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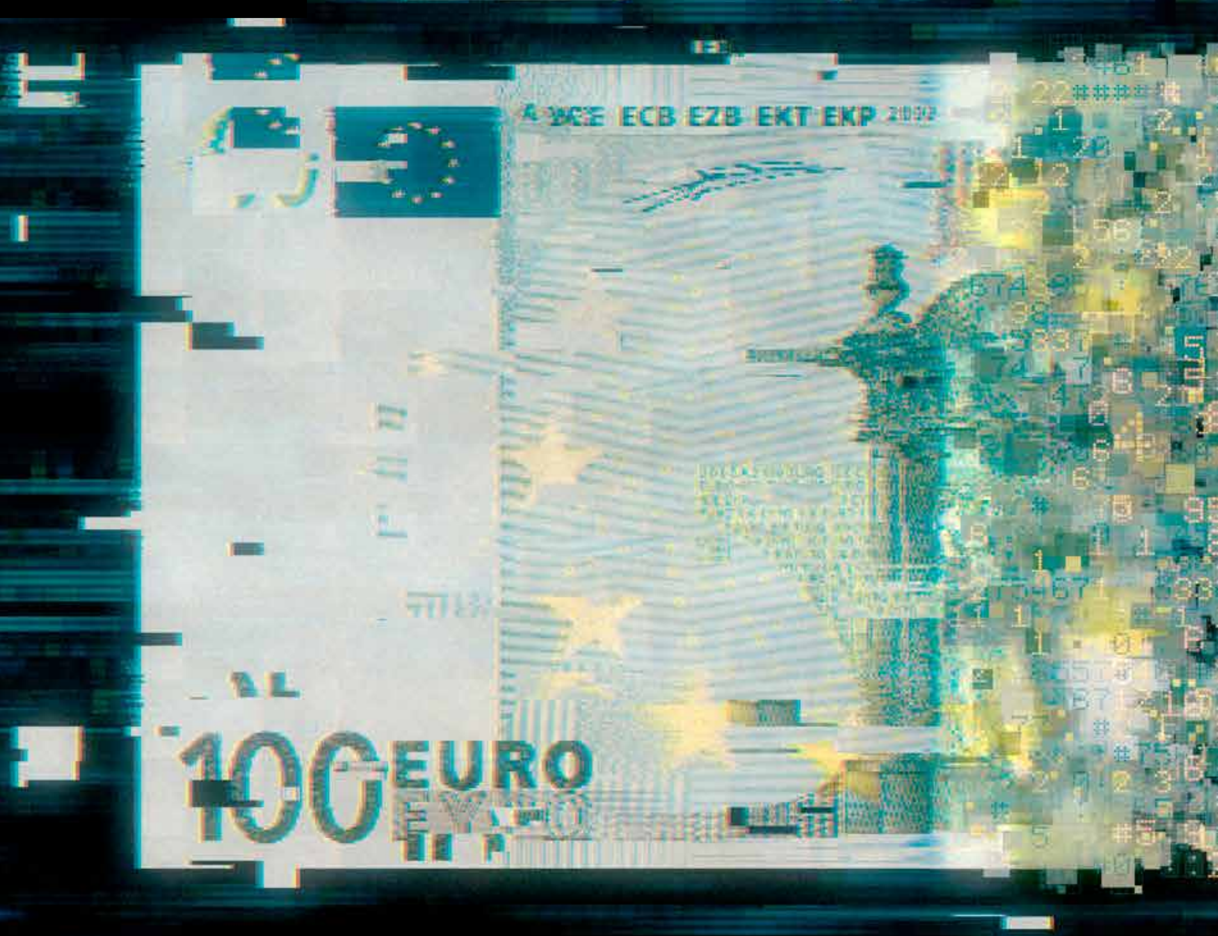

The Payments Industry after Covid-19 — Too early to call the End of Growth

WHITE PAPER

The Payments Industry after Covid-19

— Too early to call the End of Growth

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Key takeaways

- The outlook for the payments industry is today less clear than it was 5 years ago. Changed consumer preferences and new, more agile competitors have changed the competitive landscape.

- However, as digitization of payments moves forward and continues to take share from cash payments, the sector will continue to see attractive growth for at least 5 more years as Consumer2Business (C2B) payments become fully digitized in all major economic zones.

