apis | partners

The Democratisation of Payments

May 2023

"In the future, every company will offer financial services - but most will rely on technology from others to make this happen."

Welcome to the age of the enabler.

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1. PREFACE

Today's digital payments landscape has evolved into a complex network of relationships and processes that work in concert to enable the safe and secure movement of money from a customer to a merchant. Whether we swipe our cards in a store or key in our payment information on a website, a chain of events involving several parties kicks off: a merchant acquiring provider captures the customer's payment details securely and encrypts it, passing it onto an acquiring bank (i.e., the merchant's bank) via a processor, which then typically communicates the request to a card network (think Visa or Mastercard). The card network then relays the information to the issuing bank (i.e., the customer's bank) via an issuer processor, and once the issuing bank confirms the funds are available, the confirmation round trips back down this chain and the transaction is processed, all in a matter of seconds. Performing digital payments is so ubiquitous and seamless that it belies the underlying complexity that it involves. As the sector has grown, we have witnessed a myriad of variations to the basic authorisation and settlement processes, all with the aim of affording cheaper and better services for merchants and consumers, and ultimately furthering the democratisation of payments.

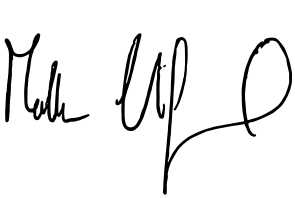
We believe that the sector is poised for continued growth and as we begin to emerge from the COVID-19 pandemic, taking stock of the new landscape we all live in, one fact is patently clear: while payments have seen a rapid expansion over the past decades, the pandemic has only served to accelerate the adoption of cashless payments. According to the World Bank, in LMIC[1] economies, over 40% of adults who made in-store or online payments using a digital form factor (i.e., card, phone, or online) had done so for the first time since the beginning of the COVID-19 pandemic. These percentages translate into staggering numbers in growth markets: in India, more than 80M consumers made their first digital transaction after COVID-19, while in China more than 100M adults did. Today, over 60% of adult consumers globally make or receive digital payments, with this share growing from 35% in 2014 to 57% in 2021.

1. LMIC: Low and Middle Income Countries

As part of this paper, we aim to explore the developments in technology, regulation, and the resulting evolution in business models, as well as share our perspectives on the future for this everchanging sector which has been a mainstay for Apis: payments have been our largest single area of focus comprising approximately 30% of our exposure in Apis Growth Fund I and 40% of our exposure in Apis Growth Fund II. We have endeavoured to play across value chains, collaborating with both issuers and acquirers - online and offline - through our investments across Europe, Africa, South Asia, Southeast Asia, and the Middle East. Our conviction in this space comes from its compelling secular tailwinds, potential to scale, and ability to improve access to higher-quality Financial Services for millions of businesses and consumers across our markets.

We hope you will enjoy reading our thought leadership piece as much as we have enjoyed researching and developing it.

Matteo Stefanel



Udayan Goyal

2. KEY TRENDS IN THE SUB-SECTOR

Several factors have contributed to the rise of digital payments and these factors do differ to an extent across regions. However, despite regional differences across the globe, technology can universally be observed as one of the greatest catalysts in the development of digital payments. In this section, we will examine the role that technology plays in shaping the payments landscape we live in, and dive into specific innovations that have made a mark on the sector.

This section will cover off three facets of technology in payments, thereby providing a holistic view of how tech has permeated the democratisation of payments. First, we will discuss mobile money which has catalysed consumer-side democratisation. Second, we will talk about the emergence of mPOS, which has enabled strides in merchant-side democratisation. Lastly, we will talk about APIs and how they have enabled the payments value chain by tackling the growing payments complexity that has resulted from democratisation as more specialised use cases require solving.

2.1. Mobile Money: Driving Consumer-Side Democratisation

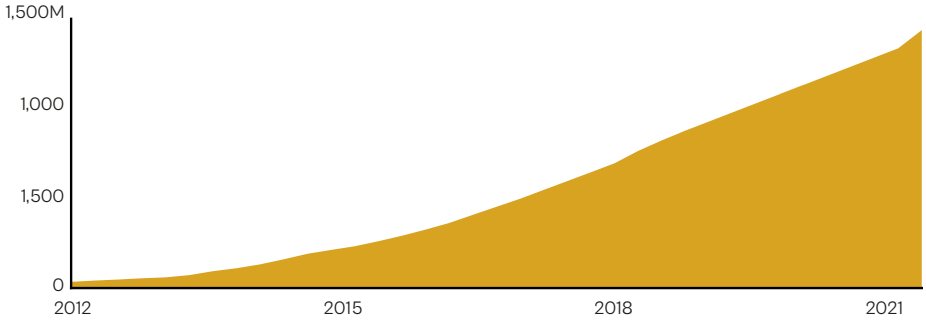
Given the absence of established financial services foundations – such as bank branches – in many growth markets, these regions have had to overcome unique challenges in rapidly building digital infrastructure. Based on research by the World Bank, over 1.4B[2] people – or approximately one in six globally – remain underbanked today. Achieving financial inclusion requires providing access to individuals in hard-to-reach segments and delivering them formal means to transact. As shown in Chart 1, the advent of mobile money has enabled significant advances in broadening financial access, facilitating access to over 1.35B users at the end of 2021, thereby achieving a ten-fold increase since 2012, when it was still largely unheard of.

2. World Bank, COVID-19 Boosted the Adoption of Digital Financial Services

Mobile money is a clear example of technology acting to solve the economics for consumers that have less monetisation depth and have often been forsaken by traditional financial services providers running legacy business models. By leveraging telecom network rails and distribution channels, mobile money has allowed an entire stratum of society to access, transfer, and store funds at low costs.

Chart 1: Number of Registered Mobile Money Accounts, 2012-2021

Number of registered Mobile Money Accounts, 2012-21



Ezra Case Study

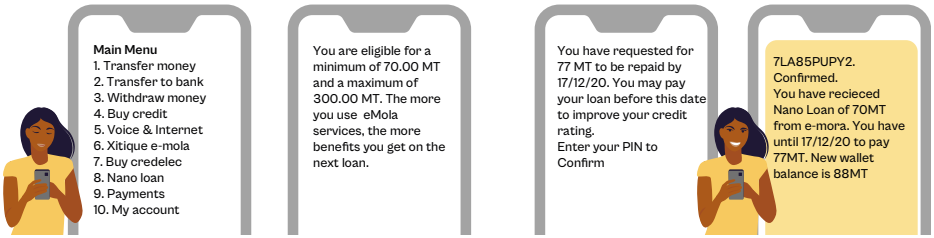
Mobile money has also laid the groundwork for further innovations to be developed on top of it, as has been the case for traditional rails. Ezra (an Apis portfolio company) is focused on leveraging telecom and mobile money data to enable underwriting processes for consumers that previously lacked the track record necessary to secure access to credit, thereby making strides in terms of democratising access to financial services.

How do Ezra's nano loans work?

1 Customer submits a nano loan application

2 Ezra generates a loan offer using mobile money & airtime data

3 The loan is disbursed to the customer's mobile money account



Sarah, living in **rural Kenya, wants to borrow money** to fund her **growing business**

Through the **Ezra-powered technology**, she receives **loan options** along with **repayment terms**

Sarah recieves her loan and repays it via **mobile money** according to the **repayment schedule**

How do nano loan differ from other loans?

