (now Block) for \$29 billion, posited in a 2021 analysis (jointly published with the consulting firm Accenture) that its product “has helped US merchants generate \$8.2bn in new revenue in 2021.” The analysis then broke down that incremental revenue into merchant response categories that directly tie to the four metrics listed above: “It has exposed my brand to new customers” and “It has made my brand more relevant” (more site visits), “It has improved checkout conversion” (higher shopping cart conversion), “Customer basket size is larger” (higher average order sizes), and “I have seen a rise in repeat purchases” (increased repeat visits). From Afterpay, “The Economic Impact of Buy Now, Pay Later in the US,” (Sep. 2021), <https://afterpay-corporate.yourcreative.com.au/wp-content/uploads/2021/10/Economic-Impact-of-BNPL-in-the-US-vF.pdf>.

referral fees can exceed 10 percent of the transaction amount,¹⁹ several times higher than the average merchant discount fees charged in the direct-integration business model. In addition to the higher unit margins, providers can broaden their reach in the 2.0 ecosystem by turning any merchant into a BNPL merchant via the technology of virtual debit and credit cards. Consumers can use the one-time virtual cards issued within the BNPL apps at almost any merchant that accepts standard card payment methods, even those who had no prior contracts with a BNPL provider.

This product evolution tracks with broader trends across the lending and ecommerce landscapes. Today's consumers expect products to be accessible at the swipe of a thumb, with clear terms and little to no direct transaction costs. Merchant-integration-powered BNPL 1.0 checks all these boxes, which explains its popularity relative to credit cards, especially with younger generations. In turn, by virtue of its powerful app-driven, “discovery engine” ecosystem—in which users can discover and patronize new brands and products—BNPL 2.0 may make digital-first consumers view BNPL 1.0 in a similar way that consumers first exposed to indoor shopping malls viewed traditional retail experiences. A consumer *could* choose to go through the trouble of browsing around individual websites, just as they *could* walk or drive around a downtown looking for individual shops, but why bother when everything is in one easily accessible, enjoyable location?

Lastly, BNPL providers' ability to track consumer's digital footprints and craft a personal browsing experience tailored directly to individual tastes and purchase history give the app-based business model a major competitive edge over its merchant integration predecessor, which itself had an inherent data monetization advantage over legacy brick-and-mortar establishments. As one publication put it last year: “The most valuable real estate in the world is not in Hong Kong, Manhattan, Knightsbridge or Monaco. It's in your pocket.”²⁰

3.3 Embedded commerce

One of the most dramatic shifts in payments over the past several years has been the integration of the payment transaction into other activities so that the transaction happens “automatically” with no required input or activity from the purchaser. The concept of “embedded commerce” enables shopping to occur directly on the website or app of a social media feed rather than via traditional ad-based links to a retailer's own site. This kind of “frictionless” transaction is now

¹⁹ McKinsey, “Buy now, pay later: Five business models to compete,” (Jul. 29, 2021), <https://www.mckinsey.com/industries/financial-services/our-insights/buy-now-pay-later-five-business-models-to-compete>.

²⁰ Tim Bradshaw, “The real reason most super apps are not super great,” Financial Times (Aug. 24, 2021), <https://www.ft.com/content/9ab775cc-d596-4e0b-aa3e-34e9111ec431>.

being used in a variety of different online sites, ranging from one-click checkouts at online merchants such as Amazon, to in-app purchases, media, app and gaming subscriptions, and purchases in a social media feed.

It is increasingly easy for consumers to make a purchase just about anywhere online and reducing friction in payments can be a positive for both the consumer and the merchant.

Embedded payments are also finding their way into the physical world. As connectivity expands into unattended retail stores, parking lots, fuel pumps, and kiosks in quick service restaurants, the ability to automatically enable a payment increases as well. Bill pay is another payment channel that is becoming increasingly automated. In 2019, Americans made 5.5 billion recurring bill payments, accounting for \$1.6 trillion in transaction volume.²¹

Embedded commerce may make it easier for a consumer to be defrauded by an illegitimate merchant or unintentionally commit to a subscription that results in ongoing payments. As growth continues and it becomes increasingly easy to make a purchase, these and other risks to consumers may increase.