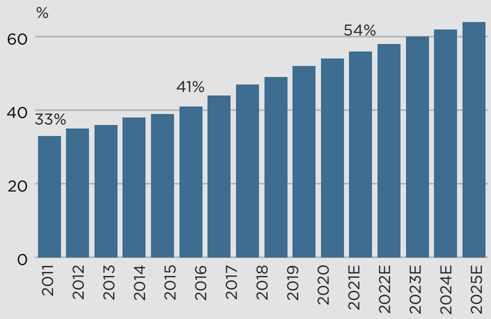
- Growth will partly be supported by the expected boost to cross-border travel, arguably the most profitable subsector within payments, when the Covid-19 pandemic eventually subsides.

- Traditional banks will see even more commercial and regulatory pressure in the coming years. They will likely lose market share in the traditional merchant acquiring business, face lower merchant interchange fees, competition from the growth of digital wallets and Central Banks launching digital currencies raises longer-term fundamental questions around the business model of lending.

Since ancient times money has been virtually synonymous with cash: coins and later banknotes have provided people with an efficient and widely accepted means of payment for their everyday transactions. In recent years, however, the digital revolution has led people to significantly change their payment habits – tapping a card, swiping a phone, or using a smartwatch to pay is becoming increasingly common. According to Erik Gutwasser, head of Mastercard's Nordic operations, the technological advancement over the last 5 years has progressed more than over the previous 45 years since Mastercard's start.

While the increase in digital payments[1] shares of total consumer payments was around 1.5% points p.a. between 2011-2016, we have seen this rise to 2.5% points p.a. since 2016, as seen in Figure 1. Card volumes have risen 2.2-2.5 times the growth of Personal Consumer Expenditures (PCE). As a result, Visa / Mastercard volumes, seen as an overall benchmark for growth in digital payments, have grown by 9-11 % p.a. and supported strong double-digit earnings growth for the overall payments industry for at least the last decade.

Figure 1:
Continued Growth in Digital Payments



Digital Payment Penetration of Personal Consumption Expenditures, PCE (excl. China)

Source: Bernstein as of Aug. 2020

↑ 28%

growth in eCommerce in 2020

The historical drivers of digital payments have been eCommerce, easier payment solutions through technology improvements like "tap to pay" and rising recognition of the cost of handling cash for merchants[2].

Covid-19 resulted in a significant boost to digital payments, driven by a 28% growth in eCommerce in 2020. When thinking about the winners from eCommerce people tend to think of Amazon and other online retailers but the payments companies are big winners as well: as an example, for every dollar spend off-line only 15 cents pass through Visa's network while for every online transaction Visa handles 43 cents.

According to estimates from Alliance Bernstein (estimates we agree with), card volumes will continue to grow 10-11% CAGR over the next 5 years, driven by an acceleration in digitization in historically cash-

1) Throughout the paper we will use the terms card and digital payments interchangeably. Most C2B payments are today done by card but is expected in the future to lose market share to pure digital as for example account to account payments as closed loop payment rails gains market share.
2) in the range of 3-4% according to some estimates.

persistent areas such as everyday micropayments, small merchants, and financially underserved consumers. eCommerce, contactless micropayments, low-cost merchant acceptance, and financial inclusion are continuing to act as powerful catalysts for digitization of consumer payments in the years ahead.

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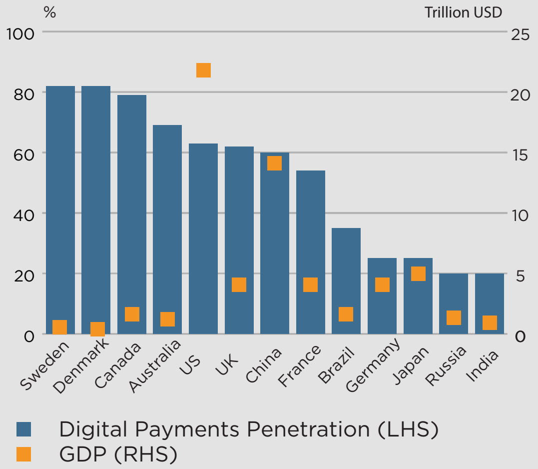
Card volumes will continue to grow 10-11% CAGR over the next 5 years, driven by an acceleration in digitization in historically cash-persistent areas such as everyday micro-payments, small merchants, and financially underserved consumers.

