

Fintechs and Banking: A Note on Neobank Risks

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The fintech industry has made rapid inroads into banking in the last several years. Pundits tout that it will improve efficiencies while giving consumers broader choices in developing their banking portfolios. Others posit that it will erode bank profitability and that its success is tied to monetary policy. Our research focuses on an overlooked aspect of fintech: neobanks, sometimes called a challenger bank, that allow customer access to apps and software that streamline online and mobile banking. This paper will cover a brief history of fintechs, fintech advantages, and finally, discuss some of the risks of neobanking.

Keywords: fintech, neobanks, mobile banking, online banking, cybersecurity, millennials, Gen Z, monetary policy

INTRODUCTION

The fintech sector continues its rapid expansion into the banking sector. Marta and Juan (2022) define fintech as the application of technology to the financial sector with the goal of improving efficiency. According to Tarawneh, Abdul-Rahma, Amin, and Ghazali (2024), banks' rapid development and adoption of fintech, particularly in the United States and China, drives economic growth. Despite these claims several researchers, including Mansour (2024) and Basdekis et al. (2022), argue that fintechs will negatively impact bank profitability. Basdekis et al. (2022) posits that competition between fintechs and banks will erode bank profitability. Mansour (2024), in a study of Chinese banks, shows that fintech development by banks weakens bank profitability. This paper also finds that the impact changes based on monetary policy.

The research on fintechs is quite sparse given the newness of many of these technologies. One aspect of fintech expansion that has yet to be investigated is neobanks. Walden (2021) defines a neobank, sometimes called a challenger bank, as a fintech firm that allows customer access to apps and software that streamline online and mobile banking. Many neobanks partner with existing traditional banks to insure their financial products. As of March 2024, the largest neobank, Chime, has over twenty-two million users with more adoptions every day (Shevlin, 2024). Despite the rapid adoption of neobanking, these fintechs do not appear in the academic literature at all. This omission allows researchers to discuss some of the risks and

potential rewards associated with neobanking. The remainder of the paper will cover a brief history of fintechs, fintech advantages, and finally discuss some of the risks of neobanking.

BACKGROUND

Neobanks, fintech, AI, and cryptocurrencies emerged or developed enough to garner consumer attention in the 2010s. Fintech is a broad term that captures all “financial technology”. Examples of fintech are Venmo, Cash App, Google and Apple Pay. They take services that banks traditionally offer and make it widely accessible to many people. Venmo is an example of a fintech that makes peer-to-peer payments. Previously, this type of transaction was impossible outside of using cash or going through a cumbersome bank process.

It is important to note that these are services, not banks. Most of these fintech apps are owned by larger companies to provide a specific service or are affiliated with a large bank. Neobanks are completely digital financial services companies. They are also known as digital banks, challenger banks, and fintech banks. Neobanks offer various financial services like check accounts, savings, investing, access to cryptocurrency and online lending (Walden, 2021).

Examples of neobanks are Chime, SoFi and Varo bank. Both fintech and neobanks make financial services widely accessible, to anyone with a smartphone or internet connection. The cost savings from not having a large professional staff and brick and mortar stores is often passed on to customers in the form of competitive interest rates on savings accounts that are normally higher than traditional banks. One important note is that most neobanks are not FDIC insured and must affiliate with a traditional bank to get that federal coverage (FDIC, 2024). Even with an FDIC bank affiliation, your deposits may not be insured.

AI and cryptocurrency in the banking industry are primarily used to detect fraud and increase security. AI, or artificial intelligence, uses machine learning to analyze and detect fraudulent spending patterns or as a virtual assistant to help online customers with basic needs. Cryptocurrency and blockchain technology, introduced in the 2000s, could transform banking. The nature of blockchain technology is impossible to duplicate so it reduces fraud, therefore, is more secure than traditional money. Also, with cryptocurrency, there is no need to deal with exchange rates.

Despite these benefits, this type of currency has not been widely adopted or recognized. There are also environmental concerns, with bitcoin in particular. To solve the equations as part of digitally mining bitcoin supercomputers require immense amounts of electricity. Most of that electricity is generated via natural gas and oil, which could potentially contribute to climate change. From 2020-2021 bitcoin used 173.42 TWh of electrical consumption which is more energy than the entire nations of Argentina or the Philippines in that same amount of time (Pratt, 2023).