²¹ David Albertazzi, “How Americans pay their bills: Sizing bill pay channels and methods, 2020 Update,” Aite-Novarica Group (Sep. 22, 2020), <https://aite-novarica.com/report/how-americans-pay-their-bills-sizing-bill-pay-channels-and-methods-2020-update>.

4. Emerging risks to consumers

Combining financial services into one app, getting a loan at the moment of purchase, and making a payment within a social media feed are all value-added conveniences that provide benefits to the consumers who use them. But these new technologies may introduce new risks to consumers. This report highlights two such emergent risks: monetization of consumer financial data and the potential impacts of scale and market power.

4.1 Monetization of consumer financial data

Data is at the core of nearly every aspect of consumer financial services. Any organization that is delivering consumer value needs information to make informed decisions on product offerings, customer segmentation, and loan risk analysis along with several other factors that rely on data. As just one example in the payments context, card issuers, merchants, networks, processors, and affiliates have profited from using consumer transaction data for marketing purposes over several decades.²² Every time a consumer uses a credit, debit, or prepaid card, their financial data can be captured, retained, and transmitted to benefit the entities in this ecosystem.

As consumers interact online, they leave a path of behaviors that can readily be converted into a digital version of their analog lives and life choices. Social media companies leverage this wealth of information to provide users with a richer and more valuable experience. However, they can also use this information to generate incremental revenue by targeting ads and offers for the benefit of third parties or they may even sell consumers' information to other organizations without their explicit consent. The emerging risk in payments is the potential that consumer financial data and behavioral data are used together in increasingly novel ways. In each of the business models noted in the previous section, technology is driving closer integration between financial service providers and non-financial companies such as social media and e-commerce. The closer integration creates more opportunities for companies to aggregate and monetize consumer financial data.

Understanding the where, when, and how of a consumer's payments or financial transactions can get to the "why," allowing organizations to adjust messaging, pricing, and product to capture an incremental sale or click.

²² Josh Lauer, "Plastic surveillance: Payment cards and the history of transactional data, 1888 to present," *Big Data & Society* (2020), <https://journals.sagepub.com/doi/10.1177/2053951720997632>.

More data can create greater opportunities to misuse that data. Given the prevalence of machine learning and algorithmic optimization in modern business, companies increasingly have the capability to leverage consumer financial data to achieve outcomes that may take significant financial advantage of consumers that may result from automated decision-making with limited transparency. The Bureau intends to carefully monitor and scrutinize these practices for potential fair lending risks, as well as risks of unfair, deceptive, and abusive practices.

Consumers may be unaware of the full extent a company or service provider might use or share their data. In some cases, the challenge of understanding how and where their data is used can lead to feelings of powerlessness and “digital resignation” among consumers, defined as “the condition produced when people desire to control the information digital entities have about them but feel unable to do so.”²³

Finally, consumer financial data isn’t just valuable to the institutions creating it. Information related to a consumer’s net worth and spending habits can be valuable for third-party consumer-facing companies. Increasingly, financial institutions understand the value that their data might have for other businesses. According to one market observer: “Banks may be able to reap income from their data—for example, by sharing customer-analytics capabilities with new ecosystem partners, such as telecom companies or retailers.”²⁴

4.2 Scale and market power

Any product or service that connects consumers and merchants in a two-sided marketplace has the potential to find massive scale if it can enroll a critical mass of participants. Absent regulation or other barriers, such markets may organically evolve into monopolies, duopolies, or oligopolies, that in turn may present a range of challenges due to concentrated market power. The current payment ecosystem, for example, consists of four large card networks for payment processing and two major facilities for processing bank-to-bank transactions. A separate but related risk is presented by the inherent returns to scale in data aggregation. Outside of financial services, the vast data collected by a handful of players in internet search, social media, and commerce (big tech), has supported the dominance of a few big players.