- **Eligibility is enabled via digital access:** eligibility is entirely tied to mobile money and airtime usage history
- **Loan decisions are fully automated:** credit applications happen via a mobile device and data is used to determine a potential borrower's likelihood of default
- **Loans are smaller and shorter-term:** the initial loan size is typically small and some borrowers take several loans a month
- **Collections are managed remotely:** Loans are repaid via mobile money before any airtime or money is loaded onto a borrower's phone or wallet

How is mobile money leveraged?

- **Provision of base scoring data**: as the customers seeking the loans typically have limited financial history, their mobile money data acts as a key source of information to determine affordability
- **Affording disbursement channel:** In the absence of any other formal means of banking, mobile money wallets act as practical rail to avail funds to customers
- **Providing means of collection:** with many customers using mobile money as their primary means of banking, this becomes a reliable channel through which to ensure collection

What is Ezra's Impact?

100 million+
Customers scored monthly

$1.2 billion+
loans granted annually

35 million+
Monthly active users

64
employees

19
countries

Source: Ezra

2.2. mPOS: Driving Merchant-Side Democratisation

While markets like Europe and North America have already achieved deep levels of banking penetration, enabling cheap payments acceptance by merchants has remained a challenge across many developed markets. As a result, it has not been uncommon in even the most developed markets for smaller merchants to remain overlooked by both bank-led acquirers and large incumbents which traditionally scaled their businesses by primarily catering to the needs of larger merchants (e.g., restaurant chains, department stores, etc).

Mobile Point-of-Sale – or mPOS for short – is a general term that describes technologies that enable merchants to turn their mobile device into a payment acceptance channel, usually through pairing with a hardware device. Players like SumUp, iZettle, and perhaps most famously Square, have dramatically reduced the cost to accept offline payments by delivering mPOS-based systems while delivering a far better customer experience, as shown on Chart 2 below. By piggybacking off the existing smartphone footprint, mPOS players have focused on developing cheaper, online-enabled devices and new business models to shatter the cost barriers for adoption by smaller businesses. mPOS providers have also focused on developing slick online sign-up processes, allowing merchants to fulfil their KYC and regulatory requirements while also enjoying a smoothly delivered customer experience.

Though these devices may seem ubiquitous today, penetration in the most advanced market remains at 40%, with the likes of the UK and the US still at penetration levels of 20% or less, as seen on Chart 3. Going forward, we expect to see continued growth in this space and projections suggest the global market is expected to grow at ~20% CAGR or more than twice that of the broader payments market.

Chart 2: Comparing Legacy POS vs. mPOS solutions

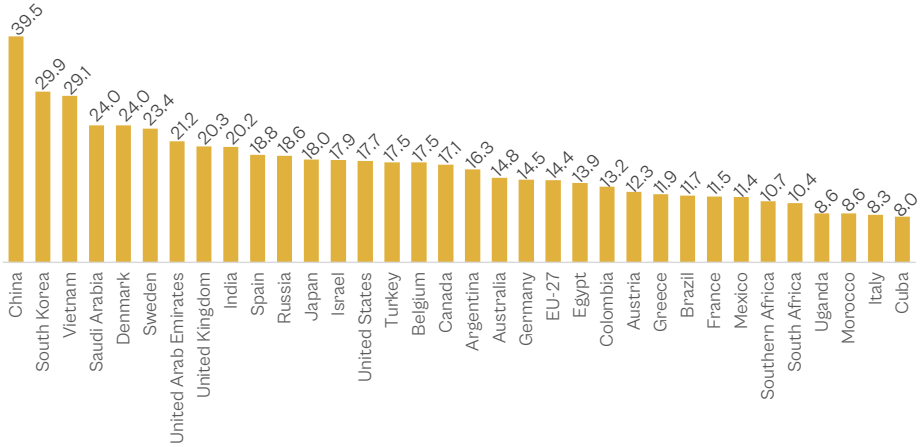
Factor	Legacy POS	Cloud-based POS
Cost[1]	$30-50K / Year	$600-10K / Year
Payments	Upfront License fee + monthly maintenance fees	Monthly Payments
Software	Installed on-prem. by technician	Hosted online
Hardware	Fixed voluminous terminal	Mobile & Stationary tablets
Data Storage	Locally stored on back office computer	On cloud
Maintenance	On-site for majority of issues	95% of support calls do not require on-site presence

(1) Typical cost at ownership

Source: Finance Online

Chart 3: Penetration rate of mobile POS payments, 2021

Penetration of Mobile POS Payment, 2021 (%)



Source: Statista

2.3.Emergence of APIs: Overcoming the Complexity That Results From Democratisation

As digital payments adoption has deepened across both merchants and consumers, increased complexity has been a key challenge for payments players to overcome. Merchants and consumers' embrace of digital payments has increased complexity for payment players, especially as commerce moves to digital contexts e.g. online travel agents and eCommerce websites all have specific requirements (e.g., different user information inputs) that cannot be met in the same way. Similarly, as new consumers are reached, different requirements – such as new forms of payment, e.g., credit card, or eWallet – also emerge.

Application Programming Interfaces ("APIs"), though virtually imperceptible to the end consumer, have done of a lot of the leg work in the background to streamline the complexity that ensues from the democratisation of payments. Simply put, APIs are a set of protocols that enable programs to communicate with one another. To translate this into concrete terms, when a consumer makes a purchase on an eCommerce website for instance, the website must request a range of details from that consumer such as the identification details, payment information and shipping details which must all be collected and processed in a way that ensures no fraud occurs. The personal information might then be stored in the eCommerce firms' own servers, the payments details routed to a 3rd party payments processor, while the shipping info is processed in a 3rd party fulfilment software. This information is gathered and communicated via APIs: the consumer gets one streamlined process while the merchant can manage multiple processes from a single interface. Remember that gratifying feeling you get from hitting a "Buy now" button on a website and having the item turn up at your doorstep a few days later, without any further intervention? It is almost certainly enabled via APIs. APIs have thus played a silent but crucial role in catering to the growing orders of magnitude in payment complexity while shielding both customers and merchants from the ramifications of that complexity.

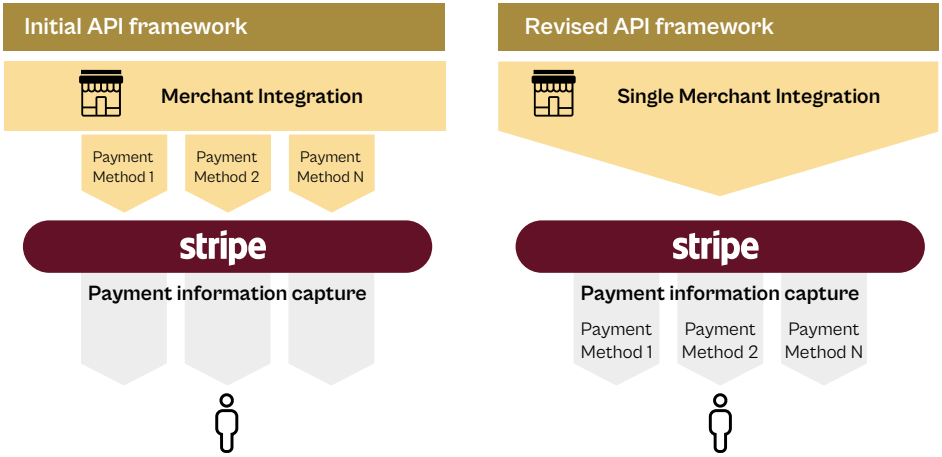
Stripe Case Study

Stripe is most notably known for revolutionising the world of payments, delivering customers sophisticated payments solutions via "seven lines of code". Stripe's evolution demonstrates the power of APIs and how they have allowed merchants to meet increasingly complex needs without taking on the burden of solving that complexity themselves. Specifically, diving into the comparison between Stripe's initial API framework versus its revised API framework brings to life how their APIs have broken down payments barriers for merchants.

