ND Venture Capital: Open Banking Thesis

1. Market Dynamics

Value Proposition

The launch of the Payment Services Directive 2.0 (PSD2) in Europe marked the introduction of open banking in 2015. This directive started the trend of looking at consumers' financial data as an asset that only they had the explicit power to share. Open banking aims to promote competition in the financial industry by creating a level playing field for new entrants, such as fintech startups and other innovative companies. These players can leverage customer data to offer innovative financial products and services that challenge established banks. By removing the barriers to entry, open banking encourages the growth of the fintech industry, which ultimately benefits consumers by increasing choice and driving down costs.

Growth

The global open banking market size is valued at $25.14B in 2023 and is expected to grow at a CAGR of 27.2% from 2023 to 2030 as measured by the growth in third party providers entering the ecosystem. An estimated 10-11% of digitally-enabled consumers are active users of at least one open banking service, an increase from 6-7% in March 2021. In the six months leading up to March 2022, the number of open banking payments rose to 21.1 million, compared to 6.1 million in the same period in 2021, indicating a month-on-month growth rate of around 10%. Although business penetration (11%) is slightly higher than retail (10%), the gap between the two has significantly decreased since 2021.

Geographic Markets

Countries are either market-led or regulator-led in open banking developments. The potential impact of open financial data on a geographic market is influenced by two key factors, the products within its scope and the regulations that govern APIs. Many countries' regulations, like the UK, allow customers to both view and interact with their data, which unlocks a range of possibilities such as seamless money movement and switching to other products or providers. However, in others like Australia, third-party access is limited to just viewing customer data which constrains possible solutions.

<u>United States</u>

In the US, open banking developments are primarily led by private markets. The Consumer Financial Protection Bureau has unveiled a 2024 agenda to formalize rulemaking on open banking, which would bring the United States closer than ever to establishing an open banking environment. The proposed rulemaking would apply to around 2,000 of the largest banks in the United States, encompassing a substantial share of customer accounts throughout the nation. Unfortunately, most financial institutions in the U.S., such as regional and community banks, have yet to develop dedicated data access portals and often reference the considerable time and resources needed to do so as a barrier to expediting the transition in the industry. As a result, numerous

Americans, particularly underserved populations, are unable to take advantage of the benefits of an open banking ecosystem. While still lagging in regulatory support, open banking has begun to dominate more in small businesses recently and is approaching widespread use. Plaid has emerged as a leading US player in the open banking industry by facilitating access to credit and creating a better user experience with data. Obtaining financial data and onboarding can be an arduous process, but Plaid has streamlined these operations, making it easier for users to move money between multiple accounts. This ease of use has attracted clients such as Kettle, which uses Plaid for credit card underwriting, focusing on immigrants with short credit histories. Another notable example is Dave, which utilizes Plaid to extract data from a person's linked bank account to determine appropriate cash advances.

Europe

The UK is more regulatory-led in open banking initiatives. In 2022, Europe held the largest share of the open banking market, accounting for over 37% of the global revenue. The region's growth can be attributed to the rising need for enhancing online payment security. 20% of the UK population has accounts with a digital-only neobank. Additionally, government directives for banks to mandate the opening of APIs have facilitated market expansion in the region. The presence of numerous prominent players in Europe is anticipated to further boost regional market growth. Open Banking Europe has extended its partnership with the European Telecommunications Standards Institute for another three years. The alliance, which was originally signed in 2018, aims to raise awareness and encourage collaboration on legislation, standards, and best practices related to open banking among members of the OBE and ETSI communities. UK regulations also mandated the nine biggest UK banks adopt open banking APIs and grant other institutions access. Similar strides are taking place in Canada.

Asia-Pacific

The Asia Pacific region is expected to exhibit the highest compound annual growth rate in open banking applications. This growth can be attributed to the increasing awareness of the benefits of open banking systems in countries like China, India, and Japan. Additionally, the rapid advancements in digital payment services in the region are likely to fuel the growth of the open banking market. Google Pay, for instance, completed 1 billion transactions in India in August 2021. In Singapore, the government recently issued banking licenses to five nonbanking players, including the consumer ecosystem Grab (200 million users in eight countries) and the consumer internet company Sea. As more players seek to enter the market, financial data sharing through open banking will pick up steam due to the high speed of deployment benefit.

