



Foreword

The past five years have brought increasing change to the world of cross-border payments. The trusted and tested correspondent banking approach has encountered challenges from emerging alternative solutions and new players upending some of the industry's fundamentals. The nature and direction of these changes, however, remains unclear in many cases.

SWIFT and McKinsey & Company jointly undertook this piece of research not to focus on the cross-border industry's past, but to set out a view of how the industry could develop if certain emerging trends take root. For this effort, we leveraged the collective experience of both organizations, and interviewed leaders from firms engaged in international payments. These interviews—conducted individually—included representatives from banks, established nonbank providers and relative newcomers, representing

multiple geographies. To encourage a frank exchange of ideas we assured anonymity of responses. While we found consensus in most areas, there was no shortage of provocative ideas or alternative viewpoints.

Our ambition with this effort is not so much to establish the facts of a new reality, but rather to foster a discussion on the future and the forces poised to shape the industry over the next decade. We hope you find these perspectives thought-provoking and informative.

Harry Newman

Head of Banking SWIFT

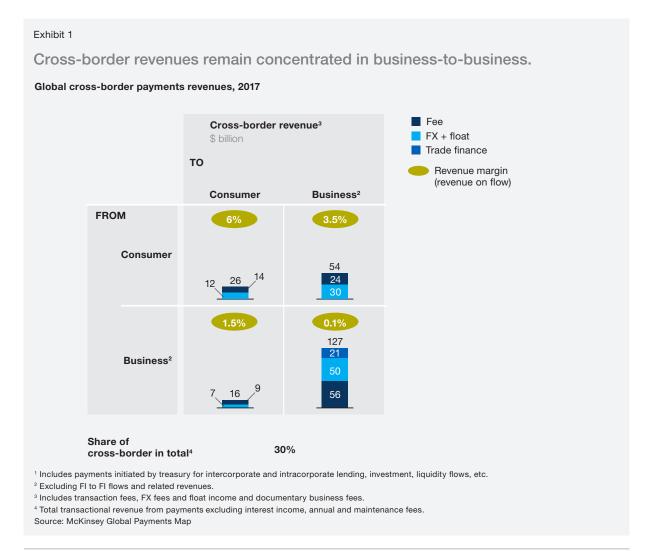
Olivier Denecker

Partner
McKinsey & Company

The future of cross-border payments

International payments have long served as the engine enabling cross-border trade and investment, and have been instrumental in the emergence of today's global economy. An extensive list of requirements—a ubiquitous network of trusted parties spanning the entire world, substantial regulatory and technical infrastructure, and a mandate for ample liquidity—have historically made banks the natural "owners" of the cross-border market (augmented by some specialized firms active mostly in tertiary remittance markets).

Margins have traditionally been robust in cross border; and occasional price pressures have weighed on margins, but not to the extent of requiring radical cost transformation observed in domestic payments. Cross-border flows represent only one-sixth of total transaction values, international payments revenues total up to \$200 billion globally, split roughly evenly between transaction fees and foreign exchange (FX) revenues. This equates to 30 percent of global transaction revenues and is increasing by 6 percent annually (Exhibit 1).



¹ McKinsey Global Payments Map

Today, the global cross-border payment landscape is at the center of a number of trends that could fundamentally change competitive dynamics: increasing pressure from emerging technologies (including distributed ledger technology—DLT—and card and network innovations); shifting regulatory and sanctions frameworks; accelerating international commerce (retail as well as corporate); and, especially, changing customer demands. In addition, firms new to the cross-border market, such as TransferWise, Alibaba and Amazon, are increasing competitive pressure on incumbents.

Although estimated revenue per cross-border transaction remains healthy at more than \$20,² evidence of changing dynamics and increasing pressure in the most established segments (such as B2B and remittances) is growing and becoming increasingly commonplace across the value chain. With these trends occurring against a background of growing investment needs and compliance challenges, the industry needs to engage in a strategic reflection on a vision for the future of the industry.

Given this outlook, we aim to look beyond next year's incremental changes, exploring a world where international payments dynamics are fundamentally altered; where increasing customer demands serve as the catalyst for technology replacement, and new partnerships and economic models change service provider expectations.

While this radical future may not yet be a reality, we believe there are eight longer-term trends for which there is significant supporting evidence (Exhibit 2). Even if these trends do not play out in full, or exactly as described, the market's direction is clear and will shape a new future for the sector.

There will be many more cross-border payments than today, but growth might not come from the expected sources

Despite geopolitical turmoil, strong global GDP and associated trade growth will continue to drive increases in international payments (Exhibit 3, page 6). Today, there are 0.7 annual cross-border transactions per capita on average globally (up from 0.5 in 2014) and total cross-border payments value averaging 1.8 times global GDP. This multiple varies markedly between geographies, however, ranging from 0.7 of nominal GDP in Latin America to 5.50 in Western Europe.

