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The Global Covid-19 Fintech Market Impact and Industry Resilience Study

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Please cite this study as CCAF, World Bank and World Economic Forum (2022) *The Global Covid-19 Fintech Market Impact and Industry Resilience Report*, University of Cambridge, World Bank Group and the World Economic Forum.

The Global Covid-19 Fintech Market Impact and Industry Resilience Study

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The year 2020 was a pivotal point for how financial services were accessed and used. The Covid-19 pandemic necessitated an accelerated shift toward remote financial services, proving both challenging and rewarding for the fintech industry. Thus, 2020 became a crucial base for much needed time-series research to inform best practices, and governmental and regulatory interventions.

Against this background, the CCAF together with the World Bank Group and the World Economic Forum published the first edition of our series on the impact of Covid-19, *The Global Covid-19 FinTech Market Rapid Assessment Study*, in December 2020. The study was designed to quickly assess and interpret the short-term impacts of Covid-19 on an already rapidly evolving fintech ecosystem. We compared the impact of Covid-19 on fintech firms in the first half of 2020 to the same period in 2019. The analysis provided a snapshot of how Covid-19 had impacted market dynamics, key performance indicators, products and service offerings, and how fintech firms coped with the initial market shocks and operational challenges. The study also highlighted the regulatory interventions that were received and needed for fintech firms to thrive.

The Rapid Assessment Study found that fintechs had continued to grow throughout the pandemic, albeit unevenly across verticals and geographies. Indeed, fintechs in advanced economies appeared to have been more resilient than those in emerging and developing economies. At the vertical level, digital lending platforms appeared to be more severely affected by the pandemic than others.

As the Covid-19 pandemic continued to affect the global economic environment, it became necessary to reassess the situation and whether the findings from the first study highlighted to policymakers were still valid. To this end, our second edition of the Covid-19 series, *The Global Covid-19 Fintech Market Impact and Industry Resiliency Study*, builds on *The Rapid Assessment Study* by assessing the medium-to-longer-term impact of Covid-19 on the fintech industry and includes issues not covered in the original study, in particular, the customer base of these firms and their potential impact on financial inclusion. It captured full-year transaction and qualitative empirical data for 2019 and 2020. The joint research team successfully surveyed 1,448 fintech firms, headquartered in 105 jurisdictions, and operating in 192 countries, representing the largest panel data available in the industry.

Overall, the results from this study show that the global fintech industry has been more resilient to the pandemic than initially reported in *The Rapid Assessment Study*, albeit with important differences at a country and vertical level. Globally, all verticals grew at a faster pace than reported in our previous study, except data analytics. The growth was underpinned by higher activity in fintech markets operating in advanced economies and in jurisdictions with more stringent Covid-19 lockdown measures compared to those in emerging and developing economies and lower lockdown stringency jurisdictions, confirming the findings from *The Rapid Assessment Study*. An additional trend revealed in this study was that firms that had acted as distribution partners of government Covid-19 relief packages saw higher levels of activity.

We hope that the insights from this study are a valuable addition to all fintech ecosystem players. Our aim is to contribute to the fintech community by illustrating the challenges and opportunities of fintech and how digital financial services can play an increasingly key role in mitigating the impact of future crises, broadening access to finance, and contributing to financial inclusion.

Bryan Zhang
Co-Founder and Executive Director
Cambridge Centre for Alternative Finance

Tania Ziegler
Lead in Global Benchmarking
Cambridge Centre for Alternative Finance

Digitalization is not only changing financial sector infrastructure but is also helping to create new products and ways to serve customers' needs. Fintech firms are a key part of this transformation, driving innovation, introducing competition to the sector, and potentially expanding access to financial services. Given their role, the World Bank Group considered it critical to have more information about the impact the Covid-19 pandemic had on different types of fintech firms and across regions, both in terms of the evolution of the services they provide to customers, as well as their financial situation and prospects.

This global survey is one of the most comprehensive reviews of fintech firms to date, drawing from a panel of 1,448 firms, operating in 192 countries. The surveyed firms provide a wide range of financial services from payments, lending and capital raising to supporting services, such as credit data analytics.

The results are reassuring, in terms of the overall resilience of fintech firms and their ability to adapt their services during the pandemic, address customers' needs, and serve as distribution partners of government relief programs, albeit with important divergences across business models and countries. Furthermore, the findings are indicative of a positive contribution of fintech firms to financial inclusion, given that a significant proportion of their customers are groups that have faced challenges in accessing financial services, such as women, low-income households, and SMEs. This is an area where further research and analyses are needed to make a definitive conclusion. However, the data that this survey provides is a stride forward. Previously, there was no cross-country information on this subject.

Nevertheless, the results also confirm that EMDEs still have a long way to go to realize the full potential of fintech. In particular, some types of services, such as lending, are still concentrated in larger EMDEs and others, such as capital raising and insurance, are at a much earlier stage. While other factors play a role, many EMDEs still need to work on the implementation of appropriate regulatory frameworks to allow the provision of services via fintech in a manner that strikes the right balance between innovation and consumer protection, market integrity, and financial stability. This is in line with findings from the survey, whereby firms operating in EMDEs expressed lower levels of satisfaction with the regulatory support available. The Fintech and the Future of Finance Report and its accompanying Note on Regulation and Supervision of Fintech: Considerations for EMDE Policymakers provide further guidance as to how authorities of EMDEs an tackle this challenge, as well as ensure that appropriate monitoring arrangements are in place to ensure proper management of risks.

The World Bank Group appreciates the partnership developed with the Cambridge Centre for Alternative Finance and the World Economic Forum, which have been instrumental in achieving this level of participation from the fintech industry. It also appreciates the support of the Ministry of Finance of Luxembourg, which provided the funding for this study as a donor to the World Bank Group's Joint Capital Markets (J-CAP) Program.

Jean Pesme
Global Director, Finance
Finance, Competitiveness and Innovation Global Practice
World Bank Group

Fintech firms have grown in their importance to the global financial system in recent years, having demonstrated successes in the provision of affordable financial products and services, and in the increased quality and reach of these products and services. The uncertainties that the onset of the Covid-19 pandemic brought to the fintech industry then, both in terms of challenges and opportunities, held the potential for significant impact. With this in mind, the World Economic Forum joined the Cambridge Centre for Alternative Finance and the World Bank Group in a collective effort to gather data and better understand the effects of the pandemic on fintech firms.

The initial survey and report from our collaboration, *The Global Covid-19 FinTech Market Rapid Assessment Study*, published in December 2020, examined the short-term impact of the pandemic on the fintech industry. This current report, *The Global Covid-19 Fintech Impact and Industry Resilience Study*, complements the first, offering a longer-term view and deepening our knowledge of market effects. Of particular significance is the granularity of the findings and global breadth of this study. With 1,448 fintech firms participating, operating in 192 jurisdictions, we have robust information from which to gain a nuanced understanding of areas least and most impacted across regions and industry verticals.

From a high-level perspective, it is encouraging to see that industry resilience proved stronger than originally reported during the pandemic. The flexibility and innovation often associated with fintechs have appeared to help them navigate the changing market conditions and the recovery's various phases. This resilience will be essential to managing additional obstacles as new local and global challenges inevitably arise.

It is equally promising to observe mutually beneficial public-private cooperation taking place, be it through regulatory support mechanisms or partnerships for relief package distribution. Study findings have also indicated, however, that greater public-private collaboration is still needed. The World Economic Forum looks forward to supporting these findings and serving as a platform for increased cooperation across industry, policymakers and regulators as recovery from the pandemic continues.

The Forum is grateful for the opportunity to collaborate with the Cambridge Centre for Alternative Finance and the World Bank Group, and is appreciative of the many organizations that have contributed to this research. We hope that the study results will be valuable for all stakeholders and that findings further encourage responsible innovation in financial services

Drew Propson
Head of Technology and Innovation in Financial Services
World Economic Forum

The Ministry of Finance of Luxembourg is pleased to have been able to assist in this timely and jointly produced report by the World Bank Group, the Cambridge Centre for Alternative Finance, and the World Economic Forum, as a part of our support to the World Bank Group's Joint Capital Market Program (J-CAP). Our work with J-CAP is built on our experience in Luxembourg that capital markets play a fundamental role in economic growth and financial stability in developed and developing economies by allocating local currency and long-term capital to projects that help create jobs.

This study also builds on the joint knowledge work we have supported to date with J-CAP, stemming from our belief that a deeper understanding of the way capital markets function – and the sharing of such insights and lessons – can help government authorities in emerging markets and developing economies address the challenge of capital market development from a stronger and more consistent footing. This work has resulted in a major knowledge-sharing event in West Africa on local capital market development, a ministerial guide to developing local capital markets, as well as a report on the impact of listing state-owned enterprises, among others.

This report provides a closer and timely view of the financial technology sector and the impact of the Covid-19 pandemic. In so doing, it offers insights that can be used to guide meaningful interventions, whether by policy reforms, financing, or other assistance by J-CAP, the World Bank Group or others. In this regard, for example, the report has advanced the understanding of fintech firms' ability to reach and finance individuals and small businesses (including women-led businesses), via leveraging technology.

Now, we look forward to these findings being put to use by the World Bank Group, J-CAP and others, to enhance the role of fintech firms in expanding access to local financial services.

Arsène Jacoby
Director for Multilateral Affairs, Development Aid, and Compliance,
Ministry of Finance Luxembourg

The UK is proud to partner with the Cambridge Centre for Alternative Finance (CCAF) and support their *Global Covid-19 Fintech Market Impact and Industry Resiliency Study*, jointly produced with the World Bank Group and World Economic Forum. This study captures important insights and lessons learnt from the fintech industry's response to the pandemic which can help shape its future impact.

The UK is home to a thriving fintech sector. As well as stimulating job creation, fintech can improve the functioning, transparency and effectiveness of financial services, in turn enabling economic growth. Fintech has enabled developing and emerging markets to leapfrog traditional banking models to increase the reach of financial services to previously underserved firms and people, making a real difference to their lives.

The Covid-19 pandemic was hugely disruptive to markets and livelihoods. While the fintech sector was not immune, this study highlights the responsiveness and innovation of the industry in adjusting to changed market dynamics and operational challenges, as well as related regulatory and policy shifts. Fintech also played an important role in the pandemic response, serving a large proportion of new customers and enabling people to access crucial financial services during a time of unprecedented economic uncertainty.

The UK is committed to supporting the growth of fintech both domestically and internationally. Advancing enabling and proportional fintech regulation, supported by evidence and collaboration, is a critical ingredient for novel providers and services, as well as safeguarding consumers.

The rich analysis in this study provides fintech ecosystem players the opportunity to take stock of different experiences and reflect on lessons learned during the pandemic. The value of strong data analysis and targeted design shine through.

This study provides foundational evidence for the development of future policy and regulation. I am confident this study will inspire further work by the sector to ensure the benefits of fintech reach the financially excluded and help accelerate economic growth.

Vicky Ford MP
Minister for Africa, Latin America and the Caribbean
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Acknowledgements

On behalf of the Cambridge Centre for Alternative Finance, the World Bank Group and the World Economic Forum, the research team would like to thank the Ministry of Finance of Luxembourg for making this report possible, via their support to the knowledge management project of the WBG's Joint Capital Markets Program (J-CAP). We would also like to express gratitude to the UK Foreign, Commonwealth and Development Office (FCDO) for its continued support of the CCAF and its research endeavors.

The CCAF, World Bank Group and World Economic Forum research team would like to thank the following individuals for their help and support in making this study possible (in no particular order): Peter Renton (LendIt), Andrew Dix (CrowdfundInsider), Janine Hirt (Innovate Finance), Mike Carter (Innovate Finance), Sophie Wawro (Money 2020), Steve Ellis (Finextra), Doubell Chamberlain (Cenfri), Max Cuvellier (GSMA), Nika Naghavi (GSMA), Diego Herrera (IDB), Gabriela Andrade (IDB), Sameer Gulati (DIT), Tom Herbstein (DIT), Malik Khan Kotadia (GIFT), Leah Callon-Butler (GIFT), Sebastian Resano (GIFT), Garry Reeder (American Fintech Council), Elizabeth Howard (Africa Crowdfunding Association), Rotem Shneor (UIA), Ronald Kleverlaan (Crowdfunding Hub / ECAF), Ana Odorovic (CCAF), Craig Asano (NCFA Canada), Maelis Carraro (Catalyst Fund), Susanne Chishti (FinTech Circle), Lawrence Wintermeyer (Global Digital Finance), Mercy Simorangkir (AFTECH), Takeshi Kito (Japan FinTech Association), Nameer Khan (MENA FinTech Association), Shivani Agarwal (Internet and Mobile Association of India), Shadab Taiyabi (Singapore FinTech Association), Lito Villanueva (FintechAlliance.ph), Aaron Block (Expand Research-BCG), Stijn van der Krogt (Universidad Paraguayo Alemana), Benita Margon (Findexable), Marina Dimova (Women's World Banking), Gabrielle Inzirillo (Plug and Play), Tal Schwartz (Canadian Lenders Association), Gary Schwartz (Canadian Lenders Association), Tom Hill (EY), Maria Oliver Roman (CFTE), Niall Barton (InsurTech UK), Subas Roy (International RegTech Assocation), George Kesselman (Global InsurTech Alliance), Angel Sierra (FinTech Chile), Augusto Santos (Portugal FinTech), Matthew Pinter (Crowdfunding Institute of Australia), Simon Clegg (New Zealand Crowdfunding Association), Jan Korte (FinTech Hamburg), Fernando E. Hernandez Casco (Comision Nacional de Bancos y Seguros), Natalia Pinzon (Asociacion FinTech Guatemala), Mariano F. Biocca (Camara Argentina de FinTech), Jorge Reyes (Ecuador FinTech), Juan Carols Zamalloa (FinTech Peru), Brian Tang (Hong Kong FinTech Association), Alessandro Lerro (Italian Equity Crowdfunding Association), Segun Aina (FinTech Association of Nigeria), Chonladet Khemarattana (Thai FinTech Association), Erick Rincon Cardenas (Colombia FinTech / Alianza Ibero-America), Kartik Varma (TechStars), Daniela Rocha Gil (Colombia FinTech), Cinthia Facciuto (Camara FinTech Paraguay), Francisco Mere (FinTech Mexico), Louise Garbo (Swedish FinTech Association), Christian Fae (Digital Finance Forum), Antonina Olecka (Swiss Finance and Technology Association),

Alex Scandurra (Stone & Chalk), Ana Sung (FinTech Space), Josue Toho (Africa FinTech Forum), George Kesselman (InsurTech Asia Association), Carlos Valderrama (Legal Paradox), Ignacio Esteban Carballo (UCA), Owolabi Taiwo (Africa FinTech Network), Alex Sea (Africa FinTech Forum), Shan Luo (FinTech Space), Eladio Delgado (Spanish Crowdlending Association), Florence de Maupeou (Financement Participatif France), Miguel Armaza (Wharton FinTech), David Charlet (Anacofi), Noha Shaker (Egyptian Fintech Association), Mirna Sleiman (Fintech Galaxy), Suzy Alzeerah (Bahrain Fintech Bay), Richard Rosenholtz (Nordic RegTech Association), Alexander Reviakin (AFIIP), Wiktor Wójcik (Verified by FindFunds), Rajkumar Kanagasingam (FinTech Association of Sri Lanka), and Srinath Sridharan (FACE).

We are grateful to Herman Smit, Alexander Apostolides, Yassar Nassar, Patrick Conteh, Nick Drury, Anton Dek, Dee Allen, Philip Rowan, Jill Lagos Shemin, Yue Wu, Grigory McKain, Damaris Njoki, Valentina Gotti, Michel Rauchs, Altantsetseg Ganbold, and Keith Bear from the CCAF for their support and insights in developing the data collection tool and supporting outreach efforts.

We would also like to thank our Cambridge Global Benchmarking Fintech Market Research Interns for their support and assistance in survey dissemination: Clinton Osemwengie, Stephanie Schreiner, Prince BaahPeprah, Diego Serralde, Claudio Salgado, Jannis Mutisya, Ismail Emre Sozuguzel, Will Coupe, Aditi Vadakath, and Simon Callaghan.

We are very thankful to Alpa Somaiya for the proofreading, Louise Smith for designing the report, Charles Goldsmith, Neil Jessiman and Philippa Coney for press and communications support, and Sara Coupe and Kate Belger for their administrative support.

In addition, we would like to thank Madeleine Hillyer, Samuel Werthmuller, Meagan Andrews, Beatrice Di Caro, Leena Calusell and Emina Ajvazoska from the World Economic Forum for their immense help in the dissemination of this study.