Applications

Most applications of open banking fall into three categories: infrastructure providers, product augmenters, and customer experience providers. Customer-facing propositions are about 70% of existing solutions.

Infrastructure Providers

In the UK, many companies are now offering a platform for others to offer digital financial solutions without having to build everything themselves. Almost 30% of open-banking license holders in the UK provide this platform, making it easier and quicker for others to launch new products and services. Some of these platform providers offer data access and transfer through APIs that power consumer-facing propositions while others offer a complete end-to-end solution for payments, transaction aggregation, risk analysis, and financial management that can be used by customer-facing apps and banks.

Product Augmenters

Open banking solutions that utilize access to banking data to enhance existing products or services, specifically for small and medium-sized businesses, are the largest category of such solutions in the UK. For example, open banking-driven cloud accounting services are becoming more popular among small businesses and are enabling them to overcome challenges in today's business environment. These services help small businesses increase efficiency, make informed decisions, and improve collaboration with their accountants by providing customers with real-time, secure access to their financial information. GoCardless (backed by Alphabet) launched Instant Bank Pay in April to help merchants take instant one-off payments from customers' bank accounts, which speeds up payment and lowers transaction costs compared to one-off card payments.

Customer Experience Providers

Open banking not only improves existing banking services but also creates secure options that wouldn't have existed otherwise, such as personal finance solutions. Many of these solutions are targeted towards consumers and small and medium-sized businesses, including account-aggregation apps and financial management portals. In addition to consumer-focused solutions, open banking has also led to the creation of solutions for small and medium-sized businesses (SMEs). Fintechs like FriendlyScore and BudgetBakers offer businesses the ability to monitor their financial health and plan for the future from one portal. Others, like Cake, arm SMEs with consumer insights and a loyalty rewards program to power improved digital marketing.

2. Industry Headwinds

Regulatory Hurdles

In many countries, open banking is regulated by government agencies or industry bodies to ensure that customer data is protected and that third-party providers meet certain standards of security and reliability. Part of the reason regulations haven't moved as fast in the US as compared to the EU is due to the US being more regulated on a state by state basis whereas the EU is regulated as a single, regulatory entity. Many US banks are written on legacy software and older technologies so migrating the data and updating these mainframes is expected to be slow as they are required to meet regulatory standards. When startups try to make money move fast, fraud tends to increase so it's important to advance carefully. Even in the EU, however, regulations have tended to stay narrow in their financial use cases and policies with much further room to grow.

Increasing Cyber Attacks

The industry's growth may be hindered by the increasing occurrences of cyberattacks and online fraud. With data sharing being at the center of open banking, the attack surface has increased for hackers to target consumers' financial data, elevating the risk. A report by Accenture found that banks globally experienced a 238% increase in cyberattacks between February and April 2020, a period in which the world became drastically more virtual. Additionally, a study by Mimecast revealed that 88% of financial services organizations experienced a phishing attack in 2020, a significant increase from the previous year's 72%. Phishing attacks can be particularly effective in the open banking context because third-party providers may not have the same level of security as banks, making them more vulnerable to these types of attacks. Along with financial losses, there are also reputational risks, legal/regulatory implications, and the potential loss of customer trust. As a result, many banks and third-party providers are investing heavily in cybersecurity measures to protect themselves and customers, but these measures can be costly, time-consuming, and sometimes ineffective.

Account Switching Difficulties

It is a cumbersome process for customers to change their bank account, especially when it comes to payroll direct deposit. Third-party providers need access to consumer banking data to offer new products, and without a seamless switching process, they may struggle to gain traction. Additionally, open banking relies on the secure sharing of financial data between different parties, so slow account switching can make this process more complex and challenging, especially when customers are concerned about exposure and want to move to a safer bank. In contrast, the UK placed a strong emphasis on making it easy for people to switch their bank accounts through their Current Account Switch Guarantee forcing the process to be fully completed within 7 days.