²³ Nora A. Draper, Joseph Turow, “The corporate cultivation of digital resignation”, March 8, 2019, <https://journals.sagepub.com/doi/abs/10.1177/1461444819833331>.

²⁴ McKinsey, “Analytics in banking: Time to realize the value,” (Apr. 11, 2017), <https://www.mckinsey.com/industries/financial-services/our-insights/analytics-in-banking-time-to-realize-the-value>.

The evolution of the payment ecosystem is still in its early stages. Many of the business models described above have introduced innovation and competition into the payments space, creating new products and streamlined experiences for consumers. Nevertheless, there is the possibility that the emergent business models noted above (or others) will leverage both of these scale effects—two-sided marketplace and data aggregation—to create a new generation of dominant incumbents. As with any payment system, successful engagement of merchants and consumers can create a scale effect. And, data aggregation, particularly when powered by the comingling of financial and non-financial data, has the potential to create business models with further staying power.

Indeed, as described above, the Chinese market has evolved in this very direction, with two dominant players leveraging both data and inherent scale from being a marketplace. In the U.S., there can be many downstream effects of this market power on consumers, many of which can be extrapolated from the market practices of current large incumbents. For example:

- Big tech companies themselves may leverage massive installed consumer bases to quickly gain scale in new payment businesses. Many of the concerns of the market power of these companies would then be extended into the payments space. For instance, Apple rolled out its Apple Card to its 948 million iPhone users²⁵ in partnership with Goldman Sachs in August 2019,²⁶ and it was able to quickly grow to 6.4 million cardholders by December 2020,²⁷ demonstrating the power of scale.
- A concentrated BNPL or embedded payments in a social media market may be able to extract excess fees from merchants due to unique structural advantage arising from data and scale. Similar dynamics occur with existing payment networks, which recently announced intent to further increase swipe fees on merchants.²⁸

²⁵ Brian Dean, “iPhone Users and Sales Stats for 2022,” (May 28, 2021), <https://backlinko.com/iphone-users>.

²⁶ Juli Clover, “Apple Card: All the Details on Apple's Credit Card,” (Nov. 16, 2021), <https://www.macrumors.com/guide/apple-card/>.

²⁷ Ron Shevlin, “Apple Card Grows to 6.4 Million Cardholders Thanks to Women,” Forbes, (May 4, 2021), <https://www.forbes.com/sites/ronshevlin/2021/05/04/apple-card-grows-to-64-million-cardholders-thanks-to-women/>.

²⁸ Kate Fitzgerald, “Retailer group urges Congress to call off April swipe fee hike,” American Banker, (March 2, 2022) <https://www.americanbanker.com/payments/news/retailers-group-urges-congress-to-halt-april-swipe-fee-hike>.

5. CFPB Areas of Focus

The CFPB is carefully monitoring the payments ecosystem as part of a multifaceted effort to promote fair, transparent, and competitive markets for consumer financial services.

First, the CFPB intends to propose rules to implement the required rulemaking on personal financial data rights, pursuant to Section 1033 of the Consumer Financial Protection Act. This rulemaking effort will seek to give consumers greater control of their financial data, including their payments and transaction data.

Second, the CFPB is assessing new models of lending integrated with payments and e-commerce, such as BNPL. The Bureau expects to issue a report of findings from its BNPL market monitoring orders and will determine whether regulatory interventions are appropriate.

Finally, the CFPB is carefully focused on the shift toward real-time payments in the United States. In particular, the Bureau is seeking to mitigate the potential consequences of large technology firms moving into this space. In addition to studying the experiences of other jurisdictions, the agency is evaluating ways to protect consumers and reduce fraud losses incurred by consumers and market participants.