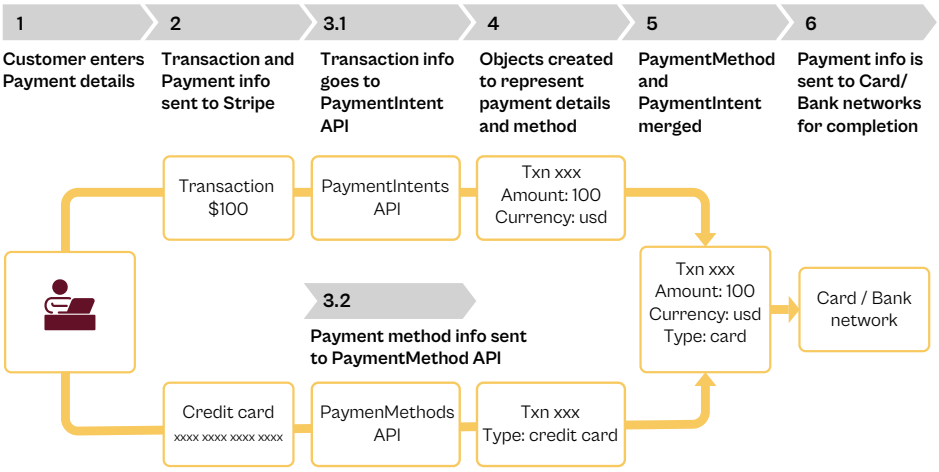
When Stripe first launched in the US in 2010, its core offering was centred around credit card payment acceptance as that was the most common payment method that they needed to solve for at the time. To do this, the company created its initial integration with which merchants could readily accept credit card payments. Stripe was focused on ensuring seamless merchant onboarding journeys and therefore ensured that this initial model was well-designed and easy to integrate.

As Stripe expanded in new countries and across new customers, new payment types such as Automated Clearing House ("ACH", which refers to payments done on banking rails), or even Bitcoin, were added. As their first API framework was designed to accommodate credit card payments only, the integration had to be modified to support these new payment types. With these additional changes, the integration became more complex for merchants to handle given the additional protocols needed to enable these new payment forms.

To address this growing complexity, Stripe introduced a revised API framework (using PaymentsIntent and PaymentsMethod APIs as shown in the lifecycle chart below) which allowed the company to decouple the processing of different payment types from the payment information capture process. As a result of this decoupling, merchants only needed to perform one standard integration which could continually be updated by Stripe at the back-end as new payment types were added to the company's library. This simple technical paradigm shift has substantial impacts; as shown on below, with its revised integration, Stripe was able to offer the same power of payments acceptance with less than half the effort that was required through the initial integration. With its customer-centric API product development capabilities, Stripe was able to offer its merchant a uniquely powerful payments solution through an integration that felt like "seven lines of code".

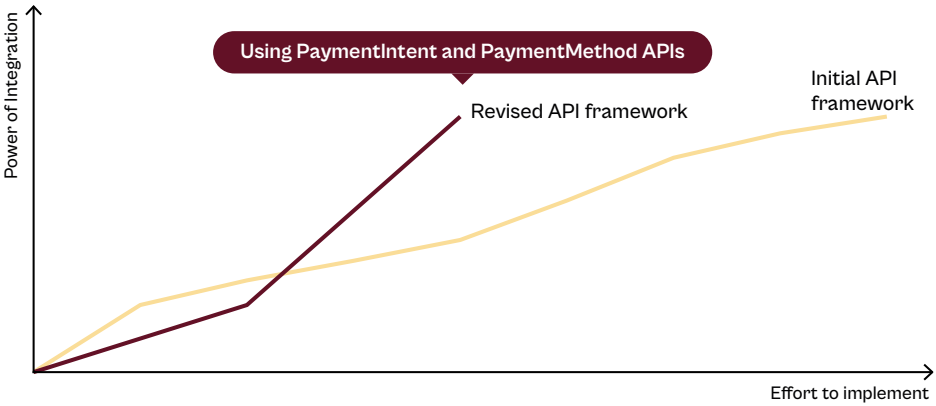


Transaction Lifecycle using PaymentsIntent and PaymentsMethod APIs



Source: dev.to; desktop research

Stripe Initial vs. Revised API framework Effort vs. Power Comparison



Source: stripe

3. THE ROLE REGULATION IN DEMOCRATISING OF PAYMENTS

Digital payments' strong growth trajectory is further reinforced by government and industry initiatives that have laid the groundwork for improvements in payments infrastructure to displace cash and to promote interoperability across payments methods. As such, governments play a key role in ensuring that the right regulatory frameworks are in place to incentivise private market actors to work towards the development of an inclusive payments landscape. From implementing rules that protect consumers when making mobile payments to taking on the responsibility for developing the national payment rails that are used to provide cheap and reliable digital payments, regulators' role in the industry is far-reaching.

While regulators' role is foundational in the democratisation of payments across all markets, it has taken a variety of forms. As part of this section, we will explore both growth and developed market regulatory approaches that have been adopted to deepen digital payments adoption.

3.1. Growth Market Regulatory Initiatives: UPI & Other Government-Mandated Schemes

Growth market regulators have had the unique challenge of bridging the differences between levels of digitisation in their own countries and the rest of the world, while also managing the local diversity that exists in their home markets. In addition, regulators typically have had to overcome this challenge in limited timeframes as global payments players seeks to bring these fast-growing developing markets into their fold given their promise of future scale. Nowhere has this challenge been more apparent than in India, where the country's Unified payments Interface (UPI) was launched by the government to enable a congruent payments landscape despite the layers of social and technological differences.

UPI Case Study

While India is often noted for its scale, perhaps one of its lesser quoted yet equally impressive feature is its sheer diversity. Across its 1.4B people, the country counts close to ~450 languages[3] and 640,000 villages that is home to over 70% of its population[4]. With 10% of the country's richest holding 72.5%[5] of the country's wealth, and close to 20% of the population living below the poverty line[6], the country also continues to witness great economic disparities. Similarly, the country's payments infrastructure – which only really got started in earnest in the 90s as the country liberalised its economy – featured a variety of payments systems after a host of rails were launched at various points to manage the country's complex needs, as shown on Chart 4 below.