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Executive summary

The Global Covid-19 Fintech Market Impact and Industry Resiliency Study provides insights into the medium-to-longer-term impact of the pandemic on the financial technology (fintech) industry. In this study, we gathered data on three key areas:

1. Market performance, in particular the growth of activities and customer base
2. Operational performance, financial situation, and changes to services
3. Fintech firms' use of government relief and regulatory support, and their participation as distribution partners of government Covid-19 relief packages

This study follows on from *The Global Covid-19 FinTech Market Rapid Assessment Study* (from now on referred to as *The Rapid Assessment Study*), which focused on the short-term effects of Covid-19 on the fintech industry. This study has been jointly developed by the Cambridge Centre for Alternative Finance (CCAF) at the University of Cambridge Judge Business School, the World Bank Group (WBG), and the World Economic Forum (WEF).

Overall, the global fintech industry has been more resilient to the pandemic than initially reported in *The Rapid Assessment Study*, albeit with greater differences at the vertical and country level.
Globally, all verticals grew at a faster pace than reported in our previous study, except data analytics. Retail-facing fintech platforms in this panel reported increases of 47% in gross values transacted from USD358 billion in 2019 to USD526 billion in 2020. This growth was underpinned by three global trends: (i) Fintechs operating in advanced economies (AEs) exhibited higher levels of activity than those operating in emerging markets and developing economies (EMDEs), (ii) as did firms in jurisdictions with high stringency lockdown measures and (iii) firms that were used as a distribution partner of government Covid-19 relief packages. However, there were important differences at a country level and vertical level. At the vertical level, in particular, activity in lending platforms seemed to be on an uneven road to recovery as many platforms reported reduced levels of activity and a deterioration in their portfolios.

We summarize the methodology and key findings below.

Methodology

The study draws from a global survey of fintech firms from key fintech verticals and jurisdictions, representing the largest panel of data available in the industry.
The survey captured a total of 1,448 fintech firms, headquartered in 105 jurisdictions, and operating in 192 countries. The firms were spread across 12 verticals, with retail-facing verticals ranging from digital payments to digital lending, crowdfunding and insurtech, and market provisioning firms such as regtech. As in *The Rapid Assessment Study*, we excluded traditional financial firms and big techs, the former because of the focus of this report on the growth of disruptors, and the latter because the provision of financial services is not their core business activity. In addition, big techs often do not provide such financial services directly but instead through alliances with financial firms (including fintechs). The data-collection period was from July 1 to October 31, 2021. We asked firms to provide quantitative data comparing 2019 to 2020.

Key findings

Market performance

Retail-facing firms operating in AEs still dominate in terms of transaction values.
As we describe in more detail below, transaction values in AEs exceeded those in EMDEs for all verticals. Furthermore, for all verticals except payments, growth rates were higher for firms operating in AEs. Overall, issues such as the scale and development level of the financial sector may have affected these trends. In addition, many EMDEs still lack regulatory frameworks that allow fintechs to provide regulated services. Thus, from a policy perspective, authorities must assess whether the lack of a supportive regulatory regime is a factor affecting the fintech industry's development.

Digital payments were the largest segment by transaction values, followed by digital lending.
The transaction value of digital payment fintechs accounted for 63% of all retail-facing fintechs. Although firms in AEs contributed to most of the total value of annual payment transactions, firms in EMDEs grew at a faster pace. This finding indicates there is still significant room for growth in EMDEs, which aligns with market trends in the digital payments industry as a whole. Digital lending was the second-largest market segment, accounting for 20% of transaction values. In contrast with payments, digital lending activities remain largely concentrated in AEs, with most of the activity and growth spurred by platforms in AEs. Furthermore, at a global level, the activities of digital lending firms in EMDEs decreased. Nevertheless, it is important to highlight that in a few larger EMDEs, transactions by lending platforms had already surpassed the billion-dollar mark, indicating the potential of these platforms. The remaining verticals are still concentrated in AEs, including capital raising and insurtech. However, the levels of these activities are lower than those in other verticals.

In contrast to retail-facing firms, both the concentration of activity and growth in terms of transaction values was dominated by market provisioning platforms in EMDEs.
Globally, enterprise technology provisioning and regtech grew swiftly and remained the verticals with the most transaction activity. Conversely, alternative credit and/or data analytics was the only vertical to report a decrease in the number of transactions, performing worse than they had anticipated as reported in *The Rapid Assessment Study*.

A common finding across retail-facing and market provisioning firms was that a significant number were operating in more than one jurisdiction.
Of respondent firms, 30% reported having operations in more than one country. Furthermore, most firms operating in EMDEs were headquartered in foreign jurisdictions, mainly in AEs. Financial supervisors should assess the importance of this finding in terms of their respective jurisdictions to determine whether they need additional coordination arrangements with foreign supervisors.

Customer base and potential impact of fintech on financial inclusion

One of our most important results relates to the customer base of the platforms and fintechs' potential contribution to financial inclusion.
A large proportion of fintech clients were new customers, and customers from groups that in many countries have been underserved by traditional financial institutions (incumbents), such as small and medium-sized enterprises (SMEs), low-income households, and women. Furthermore, in many fintech verticals, the proportion of low-income households and women exceeded 50% of total clients served. The percentage reported was even higher for fintechs operating in EMDEs. For instance, digital payment firms reported that the proportion of low-income clients was 55% globally, and 73% when looking at those in EMDEs. This may indicate that fintechs positively contribute to financial inclusion. However, a more detailed analysis, for example, of customer profile and terms of service provisioning, is needed to confirm this.

Operational resilience and financial health during Covid-19

In tandem with their growth, fintechs reported significant operational challenges and increases in risks, particularly in EMDEs.
The types of challenges faced varied by vertical and region, but common challenges included high levels of unsuccessful transactions, platform and partner downtime, and increases in liquidity risks, currency volatility, and regulatory risks. Financial supervisory authorities in EMDEs may want to assess how relevant our findings are in the context of their countries to determine whether they need to take any supervisory measure.

Fintechs also reported an increase in all costs, except fixed costs.
There were two interesting trends related to cost increases. First, fintechs have been actively recruiting new employees in line with their growth, which explains the increases in human resources costs. We did not analyze the types of skills firms required but, overall, innovation requires employees with relevant technology skills, who are not always available in all jurisdictions. Second, fintechs spent a large proportion of their budget on research and development (R&D). This highlights the importance fintechs place on continued innovation and their

perceived growth prospects for the sector. In contrast, overall, firms reported a decrease in fixed costs, which seems to reflect reduced office costs.

Despite operational challenges and increases in expenditure, fintech firms perceive the sector to be relatively resilient.
Overall, firms in all verticals reported increases in revenue and turnover. However, from the data collected, we could not assess whether these increases in revenue and turnover offset the reported increases in costs. Nevertheless, our survey provided important insights into firms' financial sustainability. In particular, firms reported higher valuations and capital raising activities compared to their forecasts outlined in *The Rapid Assessment Study*. Firms also reported higher future capital raisings in this study. As in other areas, there were important differences across countries and verticals. However, in general, firms in EMDEs reported higher valuations and capital raising. This may indicate investor interest in leveraging the untapped potential and opportunities provided by EMDEs. Regarding capital raising, digital payment firms overall were at a more mature development stage, raising larger funding rounds from venture capital funds (predominantly Series A and B).

Changes in services

Fintechs prioritized changes that made their platforms more secure.
More than one-third of fintechs prioritized enhancing cybersecurity features and preventing fraud as the main changes to their services in 2020. These changes seem to be in response to their risk assessment as they were the two most reported risks in 2019. The changes seem to be effective as firms now reported lower levels of these risks. Other changes (particularly changes related to pricing structures that were made to help clients during the pandemic), such as reducing commissions and fees, were largely discontinued. Finally, only a small proportion of firms reported introducing sustainability products, in particular, environmental, social and corporate governance (ESG) products.

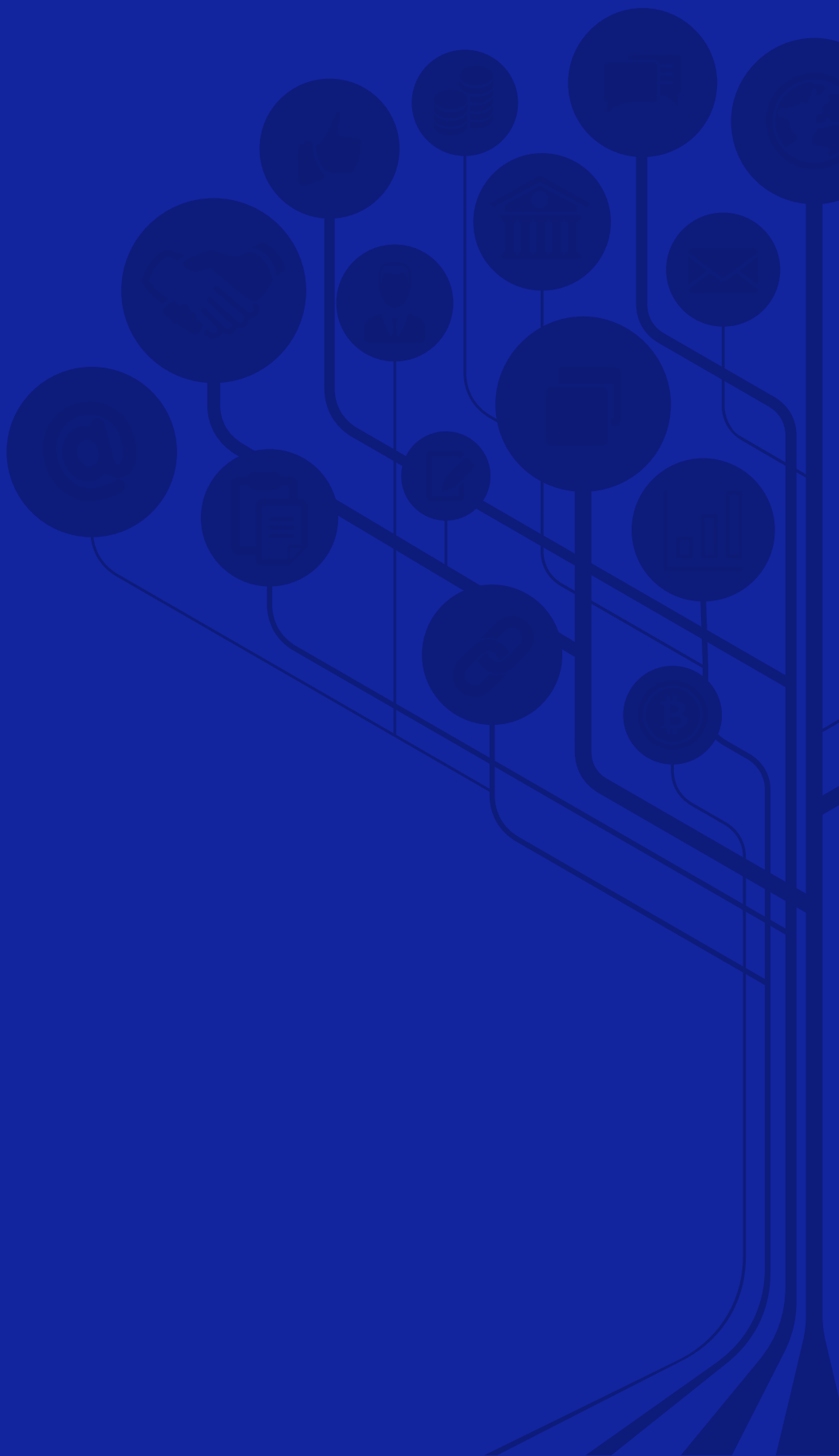
Fintechs' use of regulatory and policy support, and use of fintechs as distribution partners

Financial supervisors implemented different regulatory mechanisms to help financial firms and fintechs mitigate the effects of Covid-19.
Core regulatory support mechanisms, such as support for remote onboarding, cybersecurity and fraud-prevention standardization, and simplified customer due diligence were the regulatory measures most used by fintechs. However, overall, fintechs judged that more support was needed across several areas, especially regulatory support for faster authorization or licensing processes for new activities and less burdensome supervisory requirements. More generally, firms in EMDEs reported an overall lower level of satisfaction with regulatory support than those in AEs. Hence, more dialogue and engagement between financial supervisory authorities and the fintech industry may be useful, especially as fintech growth starts to increase in EMDEs.

Only 18% of fintech firms reported using government relief measures.
In general, the use was concentrated in AEs, which may be because AEs had more fiscal space to implement relief packages.

Approximately 20% of firms participated as a delivery or implementation partner for a government-based Covid-19 relief scheme.
The Rapid Assessment Study reported governments' limited use of fintech firms as distribution partners. There have, however, been some changes. Governments, especially in AEs, used lending platforms more often than fintech firms had initially reported, reflecting the adjustments governments had made to their existing policies on selecting distribution entities. Digital lending, digital payments, and insurtech fintechs were the verticals most used by governments to deliver Covid-19 relief programs. Going forward, governments should assess the relative benefits of using fintechs compared to other solutions in supporting the delivery of government relief programs. In turn, this would help them determine whether they need to implement any changes to their policies to promote efficient delivery of mitigation and relief programs in future crises.

1. Introduction



Chapter 1. Introduction

1.1 Research objectives and rationale

The Covid-19 pandemic has disrupted how people interact with one another and their surrounding environments. Hence, it is not surprising that it has impacted how financial services and products are accessed and used.

The first edition of our Covid-19 research, *The Rapid Assessment Study*, was designed to quickly assess and interpret the short-term impacts of Covid-19 on an already rapidly evolving fintech ecosystem. It also served as a starting point for more comprehensive and in-depth research at a later stage. The study analyzed the impact of Covid-19 by comparing the impact of the pandemic on fintech firms in the first half of 2020 against the same period in 2019. The report was published in December 2020.

Box 1: *The Global Covid-19 Fintech Market Rapid Assessment Study*

At the end of Q1-2020, it became clear that the Covid-19 pandemic would have a significant impact on the fintech industry in a myriad of ways. To understand how the fintech industry was reacting and adjusting to market dynamics, operational challenges, and regulatory/policy shifts due to the pandemic, the CCAF together with the World Bank Group and the World Economic Forum conducted a rapid global market survey. A total of 1,385 unique fintech firms, operating in 169 countries were surveyed between June 15 and August 18, 2020.

The study provided a snapshot of how Covid-19 had impacted market dynamics, key performance indicators, and product and service offerings, and how fintech firms coped with the initial market shocks and operational challenges. The study also highlighted the regulatory interventions received and were needed for fintech firms to thrive. It also provided much needed empirical data to inform market development, industry growth, and evidence-based regulation and policymaking.

Overall, The Rapid Assessment Study found that fintechs had continued to grow throughout the pandemic, albeit in a fluid environment mixed with challenges and opportunities. The performance of the fintech industry is highly uneven across verticals and geographies. For example, fintech firms operating in the digital lending vertical appeared to be more severely affected by the pandemic, reporting contractions across many key performance indicators. Similarly, certain geographic regions seem to have fared better than others. For instance, fintech markets in EMDEs, and in jurisdictions with more stringent Covid-19 lockdown measures, appeared to have grown compared to those in AEs, and in jurisdictions with lower stringency lockdown measures.

However, the pandemic affected fintech firms differently depending on their business models, with one model – digital lending platforms – contracting. There were also differences at the regional level. Additionally, activities seemed to have been affected by the severity of lockdown measures. The 2020 study also identified specific areas where fintechs judged more regulatory support was needed.

As the Covid-19 pandemic continued to affect the global economic environment, it became necessary to reassess the situation and determine whether the findings from the first study highlighted to policymakers were still valid. To this end, our current study, *The Global Covid-19 Fintech Market Impact and Industry Resiliency Study*, builds on *The Rapid Assessment Study* by assessing the medium-to-longer-term impact of Covid-19 on the fintech industry and includes issues not covered in the original study, in particular, the customer base of these firms and their potential impact on financial inclusion.

In that context, this report summarizes the findings from a global survey we conducted among fintechs to provide valuable insights to policymakers and the industry. The survey covered the following subject matter:

- **Fintech market performance and operational indicators:** We collected data that quantifies shifts in key market performance and business operation indicators.
- **Industry impact on specific client cohorts:** We evaluated strategic shifts, changes to client-facing products and services offered, and the extent to which fintechs have been able to serve specific types of customers (such as women, MSMEs, and low-income customers).
- **Regulatory and policy needs of the fintech industry:** we collected data related to fintechs' use of government relief packages and their involvement as distribution partners in such relief schemes. The study also looked at the use of and demand for specific regulatory and supervisory interventions.

1.2 Methodology

This section outlines the key aspects of our study's methodology, including the data source, collection procedures, data handling, and quality-control measures.

Data source

The survey used for this report captured primary data from fintech firms operating in at least one fintech activity as defined by the CCAF working taxonomy. The fintech industry underwent a transformation in 2020; it was the year in which the way we accessed and used financial services changed dramatically. Thus, 2020 was an ideal base from which to conduct much-needed time-series research. The results of this research will become a crucial evidence-base to inform best practices, and governmental and regulatory interventions on how best to leverage the fintech space in the future. We collected and compared full-year transaction and qualitative data for 2019 and 2020 from a broad base of financial technology firms to assess the impact of Covid-19 on fintech firms.[1] To ensure this database included new key players within the ecosystem, the CCAF worked with the WBG, the WEF, and nearly 100 outreach partners comprised of fintech associations and trade bodies to identify additional fintech firms to which we could distribute the survey. It is important to note that the results presented here represent only those firms that responded to the survey and not the entire fintech ecosystem.