Figure 2:
Select largest GDP country digital penetration (% of PCE)



Source: Bernstein as of Aug. 2020

While many economies such as Scandinavia, Korea, Australia, and the US have progressed to close to the full digital consumer to business payment saturation other economies have a long road ahead before getting close to full digitization of payments, as seen in Figure 2.

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The overall payments industry remains highly attractive looking out to the end of the 2020s, as more and more economies converge towards fully digital consumer payments systems.

Large untapped potential still exists in big economies like Germany, Japan, and emerging economies ranging from Brazil to India. However, despite very significant investments by western payment companies in underpenetrated emerging economies like India, the market opportunity here is most likely significantly lower than in western markets. This is due to many of these countries leapfrogging technology-wise in how payments are done. Indian UPI[3] is a case in point. A national state-sponsored payments rail offering account-to-account payments at basically zero cost is a very tough competitor for profit-based payment rails. Many other large emerging economies like Brazil and Mexico are rolling out similar models for digitization of payments in the years ahead, reducing the market opportunity for profit-based payments companies in these economies.

Growth in digital payments in a highly saturated market like the US will most likely only be mid-single-digit p.a. over the coming 5 years. Despite the lower potential in emerging economies, growth outside the US will continue to power ahead with mid-double digit growth rates p.a. for the foreseeable future. Therefore, the macro background for the overall payments industry remains highly attractive looking out to the end of the 2020s, as more and more economies converge towards fully digital consumer payments systems.

3) Unified Payments Interface (UPI) is an instant real-time payments system developed by National Payments Corporation of India facilitating inter-bank and peer-to-peer (P2P) and consumer to business (C2B) transactions.

An important longer-term question is whether the existing payment rails will benefit from future adjacent payment flows (B2B, B2C, G2C, C2C)[4] which could conceivably extend the payments double-digit growth runway well beyond the end of the decade, something we address below.

To assess how different areas of the larger payments industry will perform in the overall benign environment, we need to understand the infrastructure of the payments industry and how this is likely to change in the coming years.