Chart 4: Overview of India's Payments Rails

System	Inception	Description
NFS	2004	**National Financial Switch** – Largest network of shared ATMs, enabling customers the use of ATMs of third-party banks and facilitating convenience banking
NEFT	2005	**National Electronic Funds Transfer** – Electronic funds transfer system enabling inter-bank transfers; Settlement occurs in 30-minute batches rather than live
RTGS	Piloted in 2004	**Real Time Gross Settlement** – Electronic funds transfer system enabling inter-bank transfers between bank accounts; real-time (improvement on NEFT)
NECS	2008	**National Electronic Clearing Service** – second generation of ECS launched to overcome some of the drawbacks of the original platform
IMPS	2010	**Immediate Payment Service** – Electronic funds transfer system that uses NFS network, enabling inter-bank transfers between bank accounts through a mobile phone; real-time and 24/7 (improvement over NEFT and RTGS)
RuPay	2012	**Domestic debit-card network** – Launched as an alternative to Visa and Mastercard

3. Ethnologue
4. 15th Census of India
5. Livemint
6. Indiaspend

System	Inception	Description
NUUP	2012	**National Unified USSD Platform** – SMS-based mobile banking service that integrates all banks and telcos. A customer can access banking services by dialling *99# from their feature phones
NACH	2013	**National Automated Clearing House** – Web-based payments system allowing high volume inter-bank transfers which are regular (e.g. salary payments, dividends) – this system consolidates the multiple clearing systems in India
BBPS	2016	**Bharat Bill Payment System** – Integrated payments platform allowing customers to pay a range of bills (e.g., utilities, school fees, charitable donations)

Source: Desktop Research; Thinking Fins

With differing levels of functionality across each one of the rails, transitioning India's economy - which was still ~90% cash-based as of 2020 – to digital was a major challenge. The diversity of rails made it impossible to bring best-in-class digital payments capabilities to broad sections of the market through common integrations. India therefore undertook a series of initiatives that would enable it to deploy mass digitisation of its payments infrastructure through what is known as the "India stack".

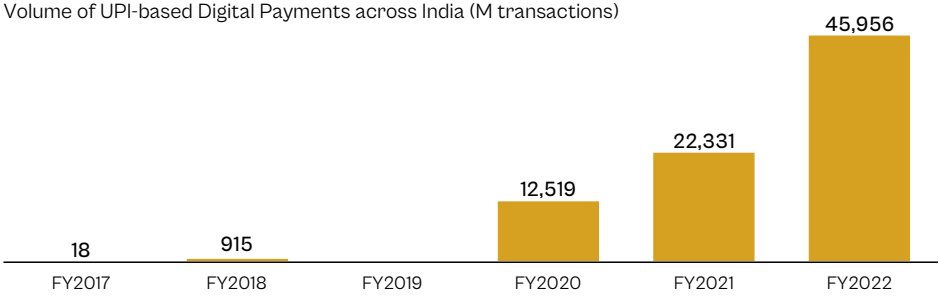
One of the foundational components of the India Stack is the country's Aadhaar identity project which has allowed it to provide a common ID framework to 99% of its 1.4B people. In tandem with growing mobile penetration (expected to reach 100% by 2023), and the expansion of the government social support initiatives which required disbursing money to those in need, the country had both the means and the imperative to drive access to financial services at scale. India thus introduced its UPI framework to ensure that payments could be conducted across the country's diverse set of rails through a common framework, ensuring fast and secure transactions. UPI was devised using Aadhaar's existing infrastructure to manage authentication of both senders and receivers, while APIs were used to ensure interoperability across the variety of payments systems in place.

As such, the India stack has provided the necessary infrastructure to support digital payments and has been a success in transitioning a nearly cash-based economy to a digital one. Ensuring greater adoption took both tech and policy stances that would foster adoption. On the tech side, the government ensured that the India stack was built on Open APIs, incentivising its use as a common bedrock for innovation. On the policy side, the government introduced zero-MDR transactions (essentially making it free for merchants to use), thereby positioning it as a utility, rather than a service for a fee. As a result, we have seen the broad-based enablement of innovative real-time and convenient payments using mobile numbers, virtual IDs and QR codes. UPI has also gained prominence with financial institutions: when it first launched in 2016, UPI only had 21 of the country's banks live on the system. Fast-forward to today, that number is closer to 316[7].

UPI's impact in the democratisation of financial services at the grassroots has been phenomenal: with 70% of the population living outside of large metropolises, disbursing money to the nation's poorest – be it grants for farmers, or subsistence payments to the poorest - can now be done reliably and rapidly at the push of a button. UPI's volumes are enormous and show no signs of relenting, with the system processing 46B transactions worth over a trillion dollars for the year ending March '22, vs. 22B transactions in the preceding year. According to ACI Worldwide, in 2021, India recorded more real-time transactions than any other country in the world, and the adoption of digital payments has saved Indian businesses and consumers an estimated $13B, while unlocking approximately $16B of economic output.

Chart 5: UPI Transaction Volumes

Volume of UPI-based Digital Payments across India (M transactions)



7. Statista

Source: Statista

Other growth markets have undertaken similar initiatives; Brazil's central bank launched its instant payments platform, Pix, in November '20. By March '22 - less than 24 months later - the system was already available to close to 114M Brazilians (67% of the population) and processing as much volume as those seen in credit and debit cards.

3.2. Developed Market Regulatory Initiatives: Open Banking

We have also seen marked regulatory advances amongst the most established payments markets. Open Banking is one such initiative that has seen important focus in recent years. Open Banking directives impose a regulatory requirement for financial institutions to make data about their customers available via APIs to authorised third parties, with a view to provide additional services to these customers. While still in their early stages, we have already seen these initiatives offer significant opportunities for payment players to build protocols to facilitate new payments features – e.g., recurring payments, account-to-account payments, bill / invoice payments – to allow the consumer to be better served. We can therefore see consumers doing away with the entry of card details, bank account numbers and sort codes, avoiding potentially costly errors and fraud.

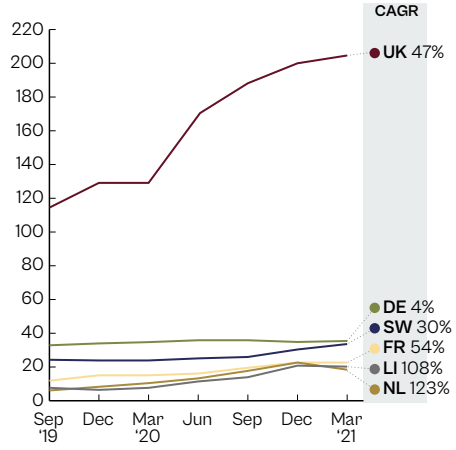
While this may initially seem like a mundane change, regulators' action is even more critical in a world where payments are increasingly data-driven. Indeed, the scope of Open Banking regulation addresses a broad range of data, so one can imagine richer information featuring in payments messaging standards, thereby enabling even more complex payments-related operations such as reconciliation. Broadening the concept further still, and we see consumers using this data to save better, manage debt more effectively, or gain access to cheaper credit through a more holistic understanding of their finances.

Open Banking can trace its origins to 2016, when EU regulators laid the foundations for the initiative by pushing for an opening of financial data. The resultant legislation

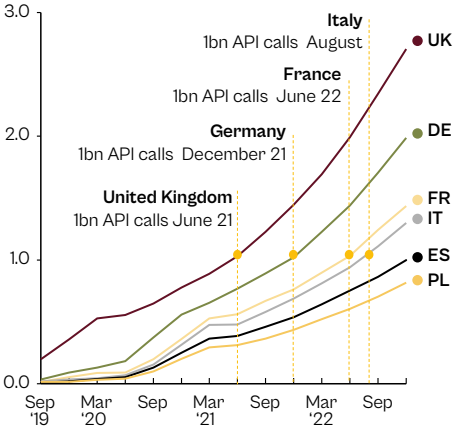
- known as the second Payment Services Directive ("PSD2") – came into force in January 2018 and, in the UK, the Competition and Market Authority ("CMA") mandated the country's leading nine banks to share customer data with third-party apps, under a scheme known as the "Open Banking standard". Since then, the UK has been a global trailblaser, and as shown on Chart 7, the UK has consistently led other European countries by some margin when it comes to the flourishing of Open Banking providers, as well as the volume of monthly API calls.