For this study, fintech firms are defined as entities that use digital technology to provide or enable the provision of financial services online. Our panel strictly represents a digital financial entity ecosystem, rather than firms that engage in activities related to digital financial services provisioning as part of their larger operations. In this context, we excluded incumbents or traditional financial service providers, which for the purpose of this Survey, are distinguished from fintechs based on whether the entity is subject to a full traditional license.[2] Finally, we excluded activities related to big tech firms.[3] Though big techs increasingly engage in the provision of digital financial services, such as lending and payments, their core business model is often of a non-financial nature and therefore falls outside of our remit.[4] In addition, in many cases, they provide financial services via alliances with financial intermediaries.

Our panel comprises a sizeable group of fintech firms, all of which had been operating for at least one year at the time of the survey and had a concrete digital presence, from across 12 key fintech verticals and jurisdictions, capturing a total of 1,448 qualifying fintech firms globally.[5] The CCAF houses a long-standing data-collection research program for the digital lending and digital capital raising verticals, and has ten years of time-series data related to these two verticals. As such, we can confidently say that our findings for these two verticals accurately represent the market reality and its significance.

Since 2020, and introduced in *The Rapid Assessment Study*, the CCAF has expanded its data-collection remit to include an additional ten fintech verticals: digital payments, insurtech, digital banking and savings, wealthtech, exchange services, digital custody, regtech, digital identity, alternative credit and/or data analytics, and enterprise technology provisioning. Therefore, this study represents the first time the CCAF has collected time-series data from these additional verticals. The results from the fintech verticals for which the responses received were substantial and relevant are outlined in individual chapters. The results from the remaining fintech verticals are broadly presented in the overview chapter to indicate market trends.

It is important to note that there may be some data-collection reporting gaps for these relatively new verticals in CCAF's field collection. For example, for

digital payments, differences in the indicators and the definitions of fintech firms used made it difficult for us to compare our data related to industry growth to other reports. For example, reports by McKinsey & Company Boston Consulting Group (BCG) use revenues as a key indicator, while this report relies on transaction values.[6] In addition, our definition does not cover incumbents, big techs, or embedded finance, all of which are included in other studies. However, the values from our study do display a similar growing trend. For the payments universe covered in this report, we took care to capture global high-value drivers and thus the panel data analyzed is a comprehensive cross-section of fintech entities, as defined in this report, and indicates market trends for this segment of the payment universe. For insurtechs, the panel covers only a small part of the universe (approximately 4%) but we ensured that a robust sample of insurtech respondents participated in this study, concentrating on those that had also participated in *The Rapid Assessment Study*. Finally, market provisioning activities are quickly evolving, and there is not yet a globally accepted definition of what they encompass. As a result, it is difficult to determine the exact universe of firms that fall under this category. As the CCAF continues to conduct research in this area, the contours of this vertical will become clearer.

From a country perspective, there is a gap in the data from China as the responses received, especially those of a quantitative nature, were significantly low. Up until 2018, the Chinese fintech market dominated the global lending market in terms of market share. However, local market developments and regulatory changes have led to a considerable decline in volumes and global market share. In 2019, the Chinese market accounted for 48% of global volume and only 1% in 2020.[7] Specific policy measures were implemented by Chinese authorities to address the risks fintech brought to the financial system, shifting global online alternative finance market dynamics and trends. Even after taking this into account, the number of responses received leads us to conclude that China is underrepresented in our panel.

Data collection

Distribution of this survey focused initially on fintechs that responded to the survey used for The Rapid Assessment Study to ensure consistency between the original tested panel and respondents from *The 2nd Global Alternative Finance Benchmarking Report* (from now on referred to as *The 2nd Benchmarking Report*). Additionally, a fintech advisory group comprising 68 premier fintech firms globally were asked to beta-test the survey, the results of which provided robust data that went beyond the final distributed survey. These responses were integrated into the final database. Fintechs were asked to respond to the survey through a phased and multi-pronged outreach campaign. This included social media and news campaigns to raise awareness of the research, as well as direct outreach from the CCAF research team and 89 global, regional, and national survey outreach partners.

The survey was logic-based, enabling firms to respond to specific questions based on their primary vertical, model type, and country of operation. Firms responded to an average of 28 questions. The question set included a series of base questions that all participants received regardless of fintech vertical (including demographic and descriptive questions to refine their position within the taxonomy) and a series of logic-based questions that were model- or jurisdiction-specific. Firms thus received only the subset of questions that applied to their specific fintech activity. For example, a digital lending firm was asked questions related to defaults, while an insurtech firm would have reported on claims.

To reach global fintech markets and enhance accessibility, the survey was translated into 11 languages (English, French, Italian, Spanish, German, Portuguese, Japanese, Bahasa Indonesia, Thai, Korean, and Simplified Chinese). Responses were collected over nine weeks, from July 1 to September 3, 2021. We then extended the deadline by eight weeks to allow fintechs to complete their survey entries and the research team to focus on repeat responses from previous respondents. The cut-off date for receiving responses was October 31, 2021. While data collection occurred during the second half of 2021, the team did not collect data for 2021-H1 because it could not be compared with the full-year data from 2019 and 2020.

In addition to direct communication from the research team, external partners assisted with outreach to fintechs, for example, with e-mail communication. The collection criteria was developed to ensure we obtained input from a

robust panel of firms across different verticals and regions, and hence this study captures the largest primary dataset of fintech firms globally.

Data sanitization, verification, and analysis

In parallel to the data collection, we carried out a multi-stage verification process, cross-checking survey responses for anomalies and inconsistencies. In cases where there were issues such as large disparities in volumes or missing fields, the research team contacted the survey respondents to cross-check and verify the information. The raw data was sanitized and verified between September 5 and November 19, 2021.

Once all the data was cleansed and verified by cross-checking, each entry from a firm was given a Token-ID and, in compliance with the EU General Data Protection Regulation (GDPR) and the University of Cambridge data controller and protection rules, the raw data was stripped of all personal or firm-level identifying information (for example, name of firm, name of contact, and contact details) and moved to a separate database. Firms that had also responded to our first Covid-19 assessment survey were tagged with their same Token-ID to ensure time-series analysis capabilities. Analyses were performed against an anonymized file and reported at an aggregate level (by vertical or geographical jurisdiction). Only data in the anonymized and sanitized database was analyzed. Once data verification and sanitization had been completed, the analysis team used the methodologies established by the CCAF's Global Alternative Finance Benchmarking program (as related to quantitative time-series data analysis) to compare the data against the key trends investigated in *The Rapid Assessment Study*.

Entries that could not be verified or referenced activities that fell outside the taxonomy being tested were excluded from the study. In total, we captured 1,448 unique survey entries. Survey respondents reported the location of their firm's headquarters (HQ), other countries in which they operated, and the fintech activities they facilitated, both at a vertical level (for example, digital lending) and sub-vertical or model level (for example, peer-to-peer business lending within digital lending). While 7% of firms specified falling under more than one primary vertical, their responses were applied only to their primary vertical, ensuring analysis was based on a single primary vertical. Within a specific vertical, 39% of firms were actively operating in more than one sub-vertical or model and reported unique qualitative and quantitative data at the model level.

As well as specifying their fintech vertical activity, firms responded to both qualitative and quantitative questions about the country or countries in which they performed a fintech activity. Thirty percent of surveyed firms reported substantial operations in more than one country or jurisdiction. On average, these multi-jurisdictional firms were operating in eight countries.

Analyses in this study were conducted at a regional level (for example, Asia-Pacific) or key national market (for example, the United Kingdom) based on the country or jurisdiction in which a firm operated. For 83% of respondents, the country in which they operated corresponded to the region in which their firm was headquartered. The representation of firms operating in different countries raised firm-level observations to 4,602. Most analyses were performed on this dataset. When analyzing at a sub-vertical level (multi-selected models within a fintech vertical), firm-level observations further increased to 6,194 when accounting for specific sub-vertical level activity in each operational country. The analysis team used this data for sub-vertical analyses.

The research team took several steps during data collection, data cleaning, and data verification to ensure that all fintech verticals and regions were fairly represented. To account for potential response bias in situations where analysis was based on response averages, results were checked against a normal distribution and significant outliers were excluded where appropriate. To minimize any selection bias, the research team made every effort to capture firms of all sizes and stages of development from across each vertical and within each country by engaging with the relevant regional partners.

Additional analysis was conducted to account for the stringency of Covid-19 lockdowns and the level of economic development of the countries in which respondents were headquartered. The Covid-19 government responses stringency index, developed by the Blavatnik School of Government (BSG) at the University of Oxford, captures and aggregates data for 19 different indicators of lockdown policy, economic policy, and health system policy for

2020.[8]

Finally, a basic set of regressions were conducted to further explore the relationship between changes in the level of activity observed between 2019 and 2020 across different verticals and the following three main factors:

1. The development level of the countries in which the firms operate
2. The level of lockdown stringency
3. Firms' participation in providing government relief programs (Appendix 3 summarizes the work conducted.)

1.3 Developing a fintech working taxonomy

For this study, we developed a working taxonomy that conceptualizes fintech activities,[9] while also considering the sector's diversity. The taxonomy includes 12 discrete primary fintech verticals and 88 sub-verticals or models. By either omitting or combining primary verticals and business models, this year's taxonomy refines the one in *The Rapid Assessment Study* that included 103 sub-verticals.

For example, digital banking and digital savings were separated in last year's taxonomy but have been combined into one primary vertical in this study. These primary verticals have been further categorized into two overarching groups: retail facing (those that provide financial products and services to consumers, households, and MSMEs, and which are more likely to be business-to-consumer (B2C)) and market provisioning (those that enable or support the infrastructure or key functionalities of fintech and/or DFS markets, and which are more likely to be business-to-business (B2B)). It is worth noting that the language describing market provisioning fintech activities is quickly evolving, making it difficult for the CCAF research team to approximate the universe of firms that exist within this category. As the CCAF continues its work to understand the fintech activities within market provisioning, we hope to develop a robust and widely accepted language to establish time-series research in this arena. Table 1.1 summarizes this taxonomy. An overview of each of the primary fintech verticals and associated sub-verticals/business models can be found in Appendix 1.

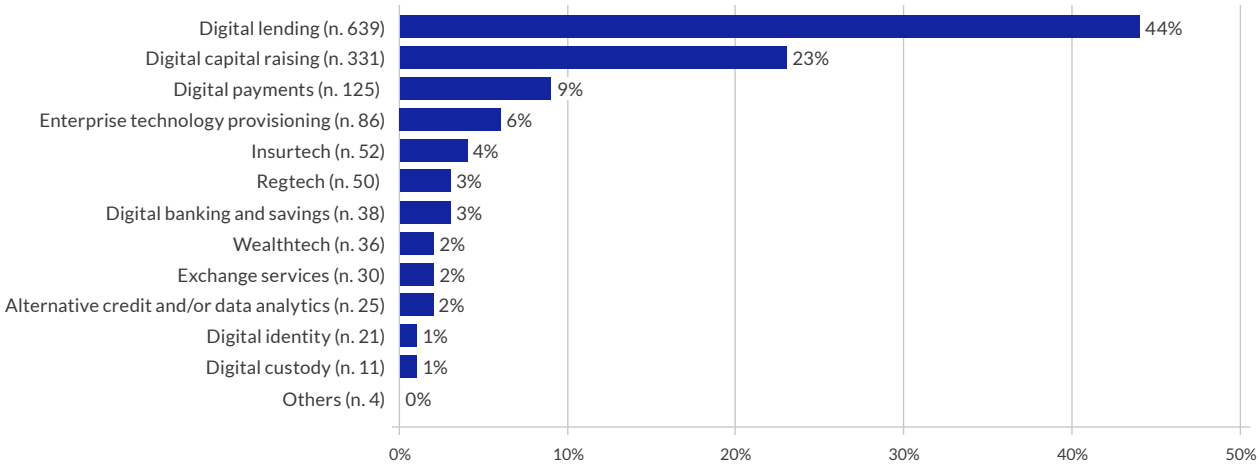
Table 1.1: Fintech taxonomy and classification

Category	Fintech vertical/ business model	Sub-verticals/business models included in each vertical
Retail Facing (Consumers, Households & MSMEs) *Number of respondents 1253*	Digital lending	P2P/marketplace business lending (off-balance-sheet), P2P/marketplace consumer lending (off-balance-sheet), P2P/marketplace property lending (off-balance-sheet), balance-sheet business lending, balance-sheet consumer lending, balance-sheet property lending, customer cash advance or buy now/pay later, debt-based securities/debentures, invoice trading, merchant cash advance, and crowd-led microfinance
	Digital capital raising	Equity crowdfunding, real estate crowdfunding, revenue/profit share crowdfunding, donation crowdfunding, reward crowdfunding, and community shares
	Digital payments	Digital remittances (cross-border P2P), digital remittances (domestic P2P), money transfer (P2P, P2B, B2P, B2B), e-money issuers, mobile money, acquiring services providers for merchants, points of access (PoS, mPoS, online PoS), bulk payment solutions, top-ups and refills, payment gateways and aggregators, API hubs for payments, and settlement and clearing services providers
	Insurtech	Usage-based insurance, parametric-based insurance, on-demand insurance, claims and risk management solutions, comparison portal, customer management, digital brokers or agents, IoT (including telematics), P2P insurance, and technical service providers (TSP)
	Digital banking and savings	Neobank/fully digital native bank, marketplace bank, digital micro-savings solutions, digital moneymarket/fund, agent banking (cash-in, cash-out services), banking-as-a-service (BaaS), and savings-as-a-service (SaaS)
	Wealthtech	Digital wealth management, financial comparison sites, pension planning, personal financial management/planning, robo-advisors, and social trading
	Exchange services	Central order-book exchange, decentralized exchange (dex) models, derivatives platforms, institutional brokerage services, OTC services, P2P marketplaces, retail brokerage services, and trading automation
	Digital custody	Co-managed custody, e-money wallets, hardware cryptoasset wallets, hosted cryptoasset wallets, third-party custody services, and unhosted cryptoasset wallets
Market provisioning *Number of respondents 172*	Enterprise technology provisioning	API management, digital accounting, electronic invoicing, enterprise blockchain, and financial management and business intelligence
	Regtech	Profiling and due diligence, risk analytics, dynamic compliance, regulatory reporting, and market monitoring
	Alternative credit and/ or data analytics	Alternative credit-rating agency, credit scoring, biometric analytics, psychometric analytics, and sociometric analytics
	Digital identity	Security and biometrics, KYC solutions, and fraud prevention and risk management

1.4 Overview of survey respondents

As indicated, the survey dataset contains 1,448 firm-level respondents. Figure 1.1 illustrates the distribution of the dataset by primary vertical. Digital lending and digital capital raising firms alone make up more than 60% of the sample size. Most fintech firms that responded to the survey were classified as conducting retail-facing activities, constituting 87% of the survey sample. The remaining 13% were classified as conducting market provisioning activities: enterprise technology provisioning constituted 6% of the total sample, followed by regtech (3%), alternative credit and/or data analytics (2%), and digital identity (1%).

Figure 1.1: Survey sample composition according to primary fintech vertical (total number, percentage of total)



A significant proportion of the firms operated in more than one jurisdiction. For retail-facing firms, 16% of the lending platforms, 25% of the digital capital raising platforms, and 38% of the payments platforms reported operating in more than one jurisdiction. Although they did not make up a large proportion of respondents, 50% of firms in all four primary verticals classified as market provisioning reported operating in more than one country or jurisdiction. Regtechs were active in the highest number of jurisdictions, with more than 74% of firms registering operational activities in more than one country.

Table 1.2 shows the distribution of respondents and observations by region.