Large value credit and capital transfers have experienced narrowing FX margins. At the same time, ongoing uncertainty and the accumulation of international barriers, compliance and cyber risks, coupled with growing mistrust among countries exemplified by sanctions, compliance norms, trade wars, and declining correspondent relationships, are all adding to the cost and complexity of offering cross-border payments. The resilience of the global economy has enabled this category to show continued growth, although we expect it to slow from 6 to 7 percent to 4 to 5 percent in the coming years. Overall, business-to-business (B2B) transactions remain the most relevant category. According to one of our interviewees, "While the cross-border payment market might turn out to be smaller one year from now, in ten years it must be substantially bigger than today."

This implies that the industry's accelerated growth is being driven by a handful of key factors, in particular:

² Across all segments, including niche corridors, all payment methods, all values and any fees.

Exhibit 2

Our fundamental beliefs on the likely nature of change in cross-border payments.





Shifting growth: We expect growth to shift towards new corridors and segments (from trade to commerce)





Customers rule: Customers will define the nature of future services, not providers





experience. fragmented production:

Fragmentation of the value chain will continue, but it will be integrated into user solutions; differences in production might not be visible to end users





Single Global Payment Area, desired, but unlikely: While benefits of a single market and set of rules is recognized, global geopolitics make this increasingly unlikely





Solutions for fragmenting standards:

Differentiating payment solution continue to emerge, thus focus may shift from standard setting toward creating connections between different infrastructures and payment solutions





A one-dollar transaction could become profitable, for some:

Making international payments as efficient as domestic payments is unavoidable as revenue models shift





Liquidity differentiates: Even in a time of

low interest rates, banks' capacity to provide liquidity to large volume and value payments can not be overlooked as a source of differentiation



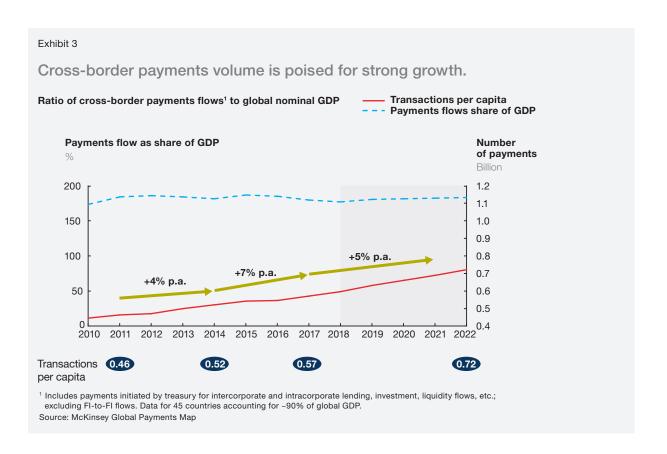


Regulatory level playing field? Who cares!

A level playing field, including non-banks, remains elusive as regulators are focused more on customer concerns than on competitive concerns

Source: McKinsey Global Payments Map

- Retail remittances, sustained by increasing migration flows as well as more mobile affluent classes. For instance, China's middle class will more than quadruple from roughly 20 million today to 85 million by 2022. This group's increasing international focus also leads to cross-border education and bill payments exceeding traditional remittance growth. The growing purchasing power of these internationally mobile consumers is also driving up average remittance values and advancing growth of digital solutions (instead of cash).
- Global ecommerce: Fifteen to twenty percent of e-commerce transaction value in absolute terms is already international. This trend is steadily progressing across B2B and C2B use cases, driven by low-cost transport, small-item purchases, increasing comfort with transaction security, and the general easing of red tape. Cross-border payments growth is particularly compelling in marketplace payments and the gig economy. Amazon, eBay, Expedia, and Airbnb are the drivers behind travel and e-commerce, comprising around 50 percent of



the marketplace disbursements space, while niche players like Etsy and Upwork are also growing strongly—fueling cross-border commerce and employment and driving C2B, B2C and business-to-small-business payments.

business. SMEs have long comprised a lower share of cross-border payments than their share of GDP would indicate. Although scale will continue to pose challenges for the international presence of SMEs, breakthroughs may be on the horizon as SME's access to affordable international payments improves. The SME segment stands to benefit the most from cross-border payments' convergence and simplification—given that larger corporates have long had access to most of these capabilities. Solutions like SWIFT's gpi and Mastercard's B2B Hub are

providing more flexible and SME-appropriate payments options.

For large corporates, the increasing specialization and internationalization of value chains will continue, despite potential trade barriers. Aided by increasing payments transparency, more robust trade and international supply-chain finance platforms, and improved logistics, these trends will lead to the shift of a growing share of large corporate payments from domestic to international. Many of our interviewees see the integration of large corporate platforms as a natural evolution. According to one executive, "A multitude of specialized use cases are likely to emerge based on the 'consolidated infrastructures,' with unified back-end providers delivering solutions to a multitude of smaller front-end players."

At the same time customers are increasingly demanding transparency, specifically in trade to disbursement and "request to pay" transactions. Such sales totaled \$300 billion in 2015 and are poised to exceed \$900 billion by 2020. The situations creating momentum for international disbursements are not so much traditional use cases like centralized payroll or corporate benefits, but rather marketplaces paying their global participants, wallets collecting for international merchants, and the centralization of customer care (including claims).