Chart 6: Open Banking Growth in Europe

Number of Third Party OB Providers Regulated by Individual Countries (%)



Volume of monthly API calls (# bn)



Source: McKinsey Open Banking Report, July 2021.

And the pace of growth is only accelerating: while it took over 10 months to add a million Open Banking users in the UK in 2020, in only took 4 months to add the same number in 2022. Today, Open Banking in the UK counts over five million users. The pandemic in particular saw a sharp acceleration in Open Banking payments: since one of the main use cases for Open Banking lies in integrating payments within eCommerce journeys to offer customers a more seamless and secure shopping

experience, the boost in online trade that resulted from lockdowns has served to propel Open Banking payments volumes further. As shown on Chart 7, while there has been normalisation effect as lockdowns were eased, the share of eCommerce volumes remains ~10% higher than prior to the pandemic.

Chart 7: Internet Sales as a % of all UK Retail

Internet sales as a percentage of all UK retail sales, 2006-2021

Source: Office for National Stattistics, 2021

Beyond its benefits for consumers, the advent of Open Banking payments has been a advantageous for merchants as well. Merchants have historically faced high fees for accepting digital payments, particularly from card-not-present transactions that are the subject of higher rates of fraud, and cart abandonment. With Open Banking payments, merchants can accept other (non-card) forms of payment more readily (e.g., Swish in Sweden), and also face lower fees. For instance, TrueLayer – a leading UK-based Open Banking platform – charges its merchants on average less than 1% of transaction value (which are ordinarily 2%+). Open Banking payments are also vastly more secure: leveraging PSD2's Strong Customer Authentication (SCA) protocol, customers authorise transactions through their bank directly, thereby avoiding any sharing of credentials with third parties otherwise involved in the transaction.

4. EVOLUTION OF BUSINESS MODELS

As the payments industry develops and becomes more competitive, market actors have been forced to think deeply about their value propositions and sources of differentiation. We have thus seen innovation in terms of both product and business models amongst payments players.

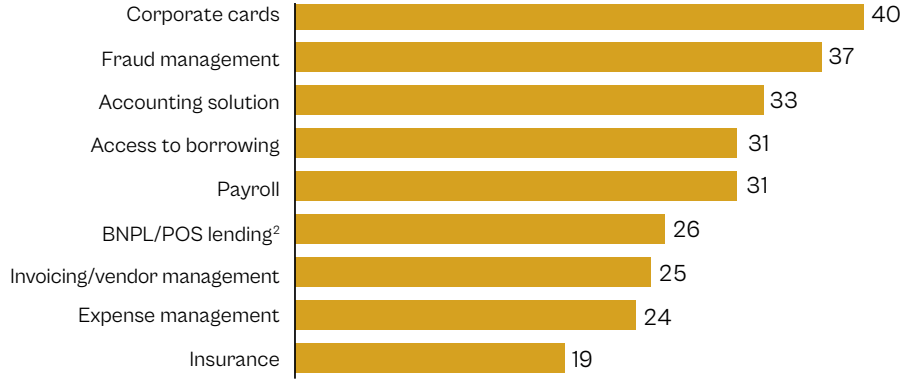
We have observed several shifts in the sector over the past few years, but two especially stand out: first, an increased emphasis on Value Added Service (VAS) offerings, and secondly the growing integration of payments and software. In this section we will explore these phenomena, outlining the causes for their emergence, as well as an overview of how these trends play out in practice, through the lens of case studies from Apis' own portfolio.

4.1. Growing Focus on Value-Added Services Offerings

As the payments industry matures and becomes more competitive, we have seen companies offering core payments processing services reduce the fees they charge merchants, the so-called Merchant Discount Rates (MDRs) or take rates for short, in a bid to increase market share. In that sense, payments have illustrated traditional commodity economics. With take rates reaching historically low levels, companies have been focused on developing new products to differentiate themselves from their peers and shore up their unit economics.

As shown on chart 8, while payments companies have traditionally been focused on helping merchants accept digital payments, the reality is that their merchants have many needs beyond payments acceptance e.g., corporate cards and fraud management – which are 1-step adjacencies for payments companies – rank amongst the highest needs for merchants. Amidst the growing competition in their core payments products, we have seen payments players develop new products that can be layered onto payments processing to maintain healthier overall economics.

Chart 8: Overall Demands of Small Merchants



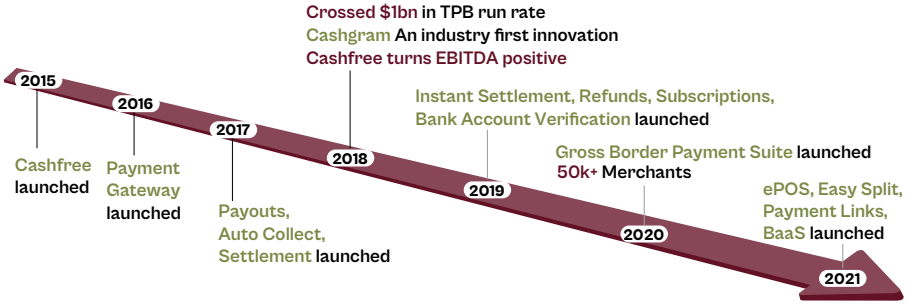
1 Small business defined as <$10 million in revenue; midsize defined as $10 million to <$250 million; large defined as >$250 million.
2 Buy now, pay later and point-of-sale lending.

Source: McKinsey 2022 Merchant Acquiring Survey

Cashfree Case Study

Apis invested in Cashfree in November 2020 after identifying the business as one of the leaders in product innovation in one of the most dynamic payments markets in the world, India. At the time of our investment, Cashfree had already made large advances in the Indian payments market and secured deep relationships with flagship merchants such as Livspace, Zomato, and Delhivery, while also demonstrating product development capabilities through regular releases of new offerings, as shown on the timeline below. The company has since continued to showcase is strong product development capabilities by developing a comprehensive portfolio of VAS offerings for its merchants.

Cashfree's Timeline



Cashfree's Product Portfolio

Value Added Services

Collect Payments

- Payment Gateway
- Payment Links
- Payment Forms
- Auto Collect
- Easy Split
- softPOS
- UPI QR Code

Recurring Payments

- Subscriptions

Make Payouts

- Payouts
- Cashgram
- Global Payouts

Verify Identity

- Bank Account Verification
- PAN Verification
- Aadhaar Verification
- GSTIN Verification

More

- Instant Settlements
- Instant Refund
- UPI Payment Gateway
- Card Pre-authorization
- Token Vault
- Advances
- Accounts
- Issuance

Snapshot of Cashfree's Performance

Single, unified platform
Customers scored monthly

~$15bn
Payments processed annually*

~700mn
Transactions processed annually*

~100k
Merchants on-boarded

EBITDA positive
For the past 4 years

* Fx Rate: 1 USD = 73.5 INR. 1. Oct-21 annualized run rate.