Table 1.2: Respondents and observations by region (percentage of sample, percentage of country in region represented in sample)

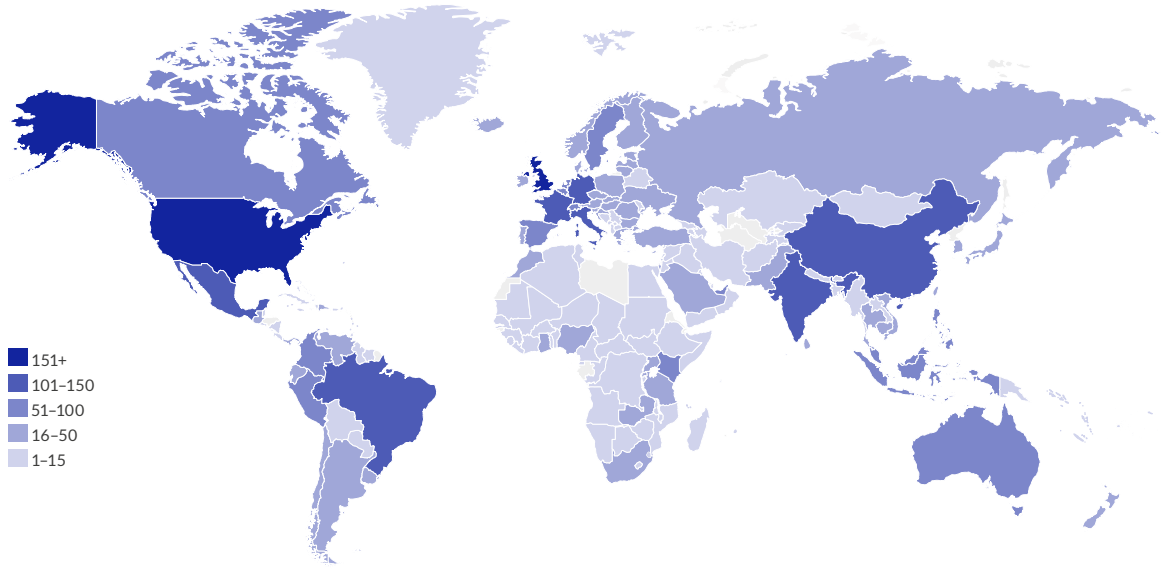
Region	Number of respondents by region	Number of observations by region	Market share of observations (%)
Europe	380	1,645	36
APAC	315	941	20
LAC	259	703	15
SSA	98	459	10
North America (US and Canada)	134	275	6
MENA	32	225	5
United Kingdom	124	221	5
China	106	133	3
Total	**1,448**	**4,602**	

Table 1.3: Respondents by primary vertical (percentage of sample, percentage of country in region represented in sample)

Primary vertical	Number of observations	Proportion of firms operating in more than one country (%)
Digital capital raising	1,384	25
Digital lending	1,232	17
Digital payments	444	38
Regtech	403	74
Enterprise technology provisioning	283	47
Insurtech	186	50
Exchange services	139	50
Digital identity	134	62
Alternative credit and/or data analytics	129	60
Wealthtech	99	50
Digital custody	90	55
Digital banking and savings	73	29
Other	6	25
Total	4,602	

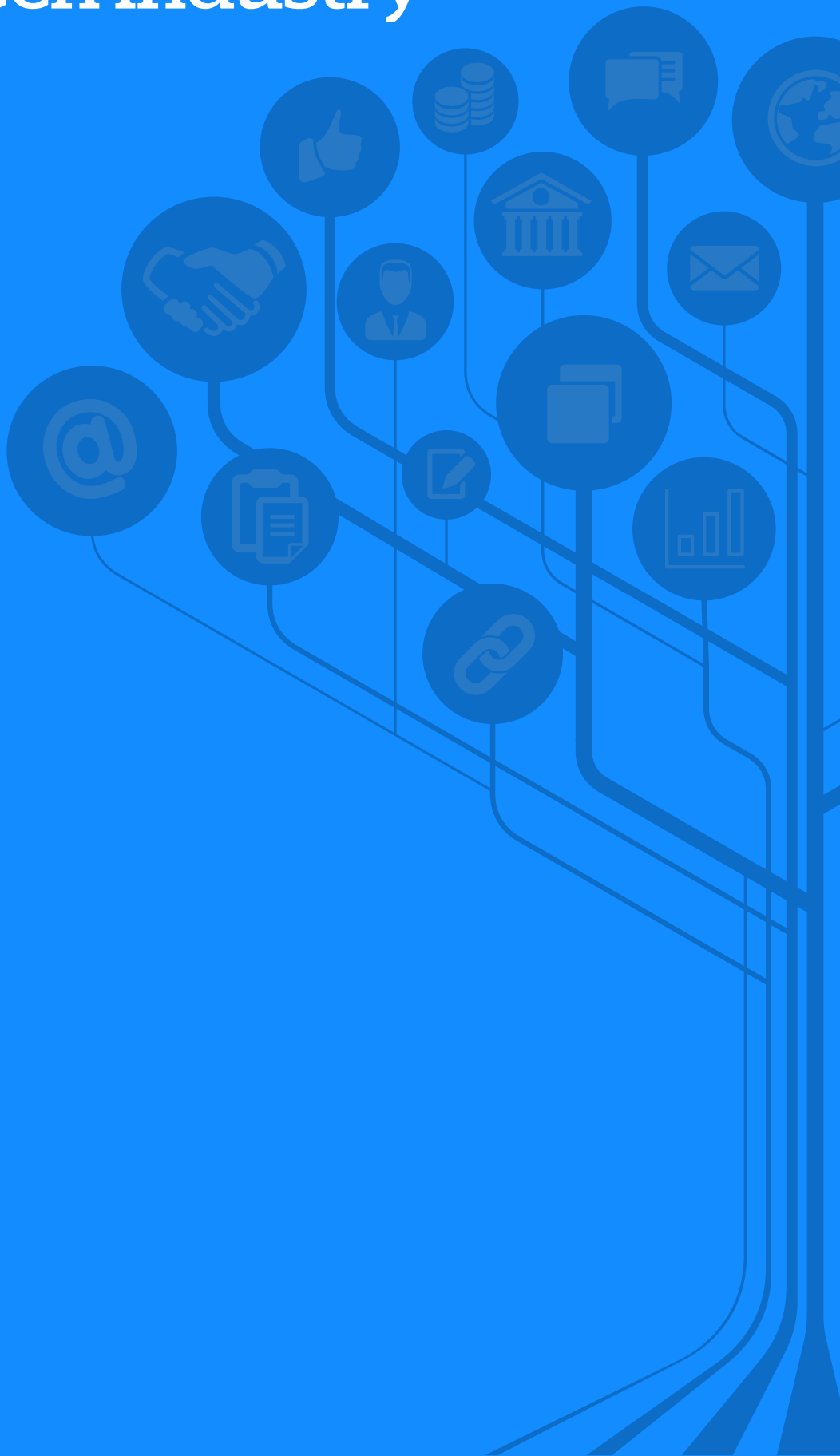
The respondents were headquartered in 105 jurisdictions and operating in 192 countries at the time of the survey (Figure 1.2). The countries with the largest number of unique respondents were the United Kingdom, the United States, India, and Italy.

Figure 1.2: Geographic location of survey respondents (by HQ, operational country, and jurisdiction)



This study also reports responses against eight regional or national fintech markets, where applicable and appropriate. These fintech markets include Asia Pacific (excluding China), China (Mainland), Europe (excluding the UK), the United Kingdom, Latin America and the Caribbean (LAC), the Middle East and North Africa (MENA), North America (the United States and Canada), and sub-Saharan Africa (SSA). A list of countries or jurisdictions included in each region can be found in Appendix 2.

2. A global overview of the fintech industry



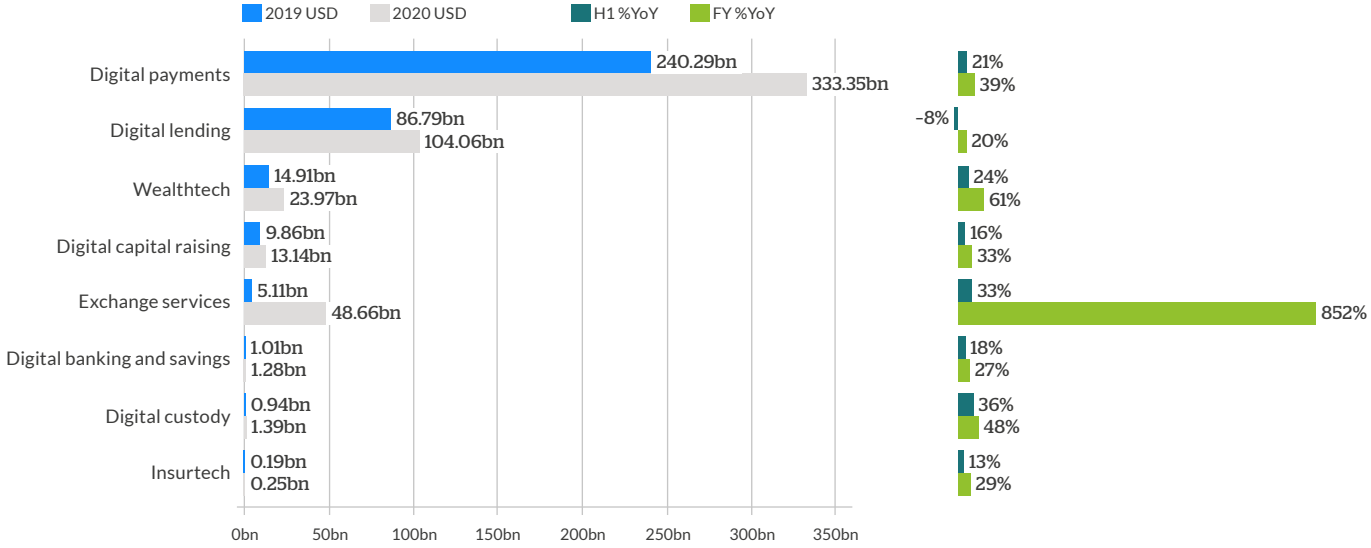
Chapter 2. A global overview of the fintech industry

2.1 Market performance of the global fintech industry

Overall, the fintech ecosystem has grown despite the challenges of the pandemic. From 2019 to 2020, transaction values of retail-facing fintech platforms increased by 47%, reporting USD357.77 billion in 2019 and USD526.21 billion in 2020. Digital payments and digital lending firms remained the top two verticals by transaction value in 2020. However, an interesting development was the growth in the activity of crypto exchanges. Firms in this vertical reported a growth of over 800% in their annual transaction value, which seems to reflect the increased interest of investors in this emerging asset class.

Generally, the rates of growth reported exceeded the expectations of the respondent firms, as indicated in *The Global Rapid Study* (which was based on their first six months of activities in 2020), suggesting that activities grew at a faster pace during the second half of 2020.

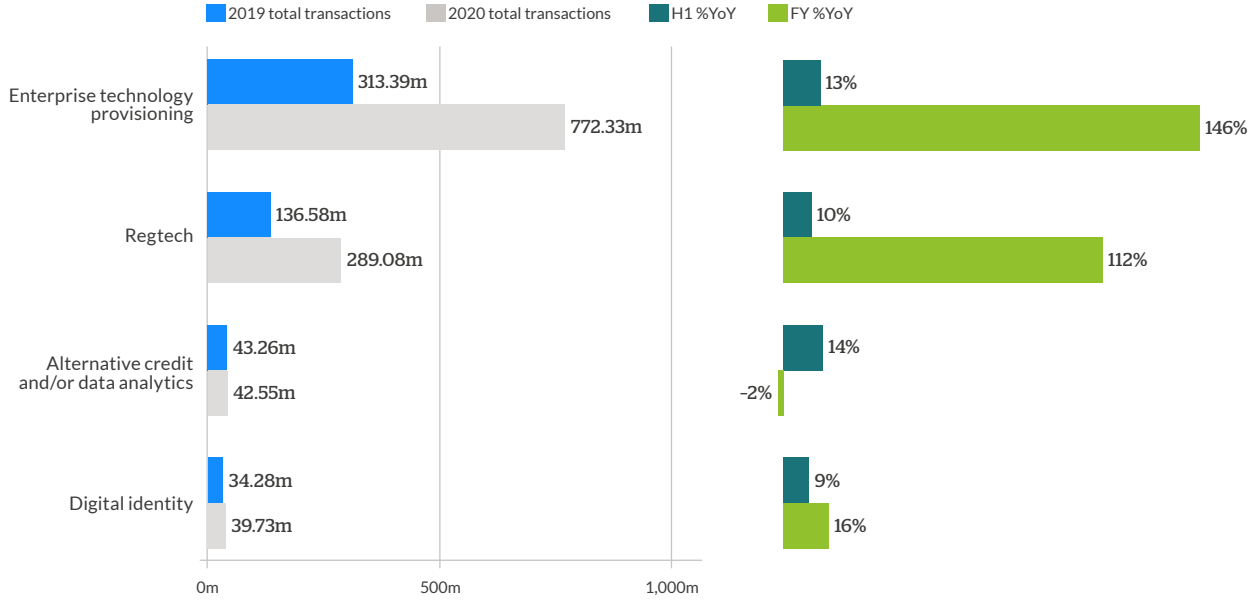
Figure 2.1: Retail-facing fintech transaction values (USD): 2019 vs 2020



**This figure considers total volumes in 2019 and 2020 for digital lending, excluding China.*
Note: The retail-facing total volume for each of the respective verticals shown, denote total value of loan origination successfully transacted (digital lending), total value of funds raised (digital capital raising), total value of payment transactions per year (digital payments), total transaction value executed or facilitated (exchange services, digital custody, and wealthtech), total value of accounts held (digital banking and savings), and total value of gross premiums collected (insurtech)

This growth was evident across all retail-facing verticals, including digital lending firms, which was the only vertical that had originally estimated a decrease in total transaction values for 2020. Contrary to this estimation, the data for the whole of 2020 shows that this vertical grew by 20%, suggesting that lending activities increased in H2-2020. However, it is important to highlight that this growth is largely associated with platforms in AEs and may relate to the inclusion of fintech platforms as distributors of government-based Covid-19 schemes in key markets (North America).[10]

Figure 2.2: Number of executed transactions by market provisioning fintechs: 2019 vs 2020



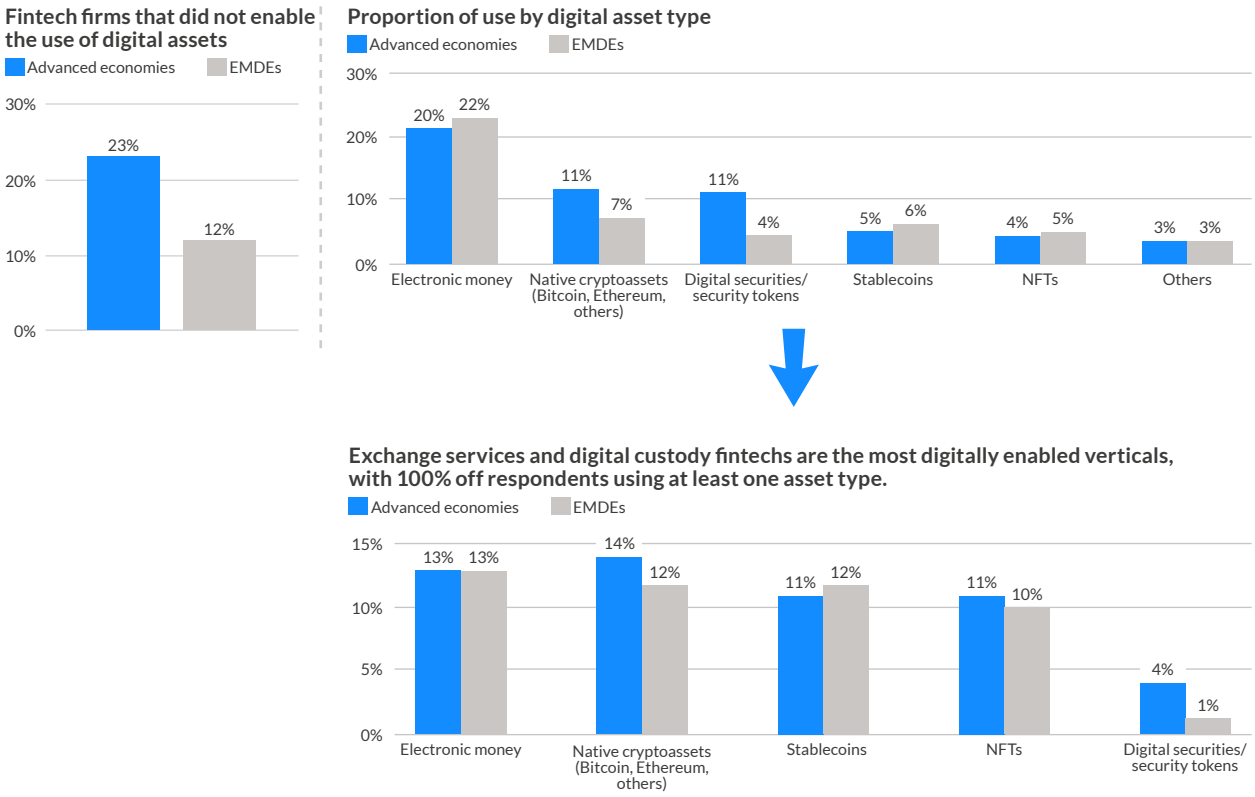
Fintechs that fell under market provisioning activities also reported a substantial year-on-year growth across their verticals. This segment includes firms belonging to alternative credit (or data analytics), enterprise technology provisioning, regtech, and digital identity, all of which focus on service providers as consumers. Because firms operating within these models provide services to other financial service providers, incumbents or fintechs, we could not ask these firms to provide a dollar value to their B2B contracts. Instead, we asked them to provide data on the number of transactions they executed or processed on behalf of their clients in 2020.

In these market provisioning firms, the number of transactions grew by 117%, from 538 million in 2019 to 1.14 billion in 2020. Enterprise technology provisioning and regtech grew at pace and remained the models with the highest transaction activity.