2. Customers, not providers, will shape future services

International payments used to be defined by agreements between banks for B2B payments or, in the case of remittances, outlined by a few key providers. It is interesting, however, to imagine a market in which customers set the expectations and standards. How would the customers design such international payment solutions?

In McKinsey's view, customers are seeking a seamless and transparent experience. If people value real-time payments experiences domestically, there is reason to believe they will value them in an international context as well. Examples of services that customers value include reliable payments delivery, access to preferred payments methods, and the ability to track exchange rates and schedule payments based on this info. These services are already available for remittances, and will become increasingly so for cross-border bill payments and other use cases as well.

While large and multinational corporations have always aimed to seamlessly connect to banks for international payments needs, they have usually consented to use only the limited number of payments partners/rails/standards integrated with their enterprise resource planning (ERP) systems. Increasingly, this is a simple hygiene factor. Instead, corporates expect the data embedded in payments transactions to link into any ecosystem in which they participate. In the future, payments will be open-system based and embedded within corporate processes. At the same time, banks may need to be wary of platforms or layers involved in corporate ERP systems or buyer-supplier networks. Service providers in these layers hold the potential to become the new decision-makers or solution integrators determining who will process the payment, whether based on price or convenience (Exhibit 4, page 8).

SMEs in particular need easier access to international payments.³ In the age of the smartphone, standards are no longer set exclusively by traditional brick-and-mortar correspondent players. Even in the corporate space, the end-to-end experience has gained importance relative to individual factors such as price, speed, and time. Ecommerce is a key channel for smaller retailers, either directly or through platforms such as Rakuten or Amazon.⁴ And unlike those large players, smaller retailers seldom have on-the-ground infrastructure that utilizes local payments, instead relying on international payments channels (including credit cards).

Retail and corporate customers want transactions to be adapted to the use cases and the contexts to which they are applied. Small-value one-click payments, or platform solutions for SMEs, are about seamless integration, while large transactors expect faster options, delivery guarantees, and solutions embedded into their processes; for example, trade or procurement,

³ Add citation to earlier McKinsey report.

⁴ Money Mover Research – 43 percent - details on citation to come.

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Customers will determine future services, not providers.							
			Accelerated growth				
		То					
	Cons	sumer	Business				
	Services	Example providers	Services	Example providers			
Consumer	Low-value remittances	Western Union, PayPal, Mastercard	Ecommerce	Ant Financial, Mastercard, PayPal			
			Online marketplaces	Ant Financial, Banking Circle, Amazon			
			Bill payments	Western Union, PayPal			
	High-value remittances		Physical POS	Mastercard, PayPal			
		TransferWise, Revolut	Verticals (e.g., health, education)	Flywire, PayPal			
	remittances	rievolat	Loan repayments	Mastercard			
rom			One-time payments/ investments				
	Dividends and interes	est payments	Treasury				
	Marketplace disbursements	Payoneer, Hyperwallet	SME trade	TransferWise, PayPal			
	Salaries						
Business	Verticals (e.g., pensions, legal)	Western Union	Corporate trade	SWIFT gpi			
	Social benefits		SME investment	Western Union,			
	Refunds	Mastercard, PayPal		PayPal			
	Claims		Corporate investment	SWIFT ani			
	One-time disbursem	ents	55. porato invocament	Gvvii i gpi			

including the ability to add currency-hedging options. Enabling such functionality may entail closed-loop solutions.

The push for transparency, speed, and lower transaction cost is leading to a shift from bulk transactions to individual processing, which is more likely to be spread across a variety of payments rails. This results in fragmentation across payments rails, lowering average values

and increasing the number of transactions. It also reduces required liquidity for many players, further pushing growth and inviting entry of non-banking firms. Examples include Hyperwallet, which creates customer journeys based on set characteristics, which emerging marketplaces can use to pay their consumers or small business sellers. Exception items are particularly relevant for large corporates, whose nostro/vostro liquidity requirements remain large.

Security and choice remain paramount—not only for large value transactions, but for smaller ones as well. In this context, transparency and real-time execution need to coincide with audit protocols and transaction recall rights, while also meeting customer expectations. The need for choice differentiates today's landscape. Customers will no longer settle for a single payment option at a set price; they want a choice of payments methods, speeds, and costs.

3. There will be a single integrated experience, no matter how fragmented the value chain

It is easy to imagine a world in which most payments could be completed through a variety of alternative payments rails, as users perceive ever fewer differences between card payments, correspondent transfers, new options like Alipay and PayPal, or emerging distributed ledger technology-based exchange mechanisms. Customers could then pick and choose among solutions, opting, for example, for low-cost rails or providers that offer specific services (like FX), linking them to different purchasing journeys. Access to these payments rails would in turn be provided by an increasingly differentiated set of players. The value chain might fragment, but the customer would hardly notice.

Examples include bank partnerships with high-value remittance specialists to power their smaller-value international payments. While this approach may initially be restricted to C2C and ecommerce, it will eventually mean that even large corporates would not be required to differentiate between bank rails and newer solutions.