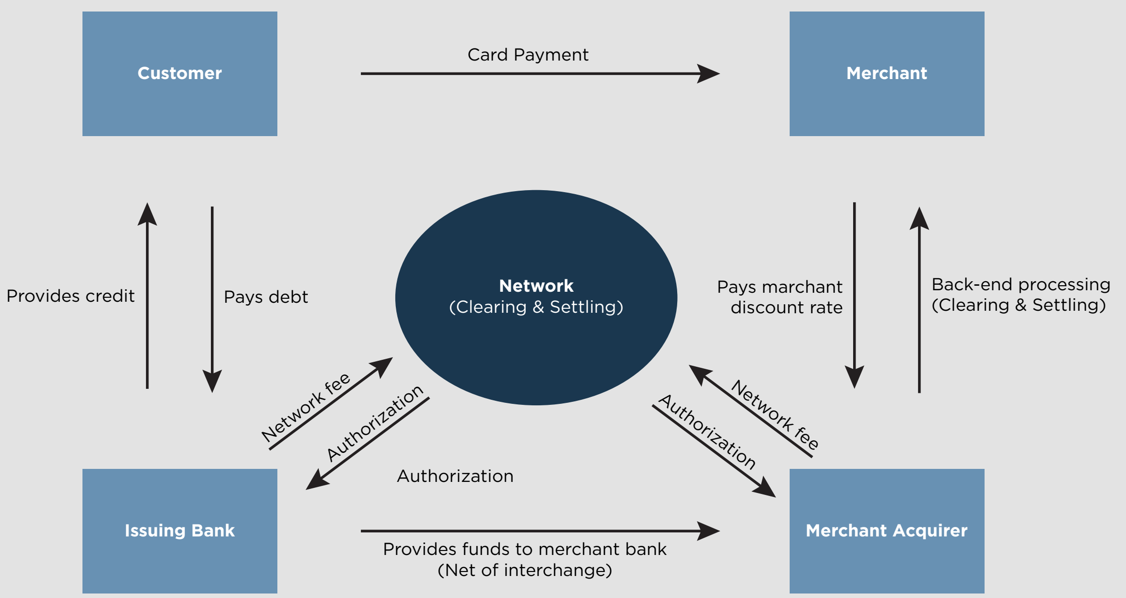
The 4-party model

The first bank-issued charge card was created in 1946 by John Biggins, a New York banker. The Charge-It card could only be used at a small number of local New York businesses. Expanding on the Buy Now, Pay Later (BNPL) concept, in 1950 Diners Club issued the membership-driven Diners Club card, a charge card that could be used at restaurants. The Diners Club model caught on quickly, and in 1958 in Fresno, California, the Bank of America created what was to become Visa, the first modern credit card, BankAmericard.

By the late 1960s, banks and credit unions began issuing debit cards tied to customers' checking or savings accounts. At first, customers could only use these cards to withdraw cash from automated teller machines, so they were commonly known as "ATM cards." As banking systems improved, debit card technology evolved into a system that was able to directly debit money from a customer's bank account. Because using a debit card was more convenient than writing a check, more and more consumers started using debit cards, and in 1998, debit card transactions outnumbered the use of personal checks for the first time ever in the US.

The reason for writing this historical intro to the payments industry is to portray the length of time this industry has been under development – because this also illustrates a story about the moat of the industry. Today more than 70% of global digital Personal

Figure 3: The 4-party network



Source: Credit Suisse as of Sep. 2021

4) B: Business, G: Government, C: Consumer

Consumer Expenditure (PCE) payments are processed over only two protocols, the Visa and Mastercard rails. These systems connect around 80 million merchants in more than 200 countries to thousands of banks and billions of individuals across the world. They are the only ubiquitously accepted payments networks in the world. The remaining 30% or so of transactions are done over domestic rails and so-called 2 party closed loop systems like Diners and American Express.

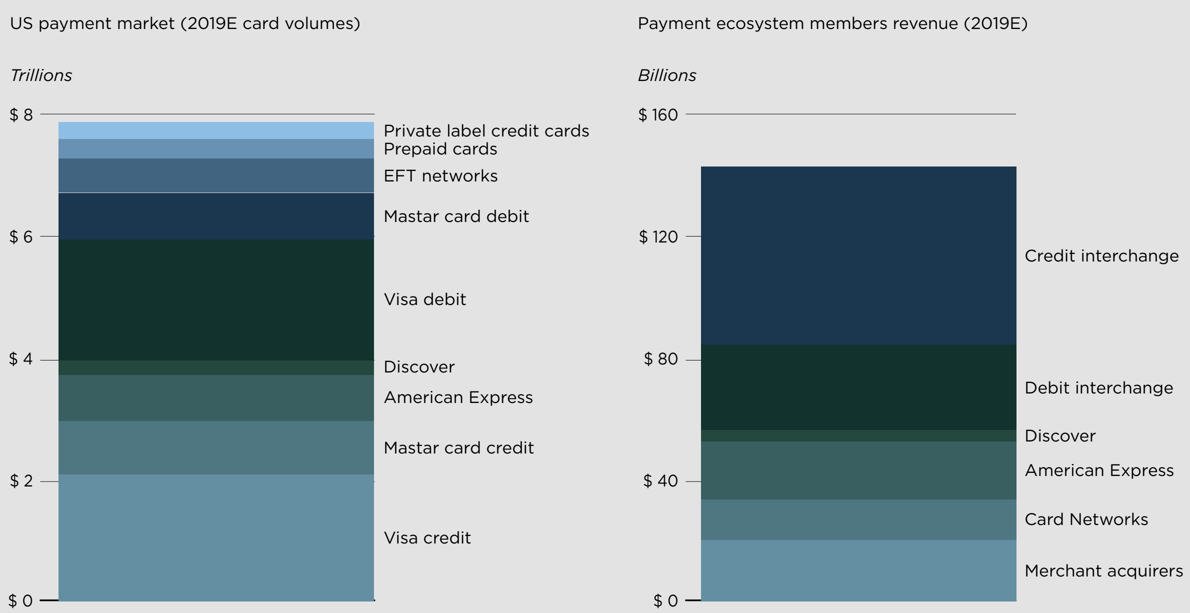
The 4-party payment model has at its center the Visa and Mastercard networks, as these are the issuers of credentials giving access to the 4-party network as shown in Figure 3 on the previous page. The 4 parties giving name to the model are the customer, the bank of the customer issuing the debit or credit card, the merchant who finances the system by paying the merchant discount rate and the merchant acquirer/ payment processing company who supplies the IT system to the merchant and settles the payment.