Fintech firms are enabling the use of digital assets across their activities.

In 2020, most retail-facing fintech firms (65%) increased their use of digital assets, especially electronic money. All respondents from the exchange services and digital custody fintech verticals used digital assets, particularly native cryptoassets and e-money.

Figure 2.3(a): Use of digital assets in 2020: all fintech verticals



There was substantial market growth in the exchange services and digital custody verticals in 2020.

Both the exchange services and digital custody verticals reported more than 800% growth in 2020 from 2019 in absolute transaction value delivered to end-users. The top business models contributing more than 90% of the transaction volumes were concentrated within retail brokerage services, central order-book exchanges, and third-party custody services.

Table 2.1: 2019–2020 market share of transaction values (USD): exchange services and digital custody

Primary vertical	Sub-verticals	2019 total volume (USD)	2019 vertical market share (%)	2020 total volume (USD)	2020 vertical market share (%)	Top three countries by vertical share
Exchange services	Retail brokerage services	2.3bn	42.10	28.8bn	59.15	United Kingdom, United States, and India
	Central order-book exchange	2.4bn	43.20	16.2bn	33.21	
Digital custody	Third-party custody services	936.3m	99.78	1.4bn	97.55	Nigeria, China, and United States

While most fintech firms predominantly used digital assets to enable payment services, exchange services and digital custody fintechs placed a greater emphasis on investment facilitation.

Figure 2.3(b): Purpose of use of digital assets in 2020: all fintech verticals

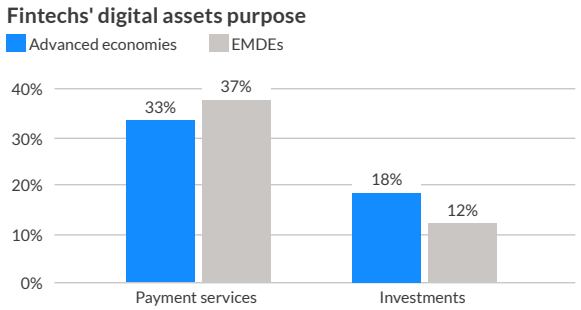
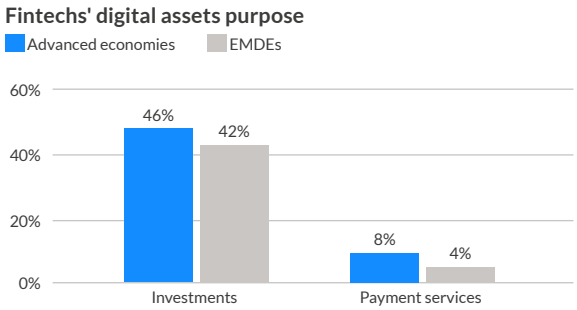


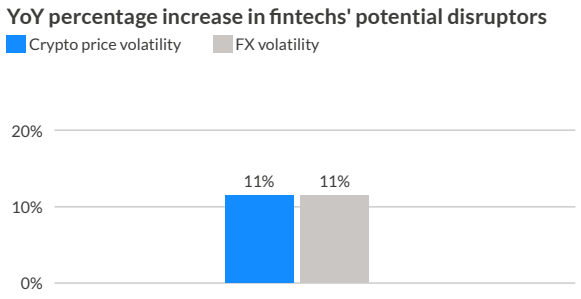
Figure 2.3(c): Purpose of use of digital assets in 2020: exchange services and digital custody

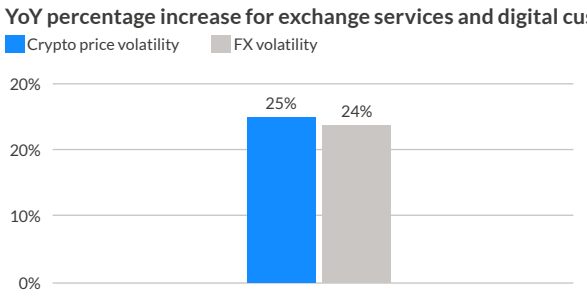


In 2020, fintech firms noted an 11% increase in crypto and forex volatility risks against their 2019 perceived risks of these disruptors.

Exchange services and digital custody firms reported that crypto and volatility risks had more than doubled.

Figure 2.3(d): Change in crypto price and forex volatility (percentage, year-on-year) in 2020: all fintech verticals





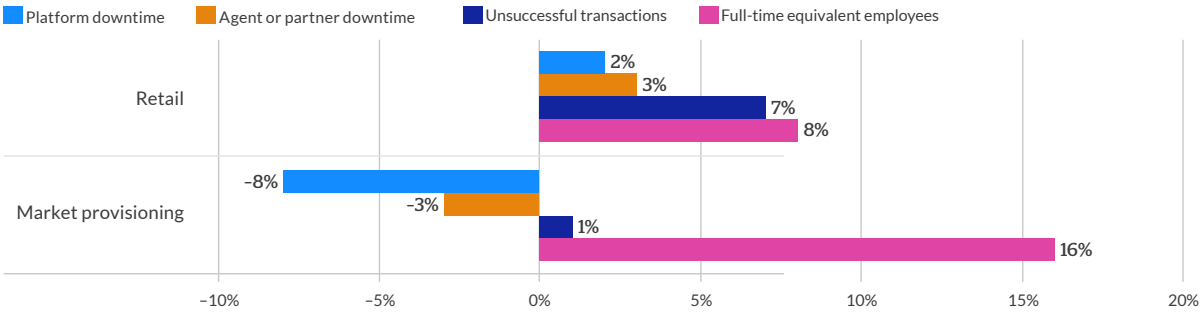
2.2 Market resilience and financial health

Using their 2019 experience as a benchmark, firms were asked to compare how key performance and cost indicators changed in 2020 due to the pandemic.

Challenges faced by fintech firms in 2020

Overall, firms reported a higher increase in operational challenges such as unsuccessful transactions and agency downtime, with platform downtime declining slightly.

Figure 2.4: Operational performance indicators (percentage change, year-on-year): all fintech verticals



**Top markets by top three regions: Europe: Italy, Spain, and France; APAC: India, Singapore, and Australia; LAC: Brazil, Mexico, and Colombia*

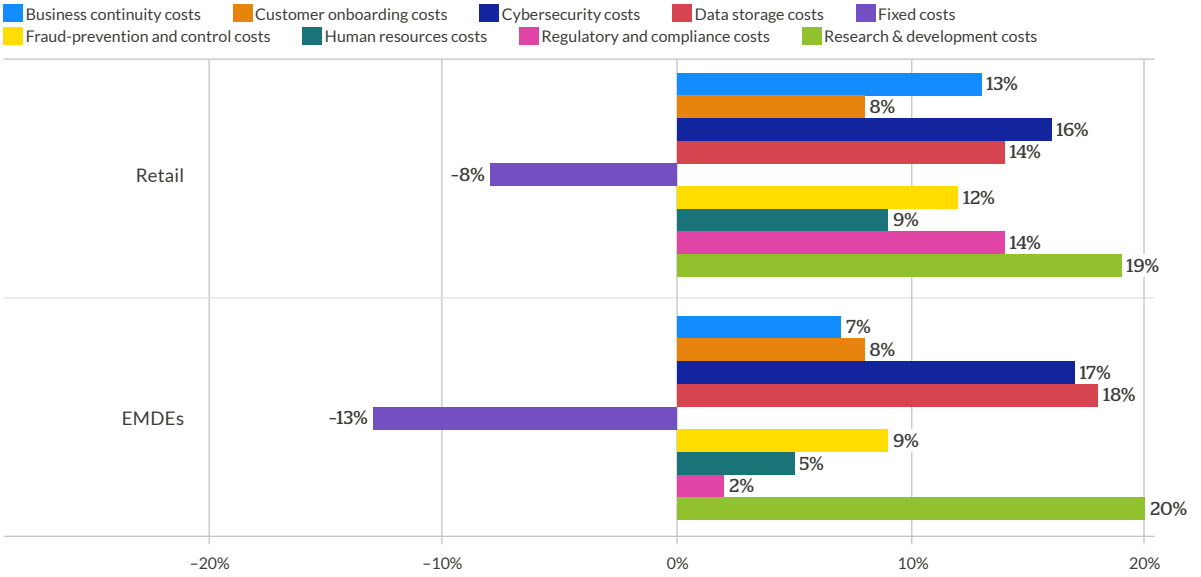
As shown in Figure 2.4, of retail-oriented fintechs faced more operational challenges than market provisioning ones. In terms of business model, the retail-oriented exchange services firms, and digital banking and savings firms were the hardest hit in terms of unsuccessful transactions and platform downtime. Regarding agent or partner downtime, digital payments and digital lending saw the largest increases. In contrast, the smallest increase in all three metrics was seen in insurtech firms.

Market provisioning firms showed a decrease in platform downtime, agent or partner downtime, and unsuccessful transactions caused by the sharp decline of enterprise technology provisioning firms.

Firms also reported an increase in the number of full-time equivalent employees (FTEs), although this increase is slightly smaller than the estimated values presented in *The Rapid Assessment Study* in H1-2020.[11] The increase in the number of FTEs was mainly driven by alternative credit and/or data analytics, regtech, and digital identity firms.

Although this study does not track nominal annual expenditure change, it does provide a snapshot of how a company's cost structure across various expenditure categories changed in 2020 against a 2019 benchmark. Firms reported an increase in all costs, the only exception being fixed costs (associated with office or other physical workspaces).

Figure 2.5: Changes to cost structure (percentage change, year-on-year): all fintech verticals



For all fintechs, the highest increases were in R&D costs, followed closely by cybersecurity costs and data storage costs. The increases in R&D expenses seem to correlate with the innovation expected in these firms. The increase in cybersecurity costs seems directly related to the concerns expressed in the 2020 study about increased cybersecurity risks and suggests that firms are responding to these challenges The increase in data storage costs is higher than fintechs had anticipated in *The Rapid Assessment Study*, while customer onboarding costs remained the same.[12]

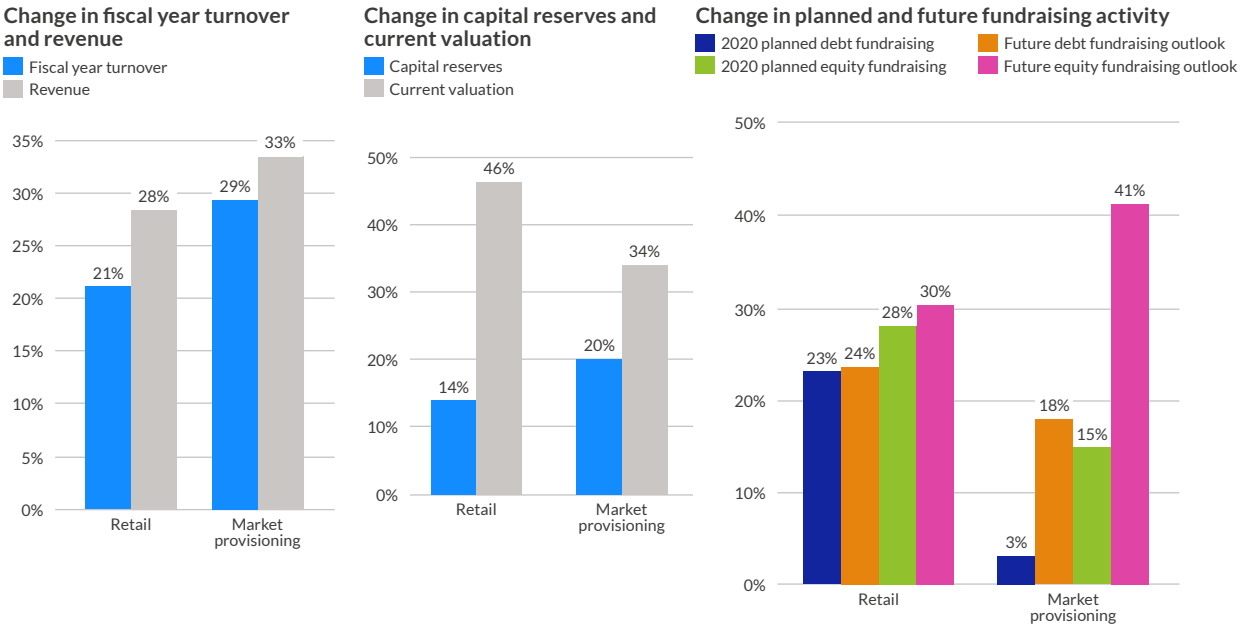
In contrast, HR, regulatory and compliance, and fixed costs differed between retail-facing and market provisioning companies. The higher increase in HR costs for market provisioning firms is not surprising given the increase in the number of FTEs reported. In terms of retail-facing platforms, digital banking and savings, digital lending, and wealthtech firms observed an above-average increase in HR costs. However, regtech business models from market provisioning fintechs reported the highest increases in HR costs. Retail-facing fintechs reported much higher increases in regulatory and compliance costs than market provisioning firms. This increase was mainly due to the retail-facing digital banking and savings, wealthtech, digital lending, and digital payment firms. In contrast, enterprise technology provisioning firms in the market provisioning sector experienced a decrease in regulatory and compliance costs.

Regarding fixed costs, market provisioning firms reported greater decreases than retail-facing firms. This was especially true for insurtech and regtech firms. Those firms that saw sharp declines in their fixed costs were mainly in jurisdictions with high stringency lockdown measures, suggesting that demand for office space has decreased due to stricter social distancing measures and work-from-home procedures.

Financial positioning changes in 2020

On average, firms noted substantial increases in their revenue and fiscal year turnover[13] compared to 2019. Market provisioning firms reported higher increases in both growth indicators compared to retail-facing firms. This contrasts with the findings from our first study in which firms anticipated their revenue and turnover would decrease. However, our data for the full year now shows that globally, fintech firms have not only matched but have exceeded turnover targets for 2020.

Figure 2.6: Impact of Covid-19 on (a) revenue and fiscal turnover, (b) capital reserves and current valuation, and (c) planned and future fundraising activity (percentage change, year-on-year): all fintech verticals



*Top markets by top three regions: Europe: Italy, Spain, and France; APAC: India, Singapore, and Australia; LAC: Brazil, Mexico, and Colombia

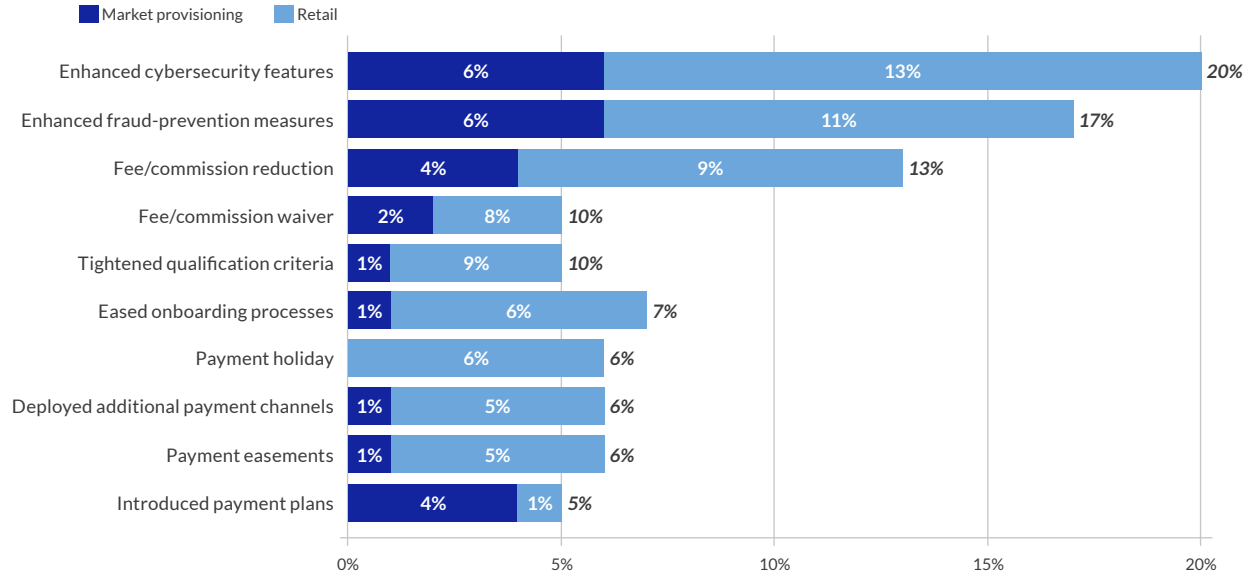
The observations also apply to capital reserves, valuations, and fundraising. In *The Rapid Assessment Study*, firms reported they expected the pandemic to negatively impact all these indicators. And again, one year later, fintechs reported increases across the board. Overall, these improvements seem to reflect firms' confidence and, potentially, that of investors in the current health and prospects of the industry. Market provisioning platforms reported higher expectations in future equity fundraising compared to retail-facing firms which expected greater increases in future debt fundraising than market provisioning platforms.