It is imperative that the customer experience is integrated, with seamless integration into corporates' back-end systems, with commerce and trade platforms (e.g., booking and accounting

software), and with trade channels. The rails for "clean" payments (those that process without exceptions) will in many cases disappear behind these trade platforms, with rail choices dependent on services provided: for those who want charge-back and delayed payment, card rails offer a suitable solution; if there is a need for substantial reconciliation data, SWIFT remains the solution of choice; and if the beneficiary is in today's ecosystem, a closed-loop payment can be used. Customers will make choices based on the service they prefer, not on the underlying infrastructure. Payments solutions that can't guarantee clean execution will struggle, possibly migrating to a "legacy" category of solutions, as checks and drafts have done in domestic payments.

4. A Single Global Payment Area may be desirable, but is unlikely

The creation of a Single European Payments Area (SEPA) created substantial benefits for trade within Europe, at the same time generating positive momentum for payments providers, particularly regarding efficiency. From a customer service, efficiency, and transparency point of view, it is likely that a Single Global Payment Area would deliver similar benefits, particularly in a world where "open banking" has become standard.

However, in the words of one executive we interviewed on the topic, "the idea of global macro-harmonization is still utopian." While many regulators are pushing for the adoption of aspects of open banking, the alignment necessary to create a single common regulatory and market supervisory agenda is unlikely to be realized in the near term.

Given the volatility of present-day trade relations and the pushback against globalization on several fronts, regional schemes may hold an

advantage for the time being. This is true for card schemes, where local initiatives are regaining ground, but also for clearing solutions, where multi-country initiatives (such as P27 in Scandinavia) are creating momentum for a shift away from domestic schemes, and also from global/pan-regional efforts. Recent appeals of political leaders to create regional payments and trade platforms, and to create more resilient regulation in other areas of the world or in other currencies, push in the same direction. While not a desirable outcome, payments service providers will need to address the trend toward localism as they develop new interoperability solutions.

5. Will solutions be needed for fragmenting standards and infrastructures?

Clarity and uniformity of standards have been essential preconditions in global transaction banking, and are part of the core mission of organizations like CLS and SWIFT. However, the nature of global interoperability will inevitably evolve, driven by diverging customer requirements, fragmenting global trade rules, and the multiplication of technology platforms and acceleration of innovation. Meanwhile, the healthy growth of numerous payments methods—both via corresponding banking and even faster-growing alternative methods—seems destined to continue.

Solution focus may change from common standards to secure and easy interoperability to cater to this emerging fragmentation. Consequently, global infrastructure players may need to expand their focus from standards setting toward creating connections across various (external) infrastructures, communication standards, and payments rails. Moreover, the fragmentation across payments rails does not hold across all cases. Consolidation within channels is still favourable as scale remains a decisive factor.

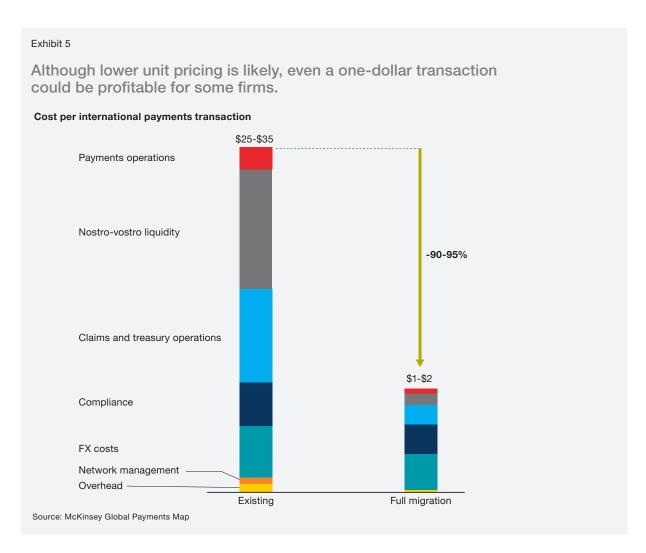
Firms that embrace this scenario and respond quickly will be well-positioned to provide customers with access and security; that is, full connectivity through APIs across multiple payments rails (e.g., cards or local closed-loop systems) and to manage compliance across multiple jurisdictions. Standardization itself is becoming more difficult as the speed of innovation increases, so the importance of these intermediate layers will increase. However, the existence of alternative solutions will make it easier to gradually test and implement new standards, rather than having to fix them in advance.

6. A one-dollar transaction could become profitable

Transaction prices for international payments are under increased pressure, mimicking to some extent the recent trajectory of domestic payments. To date most cross-border payments continue to carry price premiums, justified by their underlying complexity, regulatory constraints, and value-added services such as FX. However, if the current trajectory holds, we envision an end state in which the base price of international payments will continue to decline, with even micropayments being executed profitably. In reality, some providers, particularly fintechs, are already moving toward the \$1 target today, though mainly for narrow solution corridors that may be difficult to scale.