In 2019 total transactions in the US were around USD 8 trillion, as seen in Figure 4 below. Almost 75% was done via either Visa or Mastercard debit or credit rails, but the networks only took around 10% of payment ecosystem members' revenues. The bulk of revenues went to the banks, either in the form of credit or debit interchange fees and - where banks were also the merchant acquirer and processor - in the form of a merchant acquiring fee.

The uncertainty about the model in earlier years centered around the overall levels of the merchant discount rate and large merchants like Walmart (unsuccessfully) trying to opt-out of the 4-party model. However, in more recent times the uncertainty has centered on new merchant acquirers entering the space as well as changing consumer preferences leading to new forms of payments potentially upsetting the current status quo.

For many years the competitive dynamics in merchants acquiring and payments processing has been for the incumbent banking services to lose market share to standalone merchant acquirers like First Data (Fiserv),

Figure 4: US payment market revenue pools



Source: Credit Suisse as of Sep. 2021

FIS, Global Payments, Worldline, Nexi so that what used to be more or less fully dominated by banks these now command less than 50% market share in merchant acquiring. As reported by Ernst and Young, 50 % of banks lag when it comes to upgrading their outdated IT systems. EY also reported that 43 % of US banks are still using COBOL, a programming language that's over 60 years old, and a code that is becoming increasingly difficult to maintain because of a lack of coders with knowledge of the language as many have now retired.

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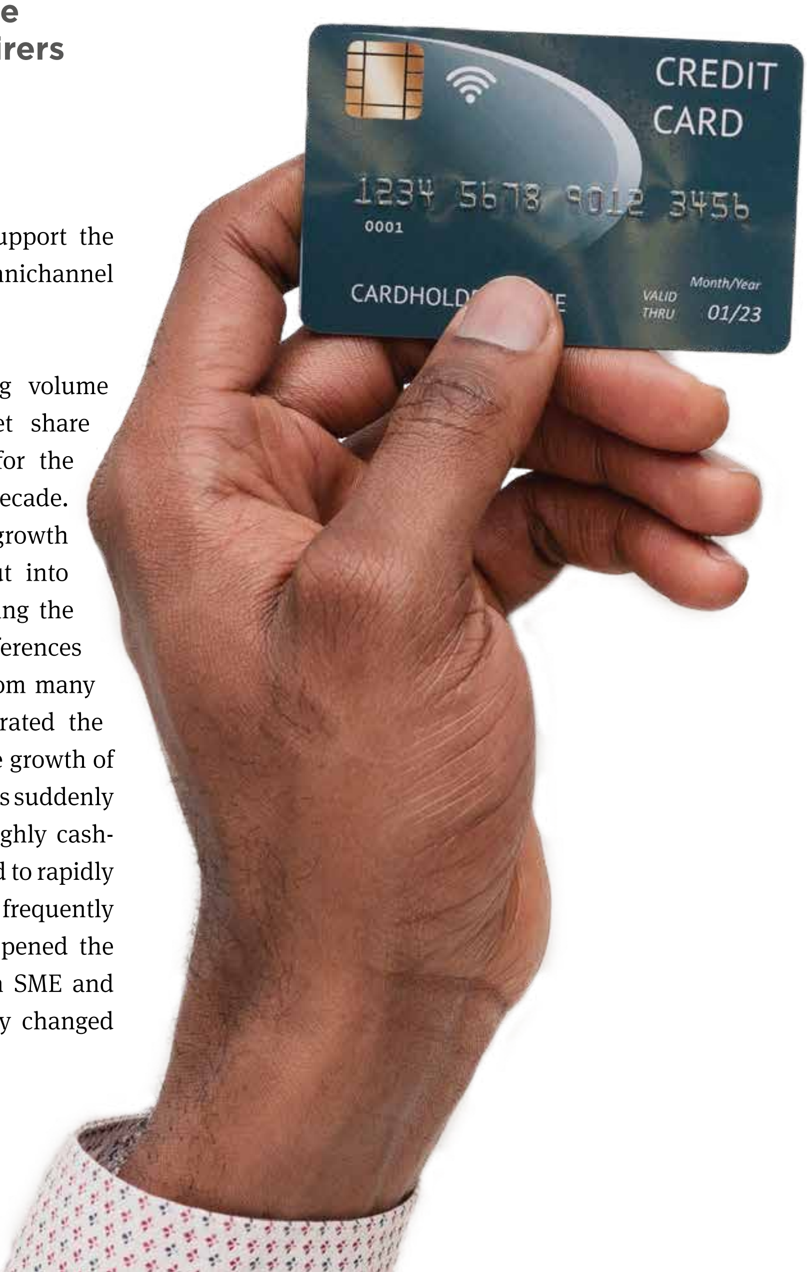
Clearly, legacy technology isn't going to support the agile payments consumers want and the omnichannel experience they've come to expect.