In the 2020s especially since the Covid-19 pandemic, digital wallets and contactless payments have gained popularity. Near Field Communication, NFC, technology has created digital wallets and contactless payments. NFC technology allows customers a safer, faster, and more convenient way to make purchases than with cash or an actual debit or credit card. Customers can now tap their cards for instant payment, instead of swiping to inserting a card. Some consumers leave wallets behind but rarely leave their phones. Digital wallets offer convenience and security to pay for purchases with the tap of your phone. Apple pay now has its credit card that has a bonus program.

The Rise of Fintech and Neobanks

The banking industry continues to evolve as technology changes, with the rate of change increasing over time. The banking industry is undergoing a big transition with the emergence of fintech and neobanks. In this section we will examine factors that have led to this explosive growth, who their target audience is and why, what is their competitive strategies for growth in an industry with established big banks, and finally we will peek at what the future holds for banking.

The two biggest factors influencing the growth of fintech and neobanks are technology and consumer behavior. High-speed internet and the popularity of smartphones have been the primary boost for fintech and neobanks. Since 2010, consumers have been able to access their banking services on their mobile

devices. Banks, recognizing this shift in consumer behavior, created mobile apps. That led to using artificial intelligence to spot consumer trends, facilitate banking needs and make the whole process more secure. Consumer behavior has shown that consumers want convenience, speed and an individually tailored banking experience. Due to the online nature of neobanks and fintech, they are more agile in responding to the consumer demand than traditional banks. Neobanks can give customers 24/7 customer service, easy access to financial services, and a personalized banking experience (Plaid, 2023).

The banking sector is a highly competitive environment. Fintech, neobanks and traditional banks are all vying for consumers and market share. How fintech and neobanks have set themselves apart from traditional banking is through a personalized customer interface, superior customer service, cost efficiency and innovation. As mentioned earlier, neobanks offer fast and efficient customer service. Loans and credit card issuance is happening on the same day and sometimes instantaneously. In 2021 JP Morgan Chase CEO, Jamie Dimon, at the JP Morgan Global Markets Conference in Paris, shared that “Banks are now facing a threat both in the form of fintechs and big tech companies.” Furthermore, he said “Fintech companies are playing an effective role in building digital and physical products simultaneously. From loans to payments to investments, these fintechs have done a great job in accomplishing an easy-to-use, fast, and efficient product” (Lewis, 2024).

Neo-banks do not have the same cost overhead as traditional banks. By not having to pay for equipment and cost associated with maintaining a physical location, digital banks can pass those savings on to customers in the form of higher savings account interest rates, and better credit card rewards that traditional banks cannot match. New fintech and digital banks are near constantly providing new services and features (Plaid, 2023). Peer-to-Peer lending, digital wallets and AI assistants are just a few of the innovations pioneered by digital banks that traditional banks have been slow to adopt.

While digital banks and fintech disrupt the financial sector, traditional banks are not standing still either. Most traditional banks have fully adopted online and mobile banking capability. Traditional banks have a tremendous head start regarding assets and market cap. JP Morgan Chase has \$3.5 trillion in total assets and \$580 billion of market share. Comparatively, SoFi, one of the largest neo-banks in the world, has \$31 billion in total assets and about \$7 billion of market share.

As you can see, it is a David and Goliath comparison when comparing digital banks and traditional banks. But JP Morgan Chase was founded in 1871 while SoFi was founded in only 2011. SoFi was able to capture that much market share and assets in only 13 years.

Fintech and neobanks primarily target younger generations like Millennials and Generation Z. These younger demographics tend to be more tech-savvy and open to doing business in a digital space. Millennials and Gen Z were raised in a digital world and have always had technology available to them. Seventy-two percent of Gen Z say they use a neobanks as their primary bank or budgeting tool. Significantly more Millennials and Gen Z are investing earlier than previous generations. Forty-five percent of Gen Z and 33% of millennials have invested in the stock market by the age of twenty-one compared to 14% of Gen X and 9% of Boomers (Kantaria, 2023).

As these younger generations get older and accumulate more wealth, we may well see some neobanks that will rival traditional banks in terms of assets and market share. Moving forward the future of banking is unclear. Still, it is likely to be driven forward by the same factors that brought digital banking, namely advances in technology, changes in banking regulations and changing consumer preferences. Fintech and neobanks are poised to be at the forefront of change. Block-chain technology and cryptocurrency such as bit coin is a widely accepted currency and technology in younger generations. Forty-two percent of Gen Z and 38% of Millennials have reported putting money into cryptocurrencies (Kantaria, 2023).