The true \$1 scenario could become true, however, under two conditions (Exhibit 5):

The "average" applies only to "normal" cross-border transactions. Higher price points will persist for specialized or out-of-norm transactions, with extra charges applying for premium service levels. Already today, "clean" payments on main corridors (such as USD/EUR) occur at very low rates and for certain

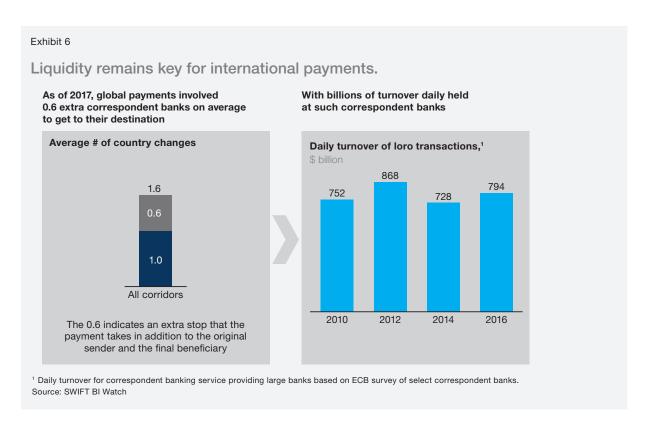


use cases closed-loop solutions can be applied. As cross-border payments volume continues its rapid growth, the share of clean transactions will also increase.

The cost of providing international payments can be reduced to a level comparable with domestic payments, particularly in areas such as exception handling, liquidity management, and claims and treasury operations. This will require new approaches to fraud, anti-money laundering, and straight-through processing (STP) requirements, enabling costs to decline in parallel with prices.

The ability to price effectively for high-touch niches and exception items, thereby differentiating commodity from service-based pricing, combined with an aggressive stance on efficiency for standardized payments, will allow providers to realize margins on a par with historical levels, even as top-line revenues decline. This will require a fundamental commercial and operational redesign of many incumbents' businesses, however.

Our interviewees agreed that "premium banking and pricing for professionals will continue," and that "price competition will increase strongly in the B2B context." However, consensus seemed



to be that a \$1 price in B2B "is unlikely within five years, although the gap is narrowing."

7. Liquidity cannot be overlooked as a source of differentiation

Most new non-banking firms in international payments promise a better transaction experience or FX proposition. With few exceptions, however, these firms cannot accommodate liquidity requirements necessary to manage large or intense payments flows such as international trade, direct investments, or high-volume commerce. Banking executives should bear in mind that their ability to move large amounts of money across multiple currencies is very difficult for firms without balance sheets to emulate (Exhibit 6). This also implies that an interbank network remains necessary to sustain these large global flows; in fact they are employed by many of the alternative providers to enable the aggregated

transaction processing that sustains their efficient smaller transactions.

Since only banks can sustain these large transactions, and this service is a prerequisite for market evolution, opportunities arise for banks not only in optimizing prices for these transactions, but also in crafting improvements to global settlement schemes, possibly including consolidated nostro/vostro set-up, more effective cash management, and quicker transfers. This may also address issues such as differences between geographies in corporate current account balances and interbank balances vs. GDP.

8. A level regulatory playing field remains elusive, but there is progress

Despite new technologies offering more transparency and control, including to regulators, banks will need to continue to invest in regulatory initiatives, likely driving compliance costs up to as much as 10 percent of revenues. Recent cyber events and growing money-laundering concerns have raised costs for all banks, at times resulting in smaller banks losing the status to maintain connection to larger correspondent banks.

Non-banks, on the other hand, have until now enjoyed lower compliance spending requirements (averaging 3 to 5 percent of total revenues), having experienced fewer fines overall and lacking risk-based direct-clearing relationships to maintain. Non-bank firms have collectively paid about \$65 million over the past three to four years as fines for AML and FX irregularities spread across a large range of players; banks, meanwhile, have been fined over \$1.5 billion in the first seven months of 2018 alone – mainly accruing to a handful of institutions. Over time, the regulatory pressure on banks and non-banks is likely to converge. Recent initiatives such as PSD2 in Europe and open banking in the UK impose some degree of supervision on these new firms (while also increasing compliance costs for banks), although still not at par with banks running similar businesses.

On the other hand, smaller or less involved banks are increasingly finding options to reduce regulatory pressure, for example by working with fintechs to tap into regulatory arbitrage or by working with other banks to build utilities to insulate against payments standard changes, incorporating compliance terms and aligning with changing payments infrastructures. At the same time, pure payments players are entering the regulated banking world, often by getting banking licenses, as PayPal and Adyen have done. While firms like these that are new to the cross-border market may not plan to offer all banking services, having a license allows then to have an active dialogue with regulators.

Our executive interviews revealed the desire for regulatory distinctions to be made across the value chain. "Regulation will really have to differentiate between the 'front end' and the 'back end.' On the front end, players should really be treated like tech companies, looking a lot at the 'data' aspects, with lighter requirements as to AML/sanctions, in order to stay effective and agile. The back-end should be more 'ringfenced,' in particular with regard to balance-sheet commitments, counterparty exposure and liquidity. This is the place to apply more "Basel-type" regulation and compliance logic."