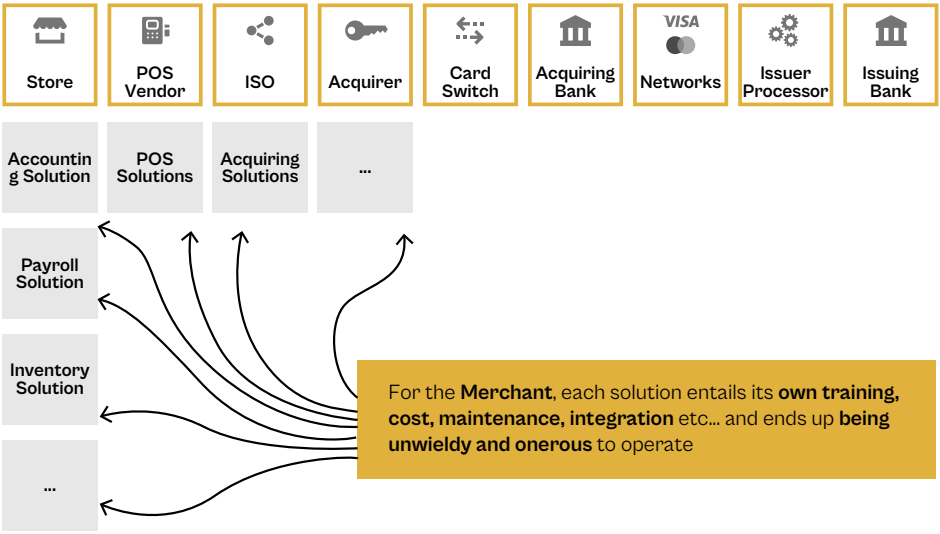
Source: Cashfree

4.2. Integrated Software Vendors: A Confluence of Payments & Software

Another key trend that we have observed is the convergence of payments and software. To further embed themselves and expand their value propositions, payment platforms are seeking to use their core competencies on digital payments to expand their merchant offering and become an "operating system" for their merchant clients. These payment providers seek to provide all payment services and relevant adjacent solutions (e.g., credit, payroll, etc.) integrated into a full-suite software platform. While payments as traditionally defined may comprise 5-7% of a typical merchant's software and services spending, innovative payments providers are well positioned to deliver solutions addressing needs constituting 40% of such expenses.

To understand this phenomenon, it is useful to take a step back and take the perspective of merchants: as shown on Chart 9, merchants currently manage several supplier relationships (e.g., payments providers, CRM vendors, and accounting package providers to name a few) to source the tools required to run their businesses.

Chart 9: Overview of Merchant Relationships



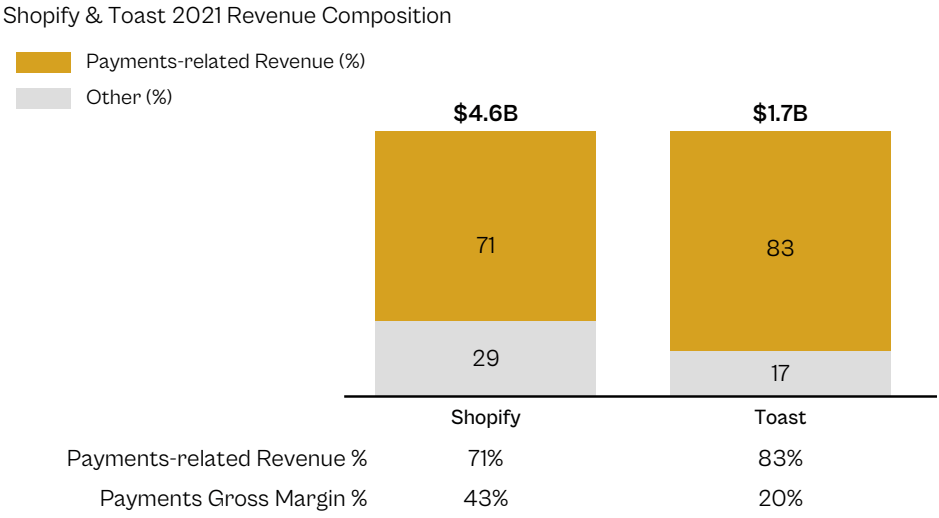
We have therefore seen the emergence Integrated Software Vendors (ISVs) which have tried to solve a range of merchant needs – bundling payments and Software offerings – through one simple comprehensive product proposition, effectively becoming that merchant's operating system. ISVs have often combined their approach with a Payment Facilitator ("Payfac") model for their payments offering, essentially standing in for the merchant in banking relationships.

The Payfac model has been instrumental in simplifying the merchants onboarding journey: the Payfac holds a main merchant account with banking partners and offers merchants sub-accounts on their platform thereby shielding them from cumbersome banking onboarding journeys. ISVs have typically taken vertical-specific approaches, focusing on merchants with a specific set of needs and developing solutions that are highly tailored to meet these needs. We have therefore seen ISVs focus on the verticals with the highest TAM, such as Hospitality (e.g., Toast) and eCommerce (e.g., Shopify).

Looking at the composition of ISV revenues, it is clear that the transaction-based revenues that they generate are quite meaningful. As shown on Chart 10 below, Shopify generated over two-thirds of its total revenue from its payments-related solutions, principally comprised of card processing and FX conversion fees. More impressive still, approximately 80% of Toast's revenues are predominantly payments-related. The likes of Toast and Shopify have also been able to enjoy higher margins by targeting smaller merchants: while large enterprise clients typically have their payments pricing determined on an "interchange-plus" model (i.e., the card issuer's fees plus a small margin for the payments processor), smaller merchants are much harder to service and are therefore better insulated from approaches from competitors.

Through this combination of Software and payments, ISVs have been able to combine the benefits of Revenue visibility from their Software subscriptions with exposure to merchant growth through their transaction-based payments revenues. Furthermore, by serving a broad range of a merchant's needs, once ISVs are integrated into their merchants they become deeply entrenched in the latter's workflows and therefore enjoy lower churn and greater customer lifetime value versus traditional payments players.

Chart 10 : Composition ISV Revenues



Source : Bain

GAAP case study

Our belief in the potential of ISVs is manifested in our 2020 investment in GAAP, a South African Quick Serve Restaurant ("QSR") and Hospitality software provider. At the time of our investment, GAAP was already the leading ISV and POS provider to the Hospitality and QSR segments, serving over 7,000 customers. In parallel, Apis also held a stake in Adumo, the largest independent merchant acquirer operating in South Africa, servicing over 25K active clients with over 50K POS machines and US$ 4.8 billion in transaction value processed. Our perspective on the rise of ISVs drove us to combine the businesses, with a view to offer bundled payments and Software offerings to GAAP's entrenched stable of blue-chip customers. As these restaurants were previously being served by local banks for their payments needs, there was a clear opportunity to offer them a more tailored and comprehensive offering to meet their Software and payments needs.

The combined offering has had resounding success in the market, with a leading share. The business is growing 25% month-on-month and the company continues to execute on its product roadmap, offering its customers an increasing range of hardware and software solutions to meet their business needs.

GAAP Product Portfolio

POS Systems

Make your goals a reality with a comprehensive Point-of-Sale solution that includes hardware and software designed around the needs of your operation as it grows.