The combined effect of strong underlying volume growth in payments and growing market share has resulted in strong profitable growth for the incumbent merchant acquirers over the last decade. However, more recently the continued growth outlook for these companies has been put into question because of new competitors entering the market and because of new consumer preferences in payments. New competition is coming from many directions. But in general, Covid-19 accelerated the digitization of payments, both because of the growth of eCommerce but also because micro-businesses suddenly had to also digitize what previously was highly cash-based. Furthermore, many physical stores had to rapidly develop omnichannel capabilities which frequently required new payment systems. This has opened the door for new entrants, either specialized in SME and micro-merchants like Square (name recently changed to Block) or accelerated the growth of perceived best-in-class payments technology companies like Stripe and Adyen. These are companies that are seen as having superior technology and therefore have the capability to offer solutions the older merchant acquirers can't.

> **Equity markets have reacted to the changed payments landscape and incumbent payments companies have underperformed over the last two years.**



During our research process over the last few quarters, we have had several calls with payments executives and other experts in the payments industry. The purpose of these calls has been to assess the real as opposed perceived changes the payments industry is going through today and what can be expected in the years ahead.

While opinions differed regarding different merchant acquiring companies' longer-term position, there was broad agreement that over the next few years there would be sufficient overall growth in the market to allow most merchant acquirers to continue to prosper. Opinion was also that while interchange fees will continue to come under pressure, the threat to the 4-party model is most likely overstated. The reason being that there is very little friction in the current system that could be attacked by new ways of doing payments, and banks and consumers have very little incentive to change payment preferences to the detriment of the existing merchant acquirers.

However, while industry insiders downplayed the risks from growth of Buy Now Pay Later (BNPL), digital wallets and instant account to account (A2A) payments capabilities, it is inescapable that equity markets have reacted to the changed payments landscape and incumbent payments companies have underperformed over the last two years due to uncertainty about the moats of the 4-party model. So, while the longer-term outlook for the industry is less clear today than only a few years ago, something we address below, the mid-term outlook in the aftermath of the pandemic continues to look benign for the existing players despite the potential threats from BNPL, wallets and A2A.

Buy Now, Pay Later and Wallets

The latest and hottest innovation in payments in many years is BNPL, a form of unregulated installment credit, where the consumer makes a purchase and pays in perhaps 4 installments. If the consumer is current on payments, then there are no interest costs. Again, the merchant finances the transaction at perhaps 3-4%, a level that typically is higher than a traditional credit card transaction.

While BNPL is only around 2% of eCommerce globally today, it is more than 25% of eCommerce in Sweden,the home of the largest BNPL company, Klarna, and above 10% in Australia, the home of the #2 BNPL company, Afterpay. According to Kansas City Fed, BNPL is growing very fast, around 400% YoY in the US, reaching 45 million active users in 2021, and is expected to be above 5% of eCommerce in the USA by mid-decade. Information provided by the Financial Technology Association indicates that BNPL users are predominantly female, with the vast majority being millennials and Gen Z consumers, a critical fact, as these will be the dominant consumers of the coming decades. The user base is tilted towards lower-income consumers who typically lack access to traditional forms of credit or banking services.