While the regulatory environment for banks, payments specialists-cum banks and non-banks may not merge entirely, the result of these two shifts would be that the competitive advantage from regulation for non-bank players will gradually erode.

Harnessing the opportunity

We may soon live in a world where not only large corporates, but also retailers, SMEs, and individuals use international payments regularly, using a range of solutions and providers through integrated commerce or trade interfaces. Execution will be smooth, particularly for regional business. Extra services (such as FX quotes or hedging) will generate additional revenue, supplementing reduced price points for basic services.

Although a Single Global Payment Area is not likely to emerge any time soon, parties should nonetheless be able to pay everywhere, despite varying standards and infrastructures. As one interviewee observed, "There will be much stronger parallels to consumer behavior going forward; one can already see Apple's impact on domestic payments and digitalization; the rumoured 'consumerization' of business payments is happening."

Despite pricing pressures, the introduction of new players and models, and the need for back-office transformation, banks will continue to play a role in cross-border payments and may even flourish as the intensity of change increases.

For today's cross-border leaders, and potential entrants, we see several imperatives for success:

- Understand future revenue models
- Revisit client propositions
- Upgrade the engine room
- Explore collaborative solutions
- Establish a clear role in the value chain and establish a partnership ecosystem

Understand future revenue models

И волки сыты, и овцы целы/Both the wolves have eaten much and the sheep have not been touched – have your cake and eat it

Or: Think beyond pricing for profits and treat the customer holistically

By 2025, per-transaction pricing for cross-border payments will have eroded to a fraction of their historic levels, even for large value transactions, making low single-digit dollar transactions a likely outcome. Such developments have been seen in other industries, such as the cross-border telecommunications "roaming" model of the 2000s, where the industry displayed an efficiency gain of 40 to 60 percent between 1995 and 2005. Empowered by the availability of VoIP solutions, large clients now pay close to cost-plus arrangements, which have fallen effectively to nil. Carriers reacted by slashing costs, but also by developing new revenue models in data, mobile phone, and infrastructure provision (e.g., fiber cables).

Similarly, recorded music revenues fell from \$25.2 billion in 1999 to \$5.2 billion in 2017. While the total revenue of the recorded music industry bottomed out at \$14.2 billion in 2014, thanks to annual subscription revenues of \$6.6 billion the overall figure has now rebounded to \$17.3 billion in 2017.

Extending this scenario to cross-border payments implies a radical repositioning from transaction fees and FX margin toward a service-based approach and focus on high-growth areas.

While such price erosion may take longer to evolve in payments, providers must investigate alternate revenue models and pricing strategies to drive profitability, including:

- Provide payments services to third parties, particularly where private and SME customers are using ecosystems that use cross-offerings or data to drive revenues. Services that can use data to generate insights into consumer and corporate purchasing behavior, and couple these insights with supplemental data, can provide better services to customers; but they can also go a step further by capturing new opportunities to extract value through the monetization of the data itself.
- Focus and expand service offerings. For example, physical transfer operators may elect to adopt an ethnic focus such as supporting foreign subsidiaries serving out-of-region workers and their families. Such a model could then be linked to other bank offerings; for example, trade or structured finance, allowing providers to insulate themselves in part from downward price pressures through the expansion of value-added services.
- Double down on niche pricing, as in the overall payments world revenues are

concentrated disproportionally in areas where the greatest value is created or where the least efficient transactions congregate. These can be in hard-to-serve trade corridors or industries where the payment enables the mere existence of the business, such as online products like digital content or gambling. These niches will also increasingly become the domain of high-value specialists rather than mainstream providers.

- Price for relationships and data. The value of access to payments information in a databased economy makes it critical for banks and providers to retain access to account or wallet information (as opposed to aiming for higher profit margins by prioritizing payment fees). An analysis of the relative strengths of payments providers, banks, telecom companies, retailers, and digital firms in terms of their access to costumer and merchant data shows that payments providers are well placed to capture emerging data monetization opportunities. (See "Monetizing data: A new source of value in payments," McKinsey on Payments, July 2017.)
- Consider adopting a 1-to-1 pricing strategy. This would require a deep understanding of client elasticity and needs (leveraging the large amount of data at banks' disposal), to tailor highly specific value-based pricing points.

While core revenues might fall, the key question for cross-border providers is whether the industry will see SEPA-like growth and whether firms can price effectively for niche, value-added services or ecosystem offerings. It seems likely that not all successful firms will be traditional players.

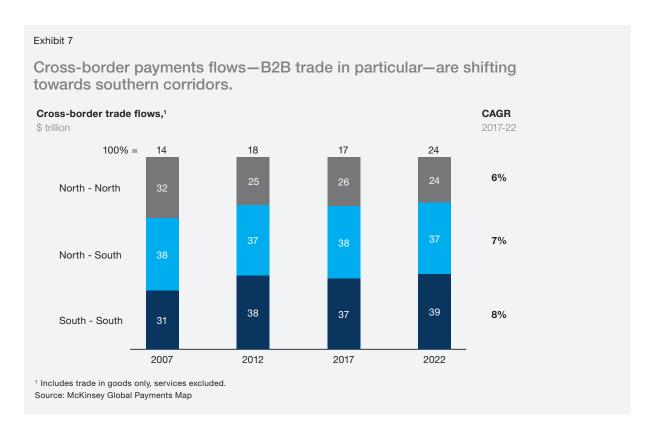
Revisit client propositions

顾客是玉,商品是草/Customers are jade; merchandise is grass – it is customer, not the trade. Or: It is not about the technology.