Painful API Experiences

The user experience around using APIs in open banking needs to be improved by providing greater consistency around API quality, standards, and access to a wider array of products. Poor-quality bank developer portals, fragmented or no formal API standards, and issues with API availability are the main challenges that need to be addressed. Banks need to offer compelling developer portals and services to encourage developers and third parties to leverage their APIs. Fragmentation of API standards is a challenge that requires greater standardization of APIs in order to ease the path for third party innovation, alongside embracing the necessary role of aggregators/intermediaries in the ecosystem.

Absence of Dispute Resolution Standards

A clear path for dispute resolution in open banking builds consumer trust and adoption. Although the liability for losses falls on the institution that holds the account, the framework for managing disputes between parties is not clearly mapped out in open banking. This lack of clarity can be a disadvantage for customers, put a disproportionate burden on banks, and slow the growth of the industry. Also, the risks associated with payment initiation, especially for SMEs or corporate clients, are higher due to the larger payment sizes involved. Many assume that resolving disputes under open banking would be identical to traditional banking, but the absence of

dispute resolution frameworks makes it challenging to provide these clear rules, especially in account-to-account payments where few mechanisms for payments can be reversed.

3. Industry Tailwinds

Integration of Big Data Analytics

Big data analytics can play a crucial role in the open banking industry by helping banks and third-party providers gain a deeper understanding of customer behavior and preferences. By analyzing large volumes of data such as transaction histories and spending patterns, they can identify trends and patterns to create more personalized and targeted products and services. This can help to improve customer satisfaction and loyalty, leading to increased revenue for banks and third-party providers. Additionally, analytics can enhance risk management in the open banking industry by identifying potential risks and fraud patterns in real-time, allowing providers to take swift action to mitigate these risks. This integration of analytics into open banking offerings also helps to improve compliance with regulatory requirements which builds trust with customers and regulators alike.

Banks Partnering with Startups

Incumbent banks are struggling to understand areas where they can retain their front-end connection with customers. Customers are increasingly demanding financial products and services integrated into their daily activities and seek to view all their data in one place, often from an "independent" third party. Fintechs and tech giants are competing to win in this space and are gradually building substantial customer bases for financial products and services which is an area where banks have traditionally held a stronger position. Open banking's promise of giving customers a better understanding of their financial situation could result in more transparency in pricing and charges, leading to margin compression for banks. Some banks are partnering with startups to engage with customers in new ways and leverage the relative strengths of their partners. For instance, the Australian bank Westpac plans to allow pay-later provider Afterpay to provide its customers with transaction and savings account services through Westpac. Stripe has joined forces with banks such as Goldman Sachs, Barclays, and Citibank to launch Stripe Treasury, an API that enables Stripe customers, such as Shopify, to offer banking as a service to their own end customers. These approaches may signal a new model for specific segments that combines tech/fintech distribution with the at-scale banking capabilities of incumbents. The adoption of advanced technologies such as AI by banks in partnership with startups is also expected to overcome challenges and improve their services. Mastercard's acquisition of Finicity, an open banking provider, for $825M in November 2020 is a prime example of this. By utilizing Finicity's data sharing and machine learning technology, Mastercard aims to enhance its performance and reduce overdraft risk with faster processing. However, some banks have opted to forego a partnership to redouble their efforts around in-house product development.