2.3 Market dynamics

Fintech changes in policies, products, and services in response to Covid-19

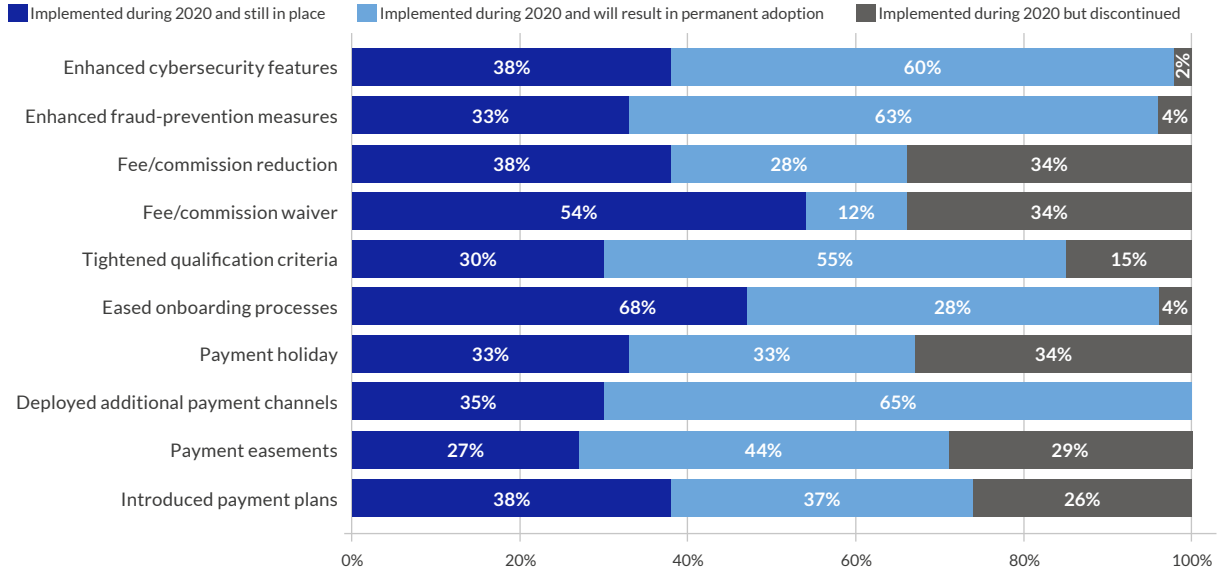
Fintech firms responded to Covid-19 by changing their existing terms, products, and service agreements. Of the surveyed firms, 89% reported making two or more changes to their existing products or services. In most cases, these changes continued throughout 2020 or were permanently adopted. While all fintechs responded to the pandemic, how they implemented changes to their products, services, and policies varied.

Figure 2.7(a): Top ten implemented changes to existing products, services, and agreements (percentage of respondents): all fintech verticals



**Top markets by top three regions: APAC: Malaysia, Indonesia, and Singapore; Europe: Italy, Spain, and France; United Kingdom*

Figure 2.7(b): Implementation status of changes to existing products, services, and agreements: all fintech verticals



**Top markets by top three regions: APAC: Malaysia, Indonesia, and Singapore; Europe: Italy, Spain, and France; United Kingdom*

Overall, more than one-third of fintechs prioritized enhancing cybersecurity features and fraud prevention in 2020. These changes might be in response to the increase in cybersecurity risks that firms reported. Nearly all respondents noted that changes related to cybersecurity and fraud prevention either continued throughout 2020 or were permanently adopted.[14]

Approximately 73% of firms also prioritized changing their price setting. Retail-facing firms reduced or waived fees/commissions, while those from market provisioning verticals introduced payment plans. A significant number of fintechs reported they will be permanently adopting the fee/commission waiver and reduction features, however, over one-third of firms had discontinued these pricing changes as they directly affected their revenue. Fintechs belonging to digital payments, digital custody, and exchange services reported implementing more price structure changes relative to other verticals.

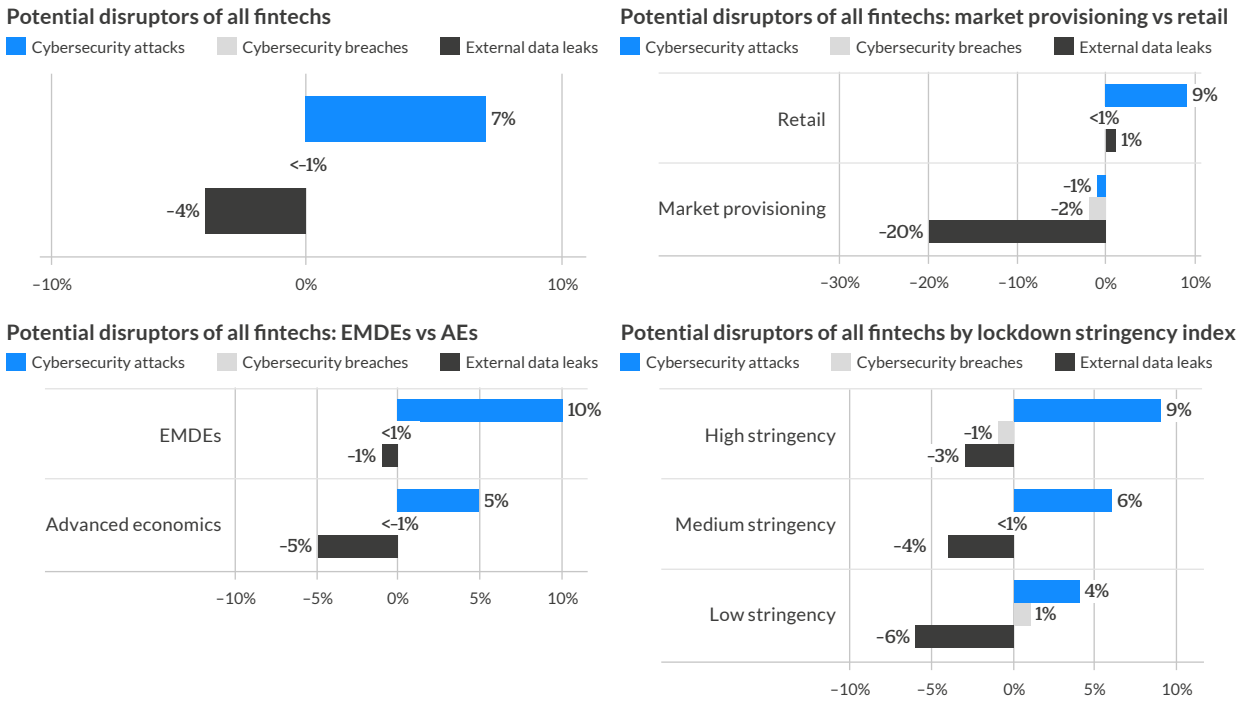
How clients were onboarded was also one of the top changes in pricing/policy that firms implemented, with 17% tightening qualification criteria and easing onboarding processes. Most firms reported that these changes had continued throughout 2020 or will be permanently adopted.

Impact of cybersecurity risks on fintech operations

Fintech firms saw a rise in the number of cybersecurity attacks, but no significant increase in breaches.

In 2020, respondent fintechs reported an increase in cybersecurity attacks, particularly against retail-facing activities, and firms in EMDEs and jurisdictions with high stringency lockdown measures. Despite an increase in attacks, firms reported no significant change in successful cybersecurity breaches and fewer instances of external data leaks.

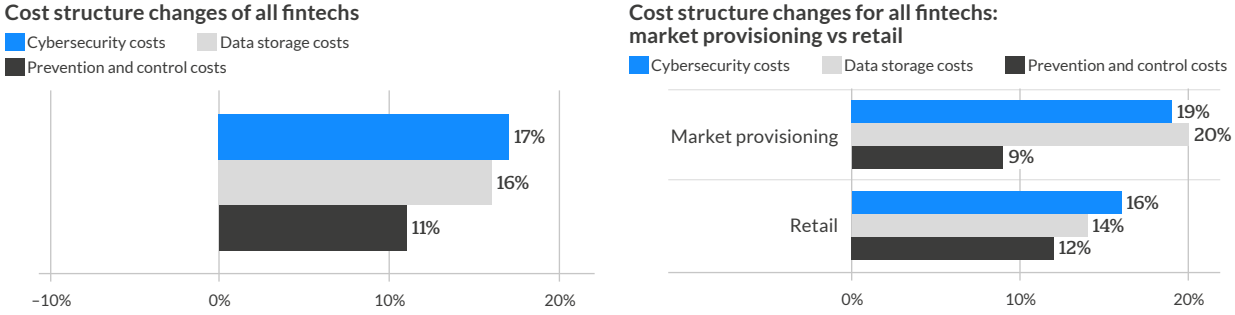
Figure 2.8(a): Change in potential cybersecurity disruptions (percentage change, year-on-year) by economic development and lockdown stringency: all fintech verticals



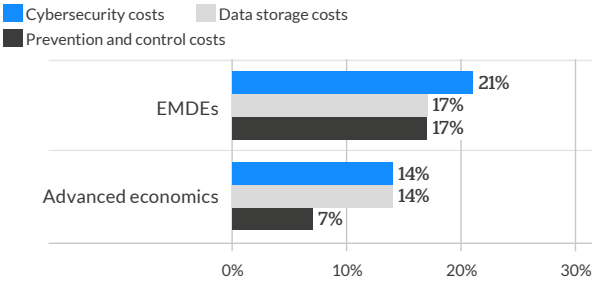
Fintechs increased their budgets for cybersecurity, fraud prevention, and data safety.

The resilience against increased cybersecurity risks may be attributed to firms substantially increasing their investment in cybersecurity and related costs. Globally, fintechs' highest increases in expenditure were related to cybersecurity costs, followed by data storage costs, compared to their 2019 expenditure.

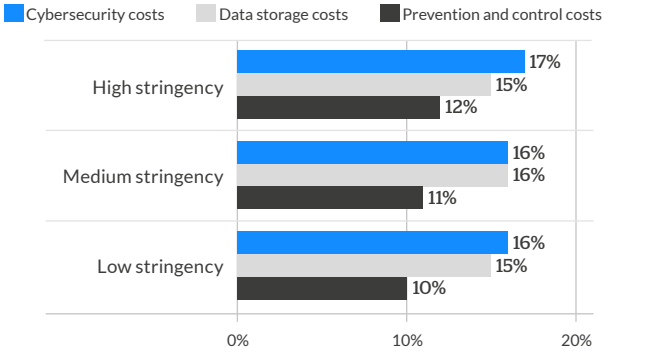
Figure 2.8(b): Change in cost structure to cybersecurity features (percentage change, year-on-year) by economic development and lockdown stringency: all fintech verticals.



Cost structure changes of all fintechs: EMDEs vs AEs



Cost structure changes of all fintechs: by lockdown stringency index

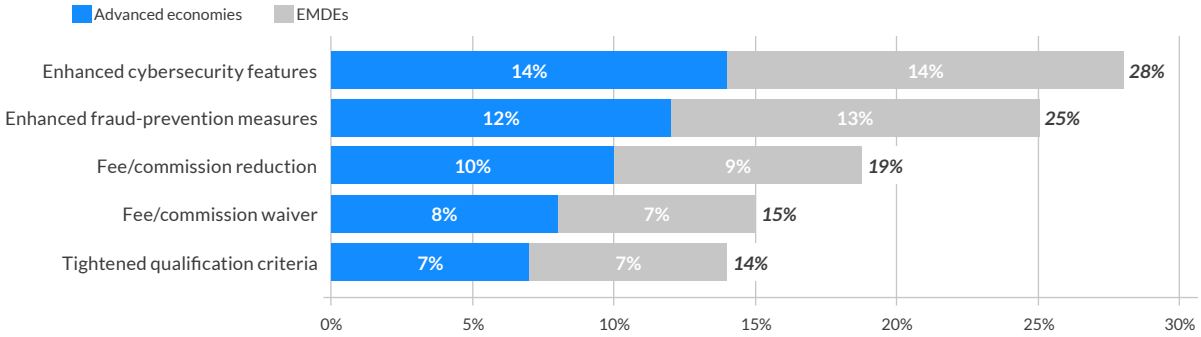


To combat cybersecurity risks, firms enhanced their product and service offerings.

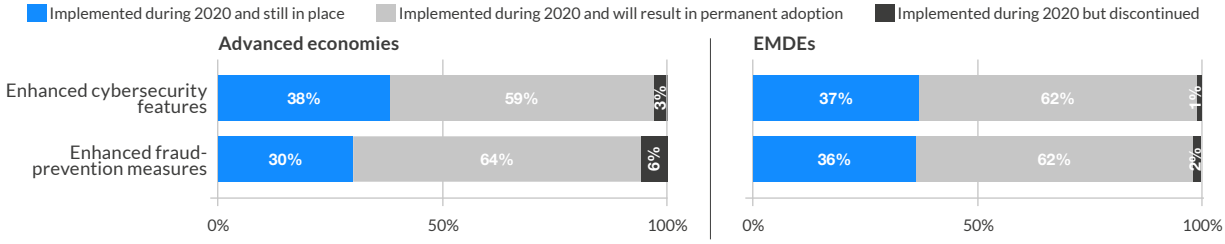
Enhanced cybersecurity features and fraud-prevention measures were the top two policy and service changes adopted by fintechs globally. Firms reported that these adjustments resulted in permanent changes to their business model, positively impacting their business operations.

Figure 2.8(c): 2020 top five pricing changes, implementation status, and impact of changes to cybersecurity features by economic development: all fintech verticals

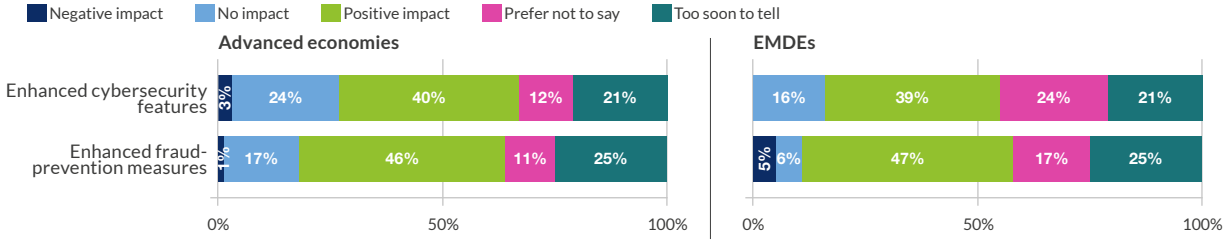
Top five pricing changes EMDEs vs AEs



Implementation status of enhanced cybersecurity features



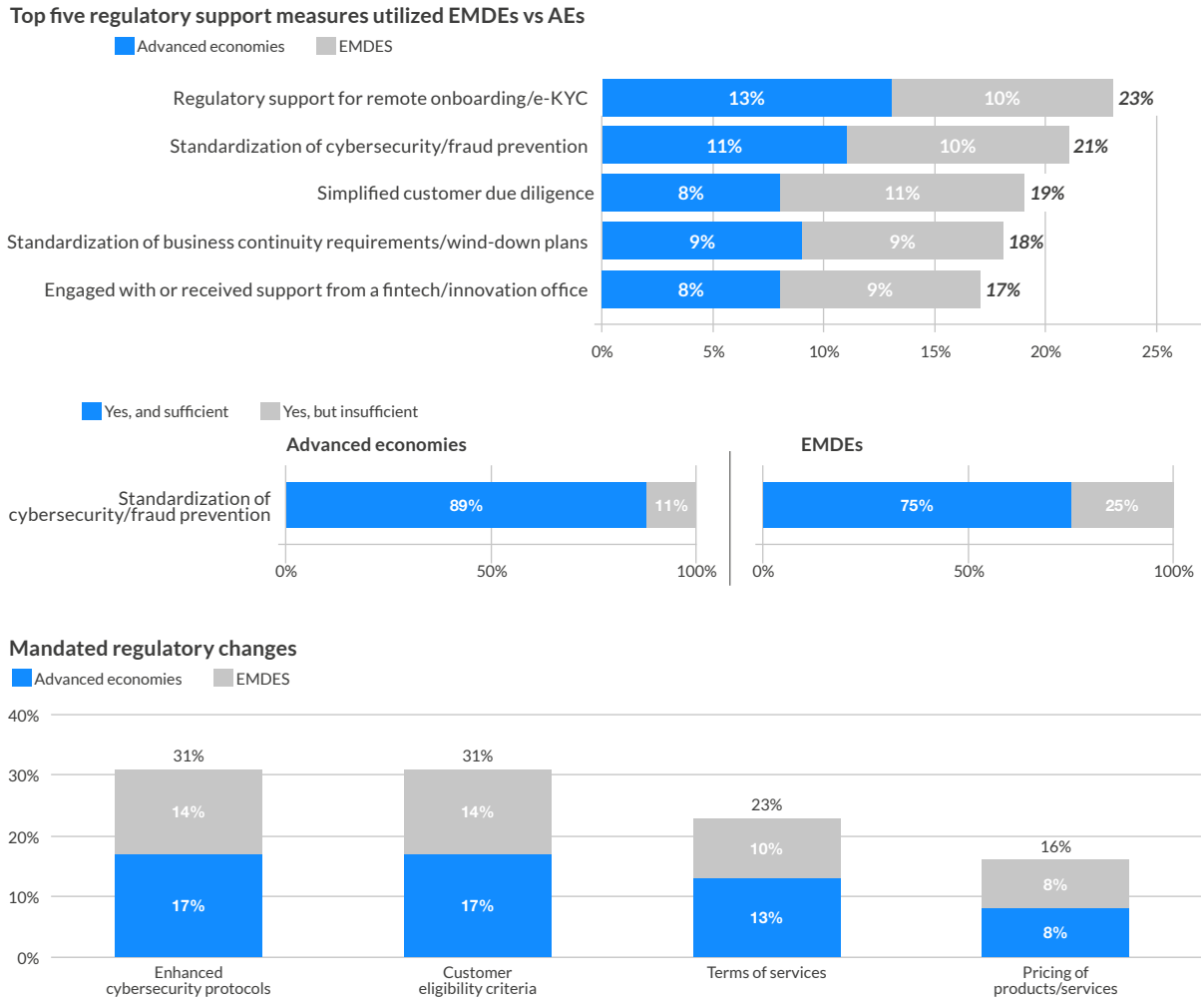
Impact of enhanced cybersecurity features



Firms used regulatory support related to cybersecurity.