Self-service Kiosk

Modernise your space with a self-service kiosk system to create interactive touchpoints that make ordering in-store fast, efficient and cut the queues.

Payment Solutions

Don't limit your operation to a cash business while taking the hassle out of card payments with a tailored solution designed with customer support in mind.

eCommerce Solutions

Expand your business and conveniently reach your customers with an eCommerce platform built from the ground up to augment your operation and boost turnover.

Digital Menu Boards

Convert your static menus into high-definition animated digital real estate and increase sales, reduce costs and grabs your customer's attention with Digital Menu Boards.

Drive Thru Systems

Offer the ultimate guest satisfaction to your customer with minimal waiting periods with a robust Drive Thru solution that speeds up services and convenience.

Paging systems

Our Paging Systems are ideal for clients who recognise that customer service and the customer's experience is key to their business's success.

Cloud Service Suite

Take your operations to the next level and bridge the gap between your in-store set-up and keeping your finger on the financial pulse of your business.

3rd Party Integration

We continue to closely work with 3rd parties to ensure our systems can be integrated with a wide range of applications to expand your systems capabilities.

Key Learnings for Launching a QSR-focused ISV

Go-To-Market capabilities:

The product is more complex than a standalone software offering. Ensuring that complexity is overcome requires training to ensure that the Sales teams are fluent in both the Software and Payments capabilities. Customers will often enquire about the Payments offering with their existing solutions in mind, and Sales teams need to gain an understanding of typical Payments contracts to effectively articulate the comparative benefits of the ISV solution to their customers.

Product and Support integration:

Tech and Product teams need to seamlessly merge with a view to forming a cohesive whole that can deliver a slick customer experience at key touch-points, e.g., during product support requests. The value proposition is that of a one-stop shop and that aspect must be perceptible to the customer at each step of their journey, which means overcoming internal organisational and technical challenge

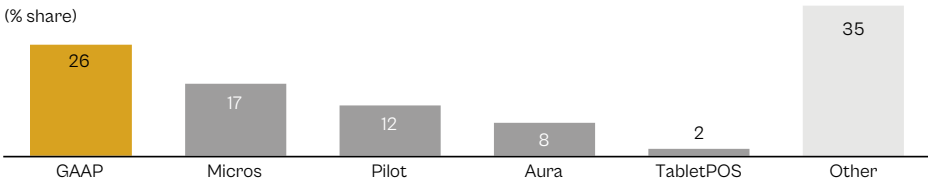
Seasonality Management:

While software offers smooth base revenues through a subscription model, payment businesses are more prone to seasonality. With payments volumes scaling faster than software, the combined business increasingly takes on seasonal features. The business therefore needs to think about the implications of seasonality across a range of areas, from staffing, to cloud infrastructure, and how these can scale up or down, in line with demand.

Snapshot of GAAP's Customer Base

Source: GAAP

South African QSR Hospitality POS Market Share



Note: Directional estimates obtained at time of investment

Source: GAAP

5. BUSINESS MODEL THEMES GOING FORWARD

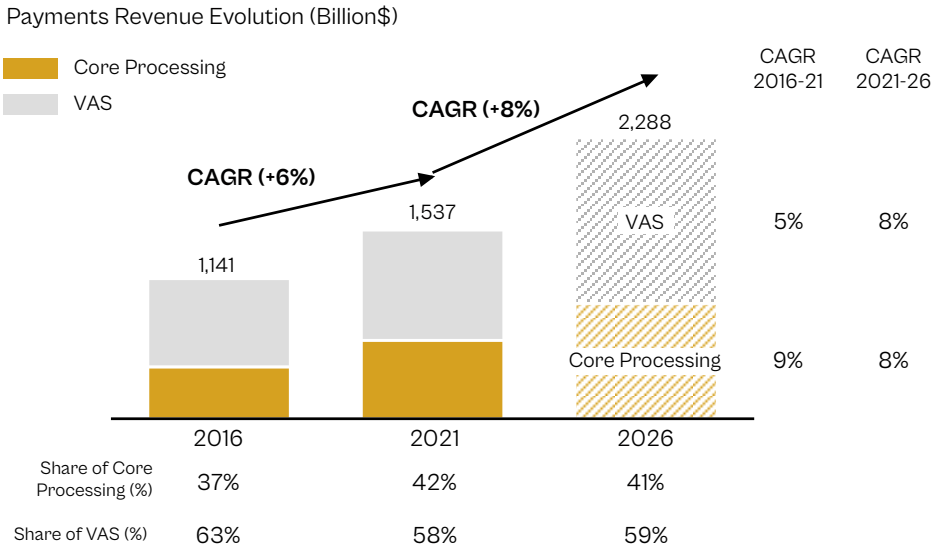
The dramatic transformation of B2C payments in recent years shows the impacts of replacement of cash/paper checks by cards/mobile wallets, greater digital commerce penetration, and broader digital payments acceptance (supported by the proliferation of POS solutions).

Within this broader trend of digitisation, we do expect to see some sub-themes play out, namely a continued shift towards Value Added Services, an increasing focus on SMEs as digital payments adoption deepens, and lastly, new opportunities for investors to transact as we witness a broader resetting in capital markets.

5.1. Continued Shift Towards VAS

As outlined earlier in this paper, payments companies generate revenues through both core payment processing activities, as well as VAS (e.g., early settlement, reconciliation, etc...). BCG's analysis on Chart 11 highlights that historically we have seen core processing growing at ~9% CAGR and VAS at ~5%. Going forward, while we expect core processing to maintain its momentum, an acceleration in VAS Revenues as the result of two main factors is anticipated. On one hand, as the industry matures, we expect to see continued compression on the take rates for core payments processing. Players will therefore increasingly be looking to bulk up their VAS offerings to maintain sources of growth. On the other hand, as we enter a higher interest rate environment, we expect to see greater monetisation of VAS as these include credit-based products (e.g., merchant lending) which will benefit from higher interest income.