Growth of Invisible/Open Finance

Invisible finance refers to financial services being embedded within products without the explicit presence of banks being noticeable. These products revolve around customer-centricity and convenience for the consumer

and are made possible through the use of open banking. Many of these offerings are often white labeled by startups to allow larger corporations to offer their customers a frictionless consumer journey which they have to weigh over maintaining their brand and identity. This essentially helps companies strategically market themselves to both investors and specific user personas. Recently, Checkout.com, a payment processing service, unveiled a new offering that allows its customers to produce payment cards for their own clients. Meron Colbeci, the Chief Product Officer, explained that this new service is built with open and adaptable APIs, enabling businesses to create customized card programs that improve cash flow and create fresh revenue opportunities. Additionally, open finance refers to the growth of these offerings across a broader suite of financial products, allowing companies/customers to grasp a full picture of their financial lives including areas such as investments, pensions, insurance, mortgages etc. It's estimated that embedded financial services will produce $230B in revenues in 2025, a 10-fold increase over the $22.5B in revenues in 2020. Embedded lending is also a notable sector in the form of Buy Now, Pay Later, a market valued at $5B in 2021 and growing at a 26% CAGR.

4. Investable Opportunities

Platformized Distribution

Platformized distribution allows innovative technologies to rapidly capture their target markets by utilizing the at-scale networks of large merchant platforms and legacy incumbents i.e. Stripe's partnerships with Shopify and Goldman Sachs. In order for companies to successfully compete in the open banking space, platformized approaches and acquisitions will be key. In June 2022, Trustly, a worldwide open banking provider, partnered with Gr4vy, a cloud-based payment platform. The objective of this collaboration is to provide thousands of merchants using Gr4vy with an affordable payment acceptance solution. Underdigitized industries that have not yet been introduced to the benefits of open banking also stand to be disrupted by a platformized approach. In June 2021, Tarabut Gateway, the leading open banking platform in the Middle East and Africa region, partnered with Zain Bahrain to offer the first open banking payments use case in a telecommunication application in the region. As intermediaries for vast amounts of customer data, platforms have an advantageous position to diversify beyond data access into white-label solutions and/or data-driven insights for third parties and merchants for marketing purposes. Therefore, the scale, proposition evolution, partnering approach, and customer base of these infrastructure players will signal how the landscape may evolve.

Advanced Credit Underwriting

An end use case that will be enabled and nurtured by open banking is more sophisticated credit underwriting due to the access of better data. This development has the potential to revolutionize credit underwriting for businesses and individuals alike. Quickbooks, for example, allows small businesses to move their accounting data to a lender to receive credit. This enables lenders to make more informed decisions, reducing the risk of default for both parties. Likewise, Ramp, a financial management platform for startups, links bank accounts to decide credit lines to open. The platform leverages data to make accurate and timely credit decisions. For businesses and individuals, Finicity offers credit underwriting capabilities, allowing them to access and analyze financial data to

make informed credit decisions. The potential for advanced credit underwriting offers a range of benefits such as reduced risk of default, faster loan decisions, and improved access to credit for individuals and businesses.

Payroll Management

Similarly, Payroll APIs are becoming increasingly important in the open banking industry, with companies like Argyle, Atomic, and Pinwheel leading the way. These companies provide tools to share businesses' payroll data with lenders to help make decisions around payroll advances. With better access to data, lenders can make more informed decisions, reducing the risk of default and helping borrowers manage their finances more effectively. These platforms also make it easier for individuals to change their direct deposit information, streamlining the process and reducing the risk of errors. By leveraging payroll APIs, businesses can reduce administrative costs associated with managing direct deposit information, saving time and resources.

Generative AI in Wealth Management

Generative AI could use open banking to transform the wealth management industry, enabling personalized recommendations and automated actions based on individual data. When integrated through open banking services like Plaid into various financial accounts like checking, payroll, credit cards, and savings, generative AI can optimize financial management in ways never seen before. Rather than relying on generic advice, generative AI will offer personalized recommendations, helping individuals make informed decisions about their finances. Future advances may also enable paychecks to be optimally routed based on individual preferences. Wealthfront was one of the pioneers in this concept, but generative AI has the potential to transform the industry into a self-driving money experience. This might even lead to automated financial product switching, allowing customers to dynamically capture the best rates and offers in the market. The financial advisor of the future will not be a person but a digital co-pilot that provides personalized recommendations based on user data. There is a tremendous opportunity to leverage the advancements in generative AI and financial APIs to reimagine wealth management and personal finance for millions of people, revolutionizing the industry as we know it.

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