One of the top regulatory interventions that fintech firms used was for standardizing cybersecurity and fraud-prevention measures. Globally, firms perceived this intervention as sufficient according to their expectations of their regulator. Additionally, in a limited number of jurisdictions, regulators also focused on the potential dangers of increased cybersecurity attacks and in 2020 imposed mandated regulatory changes related to cybersecurity protocols.

Figure 2.8(d): 2020 top five regulatory support measures used and mandatory regulatory changes by economic development: all fintech verticals



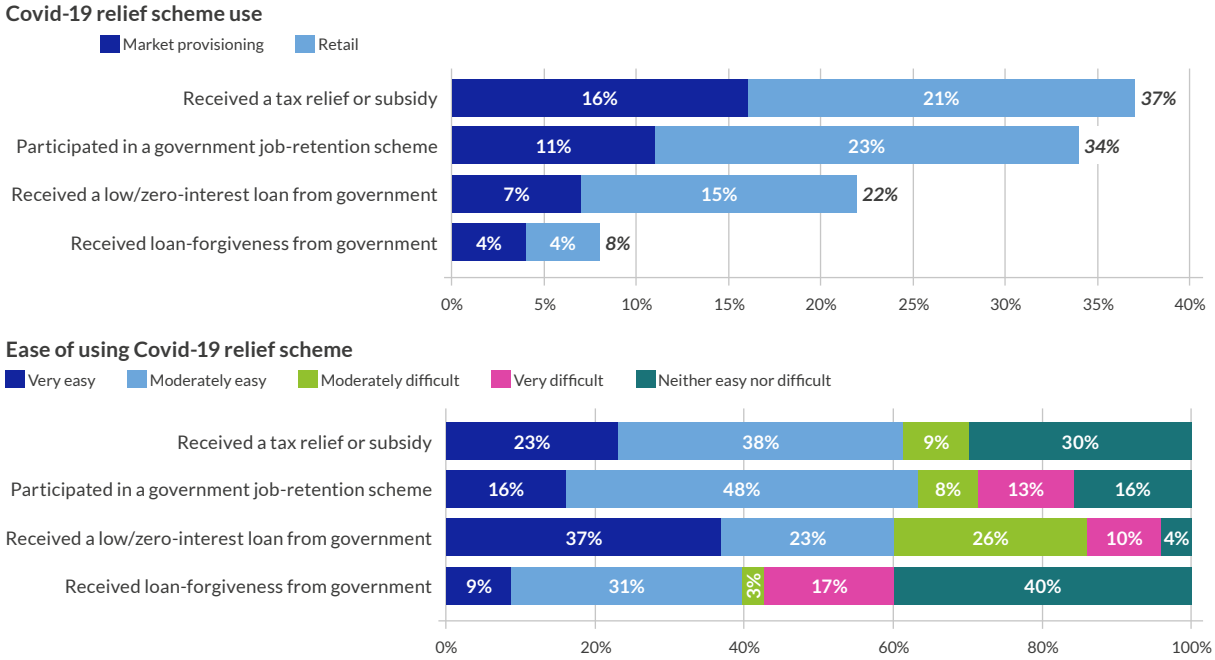
Top three verticals using regulatory support for cybersecurity/fraud-prevention standardization are digital payments, digital custody, and digital lending.

2.4 Regulation, policy, and government intervention

Participation in Covid-19 relief measures

Governments across the world have responded to the pandemic with a myriad of policy measures, including providing economic relief packages to households and companies.

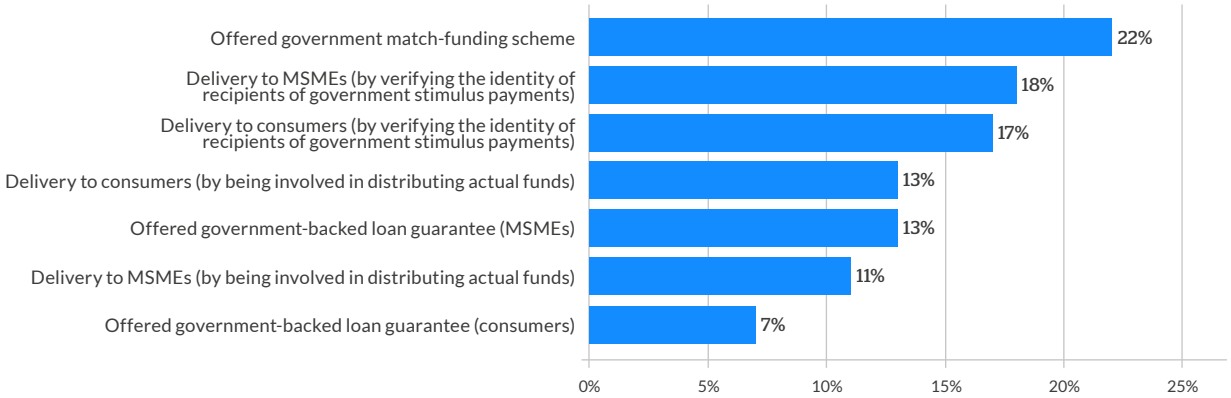
Figure 2.9: Government interventions (percentage of respondents using a government scheme and ease of use): all fintech verticals



*Top markets by top three regions: APAC: Australia, Singapore, and India; Europe: France, Italy, and Spain; United Kingdom

Globally, nearly 18% of respondent fintech firms used Covid-19 relief schemes in 2020. Of those firms, more than 70% either received a tax subsidy or participated in a government job--retention scheme, and nearly one-quarter received a low- or zero-interest loan. This proportion was as high as 40% for digital capital raising and digital banking firms.

Figure 2.10: Delivery or implementation partner in government-backed Covid-19-related relief measures or schemes (percentage of respondents): all fintech verticals



*Top markets by top three regions: APAC: Malaysia, Indonesia, and Singapore; Europe: Italy, Spain, and France; United Kingdom

In addition to using relief programs, one-fifth of fintechs also helped to deliver government-sponsored Covid-19 relief measures. While this is a low percentage, the number of fintechs delivering government relief measures in 2020 was higher than expected compared to the results reported in *The Rapid Assessment Study* (9%).[15] This suggests that during the pandemic, some governments started including fintechs in the types of firms through which they delivered assistance. Digital lending, digital payments, and insurtech fintechs were the most used by governments to deliver Covid-19 relief programs and, in general, they assisted in delivering funding programs (for example, loan programs). In addition, some market provisioning firms supported government efforts related to ID identification, for example, identifying MSMEs or individuals so they could receive funding.

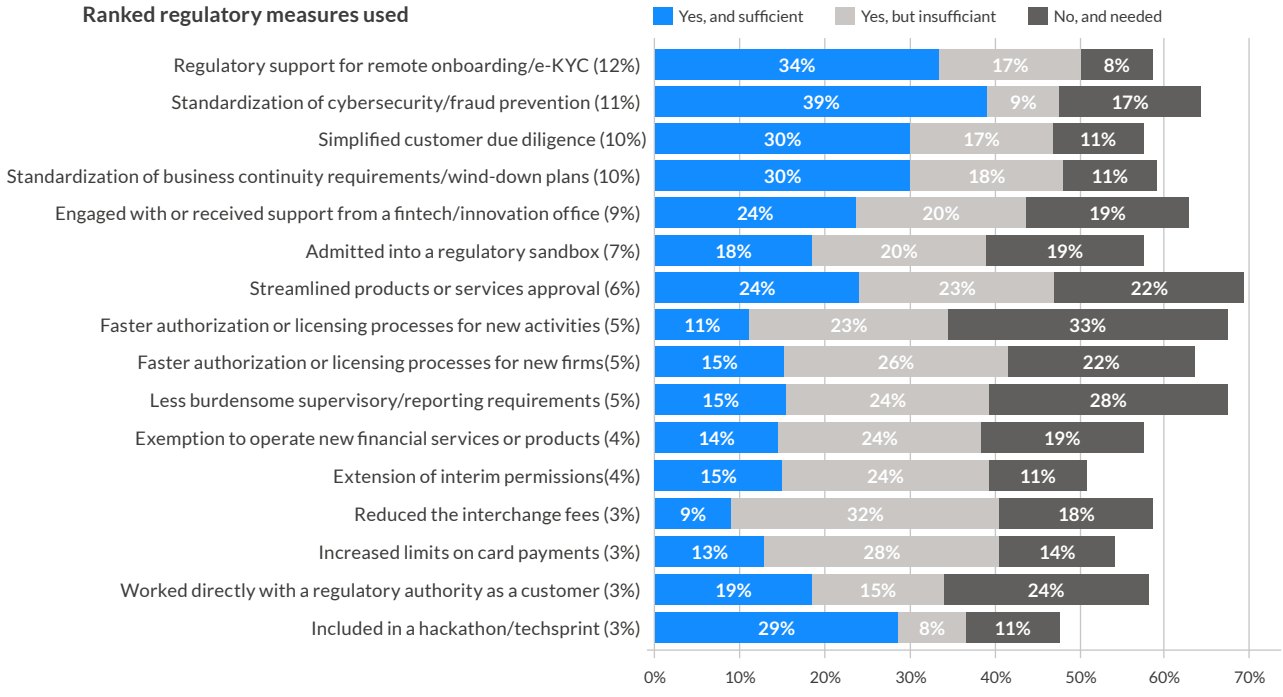
More than three-quarters of the firms that helped to deliver government Covid-19 schemes had to change some of their products and services, usually those related to qualification criteria or pricing. Despite these forced adjustments, approximately 58% of those firms reported that participating in government delivery schemes positively impacted their revenue and turnover. This was especially true for digital payment and insurtech firms, 80% of which reported a positive financial impact due to participation.

Of the firms that acted as a delivery or an implementation partner in a government relief scheme, more than 25% came from the top 100 performing fintechs based on 2020 annual transaction values. Those firms also tended to be relatively mature as most of them were categorized as being between the Series A and pre-IPO stage of business development. Also, almost one-third of these high-performing participating platforms focused on relief schemes that delivered funds to MSMEs, with more than 40% identifying as Series B or C recipients. More than 50% of the delivery and implementation partners of the most used relief schemes were among these top 100 firms, suggesting that government agencies and bodies were more likely to rely on mature platforms than emerging ones.

Finally, firms that participated in delivering government relief programs exhibited higher levels of activities than their counterparties overall. This relationship was confirmed by the regression analysis conducted and is summarized in Appendix 3.

Regulatory responses and policy needs during Covid-19

Figure 2.11: Regulatory support initiatives (percentage of respondents): all fintech verticals use and needs



To ensure their activities could continue through the disruption caused by Covid-19, fintechs also took advantage of different regulatory support mechanisms or interventions.

We can broadly categorize regulatory interventions as either core regulatory support mechanisms or regulatory innovation initiatives. Core regulatory support mechanisms include those that support fintech as a business (for example, streamlining business operations related to licensing, permissions, or other mechanisms related to authorization) or customer engagement (for example, KPI reporting, client management, and customer due diligence). In contrast, regulatory innovation initiatives include broader ecosystem enabling structures, such as fintech innovation offices, regulatory sandboxes, and hackathons.

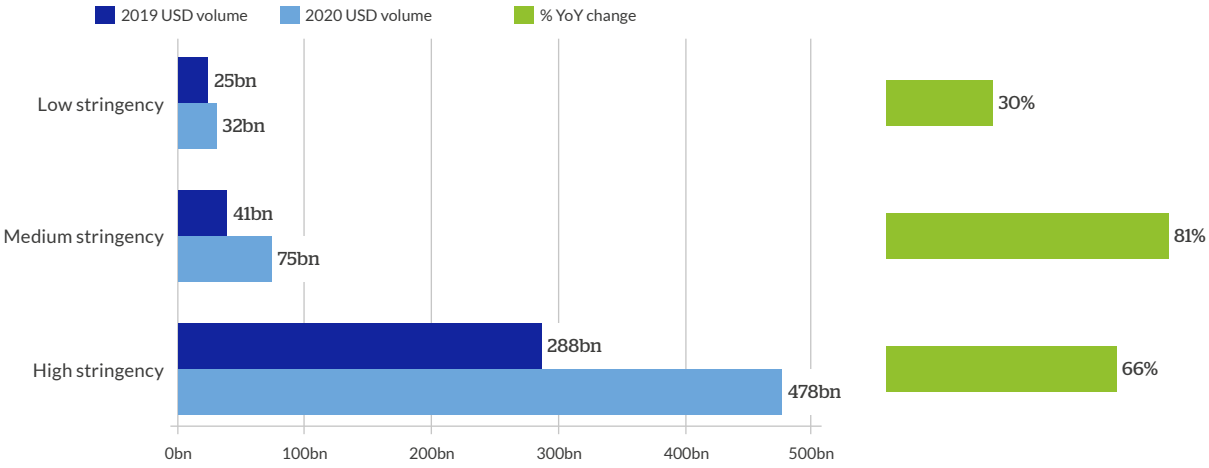
Of the respondent fintechs, 35% used at least one regulatory support mechanism. Of those, most used core regulatory support mechanisms. The measure most used was regulatory support for remote onboarding/e-KYC, followed by cybersecurity/ fraud-prevention standardization, and simplified customer due diligence. The use of regulatory support for remote onboarding/e-KYC and simplified customer due diligence had continued through the pandemic as these were also the most used measures in the first half of 2020.[16] Across the most used regulatory support measures, most fintechs reported receiving sufficient support.

In terms of areas that needed improved regulatory support, fintechs identified faster authorization or licensing processes for new activities and less burdensome supervisory requirements as the two areas that most needed support. For the two measures identified, more firms indicated the need for improved support compared to those that believed existing support was sufficient.

2.5 The impact of Covid-19 lockdowns on fintechs

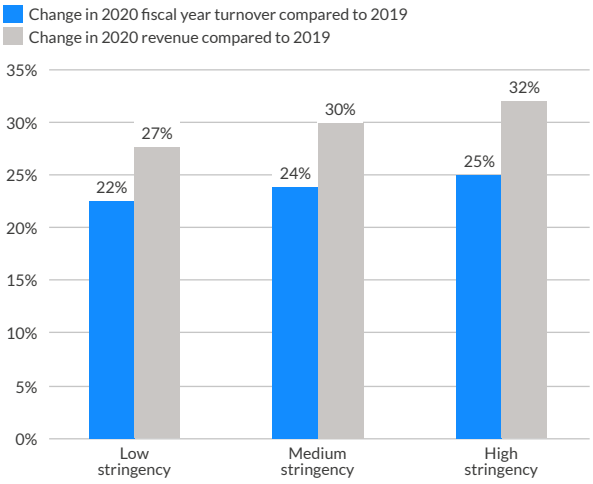
Governments worldwide responded to Covid-19 with lockdown measures of varying severity.

Figure 2.12: Transaction values from fintechs in low, medium, and high Covid-19 lockdown stringencies (percentage change, year-on-year): retail-facing fintech verticals



Retail-facing firms in jurisdictions with more stringent Covid-19 lockdown measures reported increased growth in transactional values between 2019 and 2020, in line with the trend observed in *The Rapid Assessment Study*, suggesting that the adoption of fintech-based products and services was higher in those jurisdictions. We conducted a regression analysis to validate these findings, the results of which are in Appendix 3.

Figure 2.13: Impact of Covid-19 on financial position in jurisdictions with low, medium and high lockdown stringencies (percentage change, year-on-year): all fintech verticals



In *The Rapid Assessment Study*, fintechs reported marginal decreases in their fiscal year turnover in the first half of 2020 across all stringency levels. However, the year-on-year performance showed that fiscal year turnover grew by more than 20%, on average, in 2020 compared to 2019 across all stringency levels. A similar pattern was observed for revenue.