Chart 11: Payments Revenue Evolution

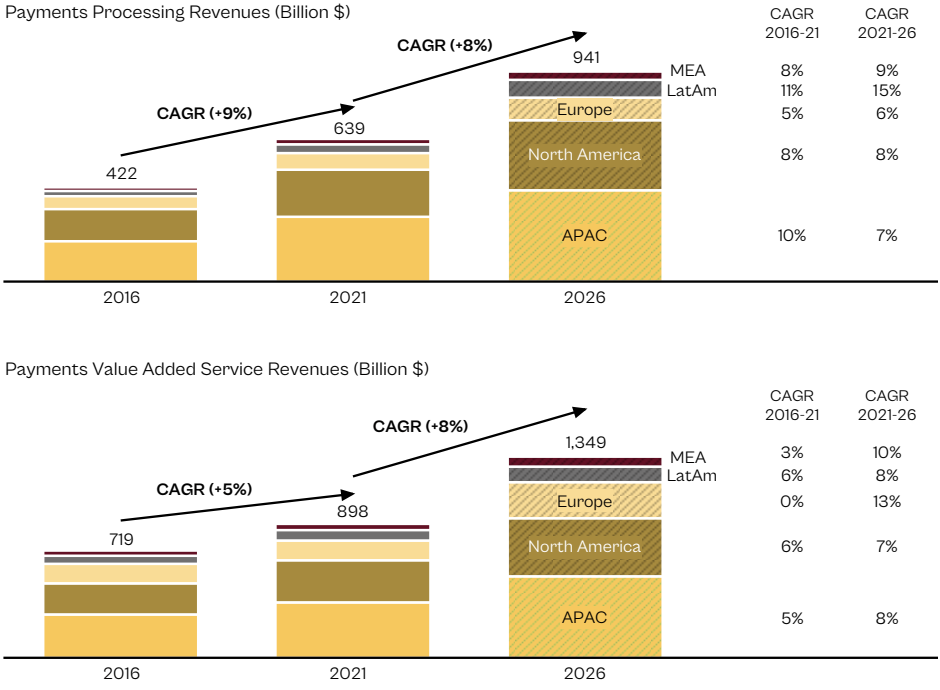


Source: BCG

However, while this shift in balance between core processing and VAS revenues will be observed at an aggregate level, regional differences will continue to manifest themselves. While all markets will generally maintain growth momentum, Europe, Latin America and the Middle East & Africa regions are expected to meaningfully accelerate growth in some of their segments. In Europe, the growth is predominantly expected to result from higher interest rates affecting credit-based VAS offerings. In addition, as Europe continues its push for digitisation of payments through initiatives like Open Banking, we expect to see growing volumes offset margin compression, resulting in a slight acceleration in core processing volumes. In the growth markets of Latin America and the Middle East & Africa, growth is primarily due to the various initiatives under way in these markets to displace cash. Core processing revenues are therefore expected to grow faster, with new offerings emerging to provide merchants with additional services (VAS).

APAC – the world's largest payment region - is the only market where a slowdown in growth of core processing revenues is expected. As payments increasingly become treated as a "utility" in these markets, pricing is expected to come down despite continued growth in volumes. VAS is however expected to see an acceleration in this region as well largely due to the same effect of innovation seen in other markets. Overall, APAC is expected to see slightly faster growth than in the past and the market is expected to retain its crown as the largest payments geography globally. Lastly, North America is expected to continue on a similar trajectory as in previous years on both VAS and core processing revenues, with shifts to card-not-present and recovery of travel helping to maintain a floor on margins and fighting off a slowdown of the sort we are seeing in APAC in core processing.

Chart 12: Payments Revenue Evolution



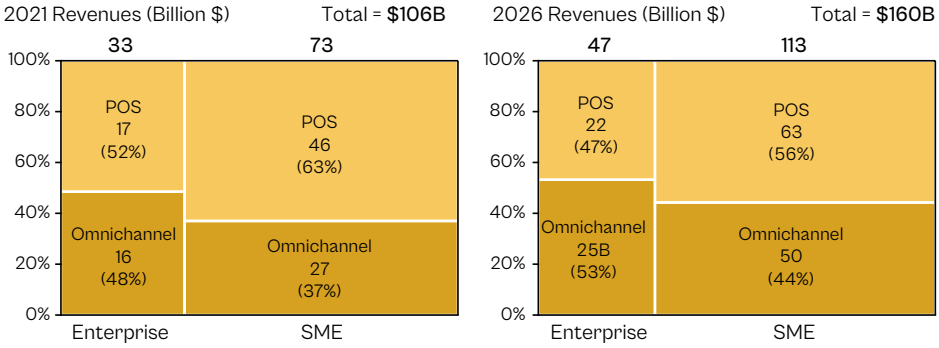
Source: BCG, Global Payments 2022

5.2. Increased Focus on SMEs

As discussed earlier, enterprise merchants are attractive in that they allow payments players to secure large processing volumes through single customer integrations. This attractiveness does however come at a price and we have seen take rates for larger customers become very low. In contrast, SME customers – who are often tough to reach and onboard – do offer a promise of healthier margins as they are less competed. However, onboarding merchants involves minimum fixed customer acquisition costs (CAC) – e.g., Sales costs, KYC costs, system integration, etc - which are harder to recover when low transaction volumes limit the amount of gross margin available to recoup these costs. The result is therefore higher pricing in order to service SME merchants profitably.

That said, solving the efficient distribution problem is no simple feat, and scaling across an SME customer base while keeping CAC low enough to have payback periods in within reasonable time periods involves masterfully orchestrating technical, sales, and product capabilities. But the rewards for conquering this challenge are handsome: as shown on Chart 13, the SME market is already estimated to be more than twice the size of the large enterprise market. Going forward, it is expected to continue growing faster – 9% CAGR vs. 7% CAGR for large enterprises – as a result of SME merchants seeking to develop their omnichannel capabilities. Given the size of the addressable market and the opportunity to build moats around specific merchant sub-verticals (e.g., QSR), we expect to see a host of players focusing on capturing a share of the attractive SME market.

Chart 13: Evolution of SME and Large Enterprise Revenues



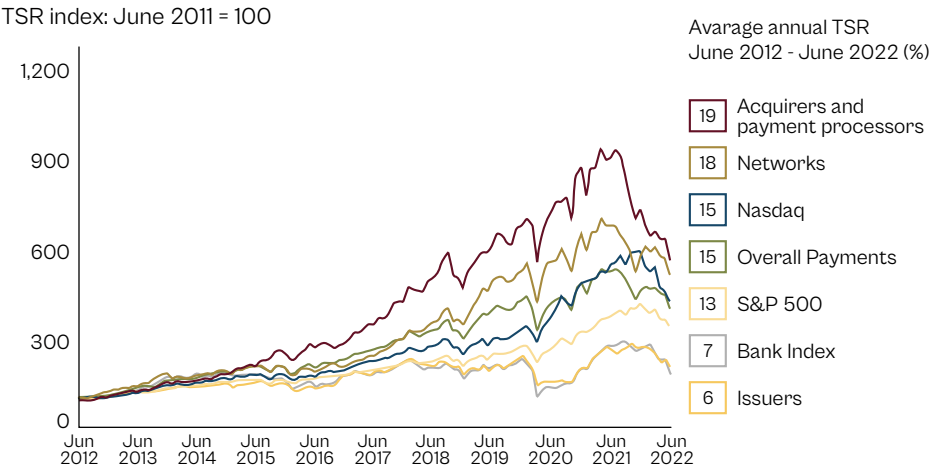
Source: BCG, Global Payments 2022

5.3. New Investment Opportunities Following the Market Reset

Public equities markets have recorded stark corrections in recent months and fin-tech investments have been particularly affected by the vagaries of markets over 2021-22. Having enjoyed over a decade of strong performance in perhaps one of the most impressive bull runs in modern history, it is now clear that investor perspectives on (fin)tech stocks are maturing, and a page is being turned on the era of exuberance. As shown on Chart 14 below, while there are pockets of outperformance (mainly in the acquiring and processing space), on an aggregate basis payments companies have only marginally beaten indices over the past decade.

This reset is important and has significant ramifications in the markets which we operate in. From methodologies that ignored unit economics entirely, to extremely elevated valuations or valuation comparisons with vastly different businesses, these last few years have created a uniquely challenging environment in which to "buy well". Going forward, we expect to see the public market correction percolating into private markets. And while this adjustment does take time, this adjustment is sure to translate into lower valuations in private markets. We are as a result excited about having the opportunity to engage – and in many cases re-engage - with businesses that we feel have tremendous potential, on terms that offer us the opportunity to provide healthy returns to our investors.

Chart 14: Payments TSR



Source: BCG, Global Payments 2022

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