Through Apple Pay and Google Pay we are starting to see the beginning of Banking-as-a-Service or BaaS. BaaS is a platform that allows non-banking companies to offer financial services tailored to their target audience. This can lead to additional niche financial service offerings, further blurring the lines between traditional banking and other industries. Apple Pay is an example of BaaS, a non-banking company whose primary products are iPhones and computers. Apple Pay is embedded into their products and allows consumers to add digital bank cards from existing banks or use Apple Card to pay for day-to-day items.

Customers receive up to 3% “daily cash” when making purchases that can be invested through Apple Pay (Apple, 2024).

There has been and will continue to be a collaborative relationship between fintech, neobanks and traditional banks. Many financial technology companies partner with traditional banks in part to get FDIC coverage, and access to existing expertise and resources. Traditional banks offer name recognition and trust for new digital banks and fintech. Traditional banks won’t need to develop a platform to compete directly with fintech but get access to that customer base and capital through affiliating.

Risks

The financial industry has specific risks associated with how they do business. More specifically, fintech and neobanks have even more specialized risks that they face and need to devise strategies to mitigate their exposures. Most companies have adopted ERM or Enterprise Risk Management. Companies look at all the risk they face in every facet of their business and develop a strategy to treat those risks. In this section we identify the risks that fintech faces in to four major categories and discuss the risk management strategies for dealing with those risks. Table 1 has a list of some of these risks.

Cyber Security Risk

When people consider digital banks and financial technology, the first risk most people think of is cybersecurity. Cybersecurity is one of the most significant risks fintech and neobanks must face in today’s business environment. Hackers and cybercriminals target neobanks and fintech because the nature of the company is solely online. Phishing attacks, data breaches, and hacking are directed at these companies to gain access to money and also customer information (Kapliar, Maslova, & Hnoievyyi, 2024). Not only can these attacks be fiscally expensive, but they can also damage customer and investor sentiment. Trust in banking is critical because customers have so many other options. Leaking customer data is the fastest way to erode trust and drive potential customers into the arms of other competitors.

To mitigate cyber-attacks, neobanks and fintech companies must heavily invest in security and adopt rigorous security protocols. Examples of the different types of security used in banking are multi-factor authentication, data encryption, continuous monitoring of all systems for unusual activity, and CAPTHCA authentication (Cloudflare, 2024). Banks, colleges and internally widely use multi-factor authentication or MFA for most major business. MFA requires users to input more than simply a password to gain access to the account. There are several forms of MFA, but common examples are SMS text messages sent to the user’s phone that provides a code to type in when prompted, or a fingerprint or facial scan to verify your identity. This type of security prevents people from gaining access to your account if they happen to get ahold of your credentials in a data breach.

CAPTHCA authentication are tests to prove that you are indeed a human trying to access your account. This type of test keeps out bots or automated computer programs from accessing your account to commit fraud or abuse. These tests are a randomly generated sequence of letters and/or numbers that appear as a distorted image, and a text box. To pass the test and prove your human identity, simply type the characters you see in the image into the text box. AI and machine learning are now on the cutting edge of security measures that help continuously monitor suspicious activity. Security audits and assessments are needed to evaluate the effectiveness of in place security measures. Customer education and training about cyber-attacks is also part of a comprehensive plan to mitigate cyber-attacks (Cloudflare, 2024).

Operational Risk

Operational risk is the uncertainty or chances a company faces when conducting its day-to-day business. These risks or hazards are internal and are specific to the company or industry. More specifically, human error, failures of internal systems or processes, or loss of inventory. Given the digital nature of fintech and neobanks, any IT system failure will disrupt services. Neobanks are especially vulnerable to this type of risk because there is no physical branches customers could go to if there is an online outage. In 2020, Revolut experienced an outage that left customers unable to access their accounts for several hours. On their Twitter (now X) account they said, “Unfortunately we encountered a technical issue which caused

a delay in some payments being credited to customers' accounts." Customers were left with no one to talk with to help resolve the issue (Guernsey Press, 2020).

To mitigate these operational risks, companies must take a comprehensive approach that includes regular IT maintenance, employee training, and clearly established protocols and internal controls. Clearly established protocols guide employees on what to do in all situations, which, if followed, delivers consistent service. Fintech, neobanks and other IT heavy companies have backup systems and recovery plans that minimize the duration of a service interruption. And as with cyber security risk, continuous monitoring and improvement of internal processes help mitigate ever present operational risks.