Customer-facing firms must deal not only with increasing standardization, but also with ever-shifting customer demands. Customer expectations will be set by state of the art digital domestic developments and niche players. For example, while DLT is unlikely to provide an international payments infrastructure at scale in the short term, an expectation of low prices may well be established as consumers and corporates experience these offerings. As a result, prices might fall to marginal cost levels quite rapidly.

That said, banks and payments specialists still own most of the customer relationships and can defend them with ambitious propositions such as:

- Fast and predictable as domestic payments, with transaction operational costs approaching \$1 per transaction, using a real-time international payments infrastructure and making pricing much more transparent and predictable, with limited exception fees.
- Capturing the growing South-South corridors (Exhibit 7, page 16).
- Convenient purchase functionality (think Amazon's "one click"), with high usability: providing more pay-in/pay-out options (akin to cryptocurrencies), but also supporting use cases accommodating preferences for cash-on-delivery models in emerging markets, e.g., Russia and India.
- Service as secure and reliable as the promise of distributed ledger technology, with convenient compliance: automated controls (e.g., taxation, AML) coordinating disparate tax laws and addressing regulatory implications for both buyer and seller, enabling unprecedented confidence in security safeguards.



- Payments as adaptable as cash, with much higher versatility: providing clients with control, visibility, and traceability into the transaction process, e.g., with solutions that allow recoverability or the use of smart data.
- Services embedded in daily life and routine.

Such propositions will likely first emerge in niche segments—for example, retail, remittances and select SMEs. Disruption in the field of remittances has been led by user experience and online technology, moving the transaction from cash-collection use cases to account-driven digital interfaces. A number of new firms (e.g., Worldremit, Azimo) have built viable businesses, shifting competitive dynamics for established businesses.

One suggestion that arose from our interviews: "Banks need to address the failure to connect smaller emerging market situations (use case and geography) to access the global financial network and to leverage their systems."

Upgrade the engine room

اي يودتشا /A problem is solved when it gets tougher – when the going gets tough, the tough gets going.

Or: The rising tide will lift some boats, but others will run aground.

In light of likely price erosion, international payments schemes must close an efficiency and cost gap of over 90 percent versus their domestic counterparts. The main inefficiencies are linked to lack of alignment across back-office operations, the costs of managing interbank claims and pricing, and fraud and AML management. Cost categories inherent to the cross-border nature of payments, such as FX, network management, and compliance are also a factor, but less onerous.

The cost of liquidity trapped in the nostro-vostro network can also be high, but it is less relevant in low-interest currency zones. Lastly, scale is as important in cross-border payments as it is domestic payments and further consolidation will likely be required. We believe the main priorities for banks to close the performance gap between domestic and cross border payments are:

- Increase STP and serviceability by creating transparency to reduce inquiries, automate date completion with standard reference data or simplified customer input formats, or by pre-validating.
- Reduce exception costs for claims of payments services billing e.g. by introducing standardized billing formats and predefined charging formats.
- Ease the cost of financial crime investigations, for example by using financial crime utility services like common KYC directories or advanced analytics solutions based on transaction trace retrieval vaults.
- Cut expenditures in treasury operations, focusing on intra-day liquidity reporting and artificial utilization of liquidity. Particularly with rising interest rates, an enhanced clearing and settlement model to complement the existing nostro-vostro system could prove valuable, as would a settlement set-up (centralized versus decentralized), new messaging (single standard versus proprietary set-up) and technology (point-to-point or distributed ledger).

This transformation will require more than discipline. It calls for a fundamental upgrade of capabilities in the areas of automation and robotics, data and analytics, and customer design.

This applies to technology as well as core people skills, organizational health, customer focus, and agility.

Agile operating models need to emphasize a customer experience mindset, with go-to-market times of three to six months, minimizing campaign development time, testing costs and increasing marketing effectiveness. A select group of global transaction banks is already moving in the direction of stringent, agile customer experience (for example, JPMorgan Chase has been transitioning to an agile operating model for the past few years).

"The banks capable of operating in real time, errorfree, with services structurally integrated with the channels, will be the players that will operate and earn sufficient margin in the coming years. Other banks, particularly the small ones, will be disintermediated by the players still in the market."