For consumers, BNPL offers various benefits. Credit may be the most important BNPL benefit, especially for consumers with limited means. According to a recent poll from March 2021, 45 percent of US adults who were BNPL users said they used these services to make purchases that otherwise would not fit their budget, a fact which will be attracting regulators attention, we believe. Predetermined repayment schedules may be another important benefit. Unlike credit card debt, for which consumers need to make their own repayment plan, consumers simply follow the repayment schedule set by the BNPL provider. Among other reasons for adopting BNPL, consumers cite convenience, transparency of terms, interest avoidance, cash conservation, and less impact on their credit score.

It is our view that BNPL as a standalone business is fundamentally unprofitable over the credit cycle, as the merchant fee leaves little left for normalized credit losses, which historically has been around 4% over the credit cycle. However, in the current benign credit environment, the model is growing significantly due to the benefits that BNPL offers to merchants such as higher conversion and loyalty and increased ticket size. This is exemplified by statistics from Klarna, indicating that consumers increased their purchases by 27% in the US where Klarna was available for consumers to use at checkout.

BNPL has been seen as a risk to the 4-party model because BNPL potentially accelerates the growth of digital wallets like Square cash app and PayPal digital wallet. Today, except for China, where TenPay and AliPay are dominant and very broad financial service businesses, wallets in the west are primarily focused on person-to-person payments but also rapidly broadening out to C2B payments as well, so that payment by wallet today is larger than both credit and debit cards in many western countries.

Today and in the near future wallets will branch out further to also offer insurance, brokerage services, and a host of other financial services like crypto-trading and incorporate loyalty programs – providing competition with traditional banking. BNPL is one of these services, and the combination of wallets with BNPL can increase the attractiveness of the overall product offering as seen for example in the case of Square wanting to acquire Afterpay, the #2 BNPL company. Combining the merchant and customer bases of both companies can generate significant network effects and be a stepping-stone to create a viable 2-party closed-loop network, where Square controls both the merchant as well as the customer and can settle transactions without the use of the networks of Mastercard and Visa.

Our view is that this risk is overblown and that BNPL, in fact, offers additional growth to the networks, both because BNPL further accelerates the digitization of payments and because, as of today, 74% of money transfers to wallets are done with the use of either debit or credit cards, so the growth of wallets will be driving the growth of the networks. Finally, one BNPL purchase leads to 4 installment payments versus only one in the case of traditional credit or debit purchases, and since the networks receive a fixed fee per transaction, BNPL actually increases volumes on the networks and the associated revenues.

The threat from wallets growing to be so dominant that they can bypass the networks is not to be taken lightly. However, today even the largest merchant acquirers with their own wallets like PayPal and Square "only" serve merchants in the 100,000s while the networks connect 70-80 million merchants globally. If companies like Square and PayPal want to scale their businesses, it is probably going to be more efficient to work together with the networks instead of fighting them. In the future, it is, therefore, more likely that companies like Square, Klarna, and PayPal will be large issuers of credentials to the networks, a position the banks have today.

Credible threats to the 4-part network today

The biggest threat longer term to the model is probably growing nationalism in payments as seen in countries like Russia, China, India, and other major emerging markets, as well as the EU, which sees the introduction of a Euro Central Bank Digital Currency (CBDC) combined with innovation around account-to-account payments as a way to rebuild a European payment rail independent of American companies.

Conclusion

Changing consumer preferences and new more agile competitors have changed the competitive landscape more in the last 5 years than the previous 45. However, as digitization of payments marches onwards and takes share from cash in an overall expanding economy, the payments sector as such will continue to see attractive growth for at least another 5 years, perhaps for the rest of this decade, as Consumer2Business (C2B) payments become fully digitized in all major economic zones. This growth will also partly be supported by the expected boost to cross-border travel, arguably the most profitable subsector within payments when Covid-19 eventually burns out in our societies. Longer-term, one must question what will take over the growth-baton as C2B becomes saturated, as this is happening in the same timeframe as Distributed Ledger Technologies and Central Bank Digital Currencies will be rolled out, offering alternative and likely much cheaper payment rails. Our conclusion is that the payments industry longer term will see radical change, something we explore in part 2 of this journey into the future of payments "Blockchain and the future of payments".

Active Investments

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