TABLE 1
NEOBANKING AND FINTECH RISKS

Cybersecurity risks	Data breaches Identity theft Hacking Phishing attacks
Operational risks	Human error Internal system failure Reputational damage
Regulatory risks	New adverse regulation FDIC coverage challenges Increased litigation costs
Market risks	Increased competition Environmental requirements Interest rate volatility

Regulatory Risk

Regulatory risk is the possibility of loss due to change in laws or regulations that will directly impact a firm. This type of risk is not specific to neobanks or fintech, but they are very exposed to this type of risk. Banking is a highly regulated business environment, and compliance to financial regulations is crucial for banks to remain in business. Failure to comply with federal regulations will result in fine and possible legal action against the company. The problem for fintech and neobanks is that they are so new; they do not fit most established banking regulations. Now governments are trying to keep up with digital banking and digital currencies, the regulatory landscape is continuously shifting (Parikh, 2022). This is difficult because neobanks and fintech may have been doing business legally yesterday but tomorrow will have to change due to new regulations. An example of this outside the United States is the European Union passed the General Data Protection Regulation, GDPR, which has strict data protection requirements in response to the online nature of fintech and neobanks.

Maintaining regulatory compliance is critical for fintech and neobanks, and they must implement required changes as soon as possible. RegTech, or regulatory technology, is how regulatory compliance is managed in the financial industry. RegTech uses big-data and machine learning to reduce compliance risk through monitoring, automation, and reporting. Banks collect a lot of data that can be time-consuming, and complex to process. Machine learning cuts through all that data and offers insights on major risks the company is exposed to and other analytic tools to help auditors maintain compliance (Suresh, 2024). This is a service that a group of tech companies offers to the financial industry to keep up with the ever-changing regulations.

Federal Deposit Insurance Corporation (FDIC) coverage for neobanks has yet to be challenged. FDIC covers bank deposits and refunds depositors up to \$250,000 in the case of bank failure. However, what happens when the neobank goes bankrupt? The FDIC does not insure neobanks and do not pay into the

system as banks do. What happens if the partner bank fails? Will the FDIC insure the deposits if the neobank has one large account that exceeds the \$250,000 limit? Similar questions existed when Silicon Valley Bank (SVB) failed in 2023 and had depositors with millions of dollars in a single account. The FDIC ultimately ensured the full amount but did not legally have to do so. If a smaller neobank partner failed it would not be obligated to cover the losses.

Market Risk

Market risk is the possibility that a company can experience loss due to a decline in the overall market. This can be due to intense competition, interest rate changes, wars, or recessions. This type of risk is always present for most companies and is also not specific to neobanks or fintech. But as noted earlier there has been a sudden rise in neobanks. U.S. usership alone is expected to surpass 80 million users by 2028 and have \$.28 trillion in transactions (Statistica, 2024).

Another name for market risk is systemic risk, which simultaneously affects the whole market. This type of risk cannot be eliminated through diversification but can be mitigated in other ways (Hayes, 2024). Banks cannot truly avoid this type of risk all together, but there are some financial tools and strategies that can lessen the impact of a bad recession. Maintaining a strong liquidity position, like holding cash or holding stocks that have low impact costs, can help firms withstand economic downturns. Banking firms can buy put options to protect against a market downturn or purchase index options, options contracts based on a benchmark index. Regardless of the specific tactic used to mitigate market risk, banking firms must have a long-term outlook and strategy when investing. With a long-term approach volatility will even out over time and firms will see their investments bounce back from market downturns.

CONCLUSIONS

Fintech and neobanks are revolutionizing how banking is being done today. Banking has come a long way over the last 50 years. Innovation and technology advancements are the key to what brought us fintech and neobanks. This innovation gives neobanks and fintechs a competitive advantage over traditional banks and will also drive future innovation. This technology and customer experience is marketed to younger generations as an alternative to traditional banks. By competing on customer experience, cost efficiency, and innovation, fintech and neobanks are challenging traditional banks and shaping the future of banking. The continued integration of AI, cryptocurrency, and Banking-as-a-Service will further transform the financial landscape, leading to a more dynamic and collaborative industry. But that doesn't mean there won't be risks. Cybersecurity will be an ever-present risk that could shut down an online bank; other risks such as market and regulatory risks must also be managed.

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