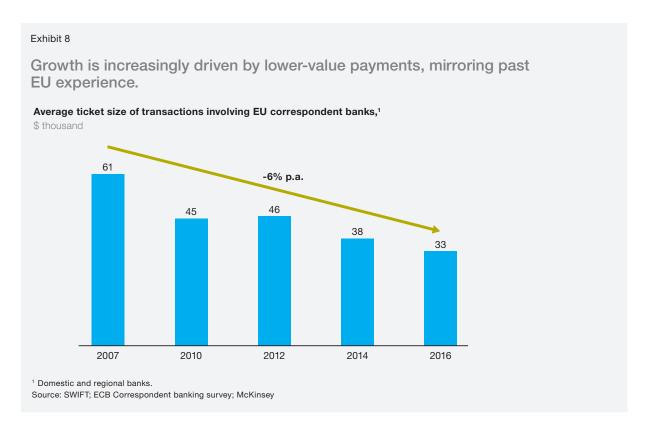
Explore collaborative solutions

'Union fait la force'/Unity makes strength

As standards are complicated and central infrastructures remain hard to set up, focused collaboration by groups of banks can deliver a strong step toward the aspired service levels and efficiency. This has been part of driving payments efficiency for domestic payments across much of the world, and could have the same effect in the cross-border area.

SWIFT's gpi is one example of such an industry collaboration, connecting more than 250 banks, and currently sending more than \$100 billion per day in cross-border payments, representing over 30 percent of SWIFT's total cross-border payments traffic.⁵ Participating banks commit to adhere to a set of multilateral service level

⁵ Data from SWIFT.



agreements (SLAs) to provide fast, transparent and traceable cross-border payments. The secure end-to-end tracking significantly reduces the number of interbank investigations and the common rulebook and real-time processing allows over half of these international payments to be credited to the beneficiary's account in less than 30 minutes, many within seconds.

Establish a clear role in the value chain and establish your partnership ecosystem

A new "Zollverein" 6/Alliances for a new era

There will be significant pressure on the value chain to fragment, particularly at the back end, where economies of scale matter most, particularly as transaction size continues to shrink (Exhibit 8). A few firms will be able to strengthen

their position across the entire value chain. More often, firms will concentrate on certain points of the value chain and may need to consider significant divestments as well. Likely focal points include:

• Customer front-end providers must offer better connectivity to the payment rails, which will expand the universe of players to include banks, tech firms, payment specialists and even new adjacent players such as export credit agencies, supply chain providers and administrative software providers. The model will still favor banks for servicing large corporates, but also create potential openings for ecommerce gateway providers such as Wirecard and Adyen, and fintechs addressing SME needs.

⁵ German Customs Union formed in the early 19th century.

- Service aggregators will work with firms to create connector models for banks, customers and potentially others, insulating them from ongoing payments standards and formats or regulatory changes and offering a consistent experience without the need to continually change or upgrade systems. For example, a fintech might partner with two or three banks to create an API solution linked to the banks' existing net banking or corporate direct connections (e.g., host-to-host); the fintech would maintain and upgrade the solution as domestic payments systems or standards and formats change.
- Infrastructure providers may continue to dominate the bulk of cross-border payments. Regional market utilities or outsourcing providers may also emerge, akin to earlier moves in security services with the DTCC, Euroclear, and Clearstream. In addition to CLS, SWIFT, and card schemes, large global transaction banks also participate in this space. They face specific constraints as this model is dependent on digitization and economies of scale. In an extreme scenario of market evolution, they face stark choices: becoming a top-ten player; finding a regional, product, or segment niche (for instance, SMEs); or pursuing partnerships to gain scale and reach.
- Ecosystem providers may bundle an overarching portfolio of services. Open banking will accelerate such moves both in the retail and corporate world. Intensifying partnerships with fintechs and digital banks (particularly in the SME space) may also drive such bundling.

Incidentally, such ecosystems are unlikely to be anchored on cross-border payments. According to McKinsey research, international payments can be built into a variety of services, such as B2B (particularly cash and liquidity management, but also documentary business), global corporate services, travel and digital content.

. . .

You don't stop playing because you get old, you get old because you stop playing.

Over the past 15 years, international payments have grown dramatically, yet the underlying industry remains largely intact and fairly fragmented.

Now, new payments rails, innovative technology, and shifting customer demand threaten to upend this model. The associated volatility presents a substantial opportunity to develop more effective customer propositions, economic models, operational systems, and segment focus.

Incumbents must treat these shifts as a call for reflection. To succeed, they will need to leverage account ownership and weave cross-border payments into the commerce flow. Several of our interviewees made statements to the effect that "banks are here to stay, particularly for large corporates." This does not mean however, that banks can succeed without rethinking their place in the cross-border sector, and committing to the changes necessary to adapt. The focus will be on customer experience versus pure payments, and success will require integrating the payments process and rails into the end-to-end process.

Authors

For McKinsey & Company:

Nunzio Digiacomo Associate Partner, Rome nunzio_digiacomo@mckinsey.com

Olivier Denecker Partner, Brussels olivier_denecker@mckinsey.com

Reinhard Höll Associate Partner, Dusseldorf reinhard_holl@mckinsey.com

Marc Niederkorn
Partner, Luxembourg
marc_niederkorn@mckinsey.com

For SWIFT:

Luc Meurant Chief Marketing Officer

Harry Newman Head of Market Initiatives, EMEA

Wim Raymaekers Global Head of Banking Market

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