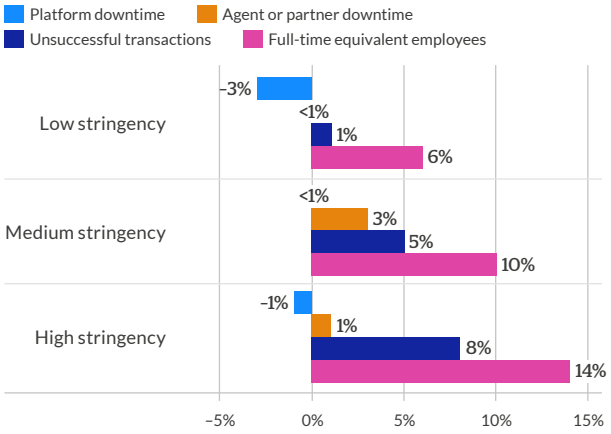
Firms in jurisdictions with high stringency lockdown measures also reported greater increases in their current valuation and capital reserves in 2020 than in 2019. In contrast, 2020 planned and future fundraising activities, related to both debt and equity, exhibited higher improvements in jurisdictions with less strict lockdown measures than those in jurisdictions with high stringency lockdown measures.

Lockdown stringency impact on operational indicators

In general, fintechs reported an increase in operational challenges, which may be related to the rise in consumer demand for digitized services because of lockdown measures. In particular, partner downtime and the number of unsuccessful transactions rose as stringency levels increased from low to high. Furthermore, the number of unsuccessful transactions jumped exponentially in firms in high stringency lockdown jurisdictions compared to those in low stringency lockdown jurisdictions.

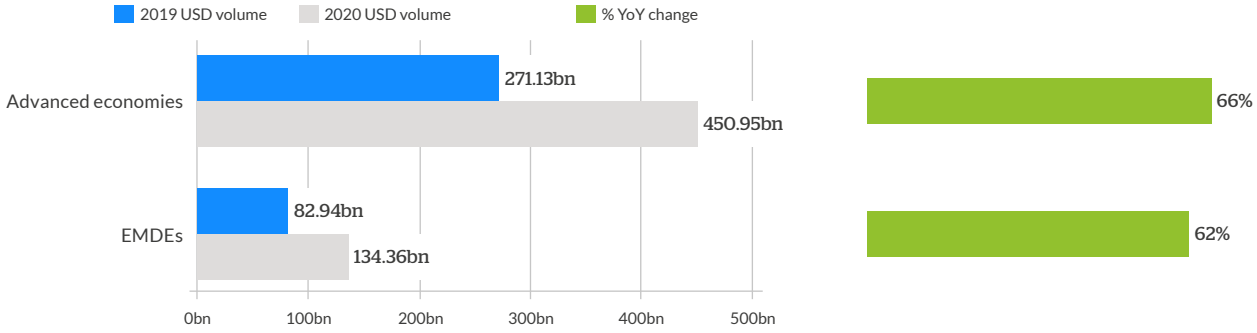
Similarly, firms in jurisdictions with high stringency lockdown measures reported a greater increase in the number of FTEs. In terms of fintechs' ability to provide uninterrupted platform services, which we tracked using the platform downtime indicator, there was an improvement across all stringency levels.

Figure 2.14: Operational performance indicators in jurisdictions with low, medium and high lockdown stringencies (percentage change, year-on-year): all fintech verticals



2.6 Fintech markets by World Bank income groups

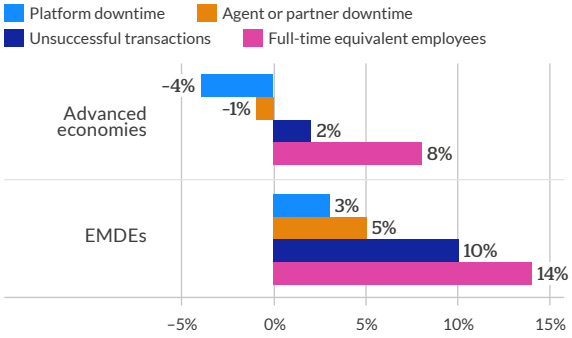
Figure 2.15: 2019 vs 2020 retail-facing fintech transaction values by WBG income groups (USD)



To assess the impact of Covid-19 on fintechs based on the level of economic development, we separated the survey respondents into either EMDEs or AEs.

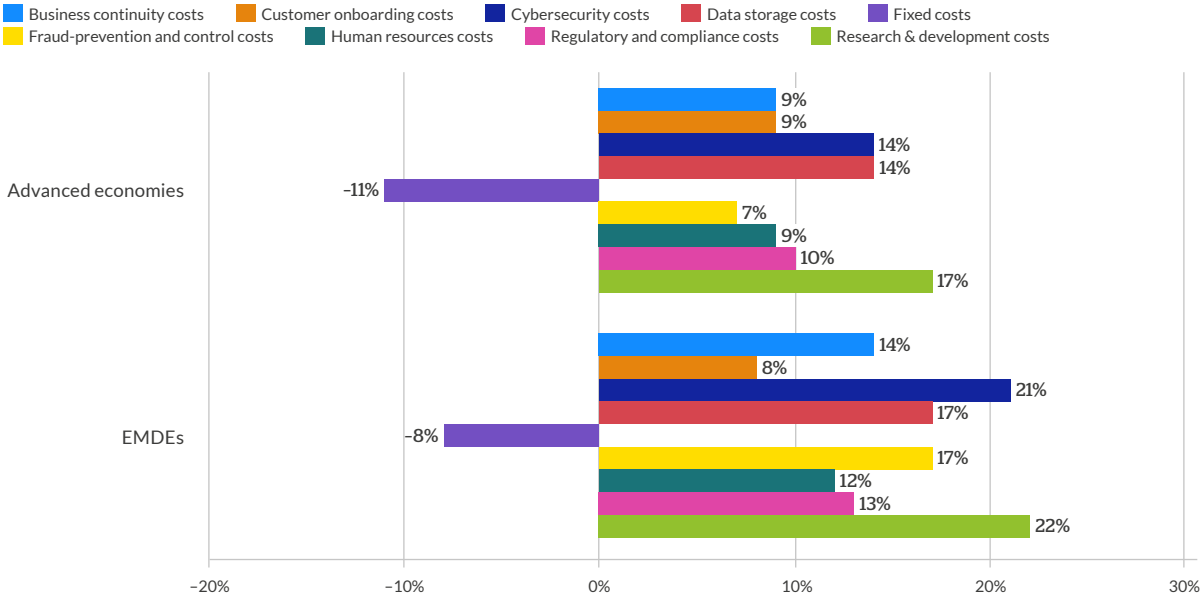
Overall, based on the year-on-year growth from 2019 to 2020, fintech activities increased in firms in both AEs and EMDEs, although at a slightly higher rate in firms operating in AEs, and from a higher base. Thus, activities in AEs far surpassed those in EMDEs. The net transaction value was 338% higher in AEs than in EMDEs, amounting to USD450.95 billion in 2020. The correlation between the level of activity and level of development of the countries in which the fintechs operated was validated by the regression analysis conducted and is included in Appendix 3.

Figure 2.16: Operational performance indicators, AEs vs EMDEs (percentage change, year-on-year): all fintech verticals



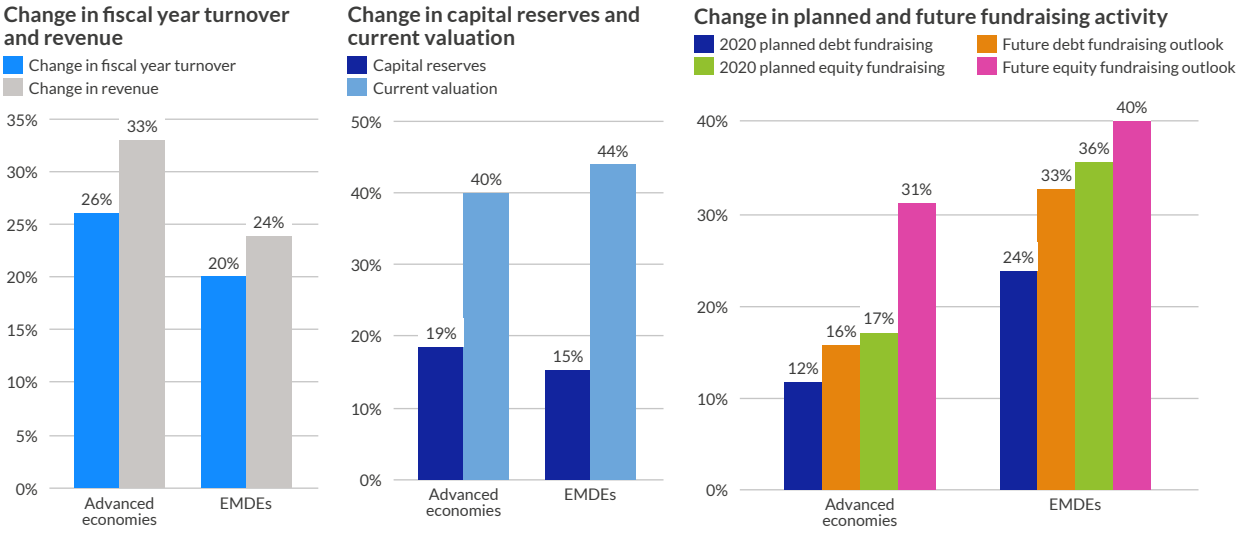
In terms of key indicators related to operational performance, firms in EMDEs experienced more challenges with platform downtime, agent downtime, and unsuccessful transactions than those in AEs. It is important to note, however, that compared to the findings in *The Rapid Assessment Study*, the frequency of these occurrences has diminished. At the same time, platforms in EMDEs employed more FTEs than those in AEs, increasing their number by 14% compared to the previous year.

Figure 2.17: Cost structure changes, AEs vs EMDEs (percentage change, year-on-year): all fintech verticals



Except for fixed costs, firms operating in EMDEs reported a greater increase in costs than those in AEs, particularly cybersecurity and fraud-prevention/control costs.

Figure 2.18: Covid-19 impact on (a) revenue and fiscal turnover, (b) capital reserves and current valuation, and (c) planned and future fundraising activity, AEs vs EMDEs (percentage change, year-on-year): all fintech verticals

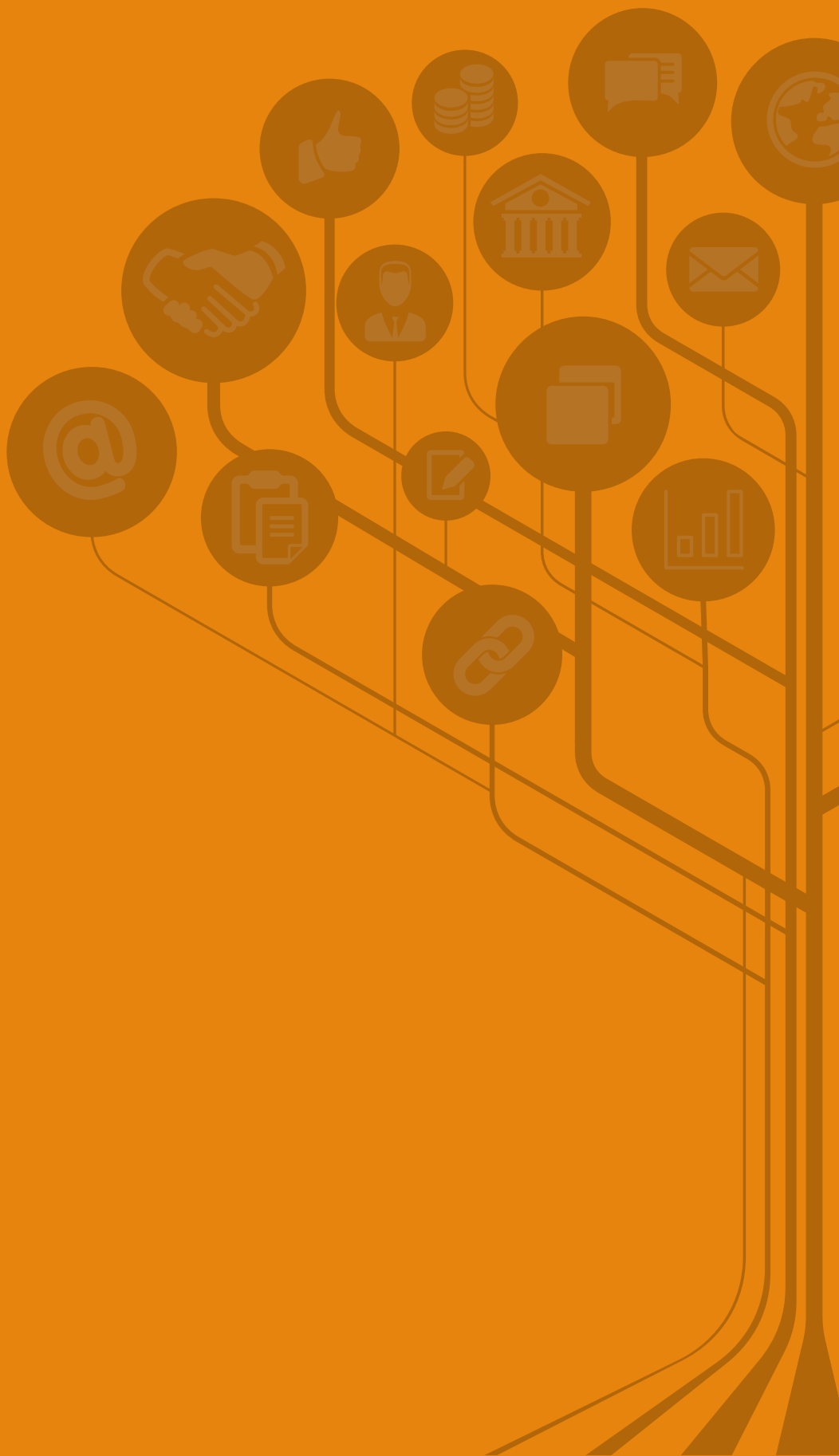


**Top markets by top three regions: Europe: Italy, Spain, and France; APAC: India, Singapore, and Australia; LAC: Brazil, Mexico, and Colombia*

At the same time, fintech firms globally reported higher revenue and fiscal year turnover during 2020 compared to 2019. However, the increases were greater for firms in AEs. This contrasts with *The Rapid Assessment Study* where firms in AEs and EMDEs reported a decrease in their 2020 turnover targets by –7% and –1%, respectively.

From the data collected, we could not assess whether these increases in revenue and turnover offset the reported increases in costs. Nevertheless, other variables suggest a stronger financial position, in particular, the higher valuations reported by firms in both AEs and EMDEs. However, firms in EMDEs reported slightly higher increases in valuations and higher increases in the rates of planned and future fundraisers. This could reflect the greater space for the growth of firms in EMDEs compared to more mature markets.

3. Digital lending



Chapter 3. Digital lending

3.1 Selected vertical highlights

- The global digital lending landscape experienced an increase in total loan origination from 2019 to 2020, although the amount varied between jurisdictions and levels of economic development. Excluding China, values rose from USD87 billion in 2019 to USD104 billion in 2020, an increase of 19% year-on-year, with platforms in AEs contributing most of the values. In contrast, platforms in EMDEs experienced a decrease in origination values.
- Growth in total loan origination was accompanied by significant disruptions such as an increase in arrears and defaults on outstanding loans, which increased by 23% and 21% year-on-year, respectively, compared to 2019.
- Firms in EMDEs reported very different collateral arrangements for business and hybrid loans compared to those in AEs. In EMDEs, most loans were uncollateralized although with a personal guarantee, while most loans in AEs were collateralized. In terms of consumer loans, most were uncollateralized in both AEs and EMDEs.
- Overall, digital lending platforms reported that 47% of their borrowers were from low-income populations, 39% were women, and 46% could be categorized as new or first-time borrowers. Regarding customer base, the proportion of women and low-income borrowers was higher for firms in EMDEs, while for those in AEs, the proportion of new borrowers was higher.
- The most common changes to services implemented by digital lending platforms were tightening qualification criteria, enhancing cybersecurity features, and enhancing fraud-prevention measures.
- Regulatory support for remote customer onboarding was the most popular regulatory mechanism used by digital lending platforms, followed by cybersecurity/fraud-prevention standardization, standardization of business continuity requirements/wind-down plans, and streamlined product and services approval. Across the top four most used measures, most platforms indicated that regulatory support was sufficient. However, for other measures, including faster authorizations, access to an innovation office, and interchange fees, most fintech firms thought that more support was needed. Generally, most firms in AEs rated the regulatory response as satisfactory, while most firms in EMDEs were not satisfied.
- Thirty-one percent of digital lending platforms reported they did not use a Covid-19 relief scheme.
- Only 24% of platforms participated in delivering or implementing relief measures or stimulus schemes. Of those platforms that did participate, 38% were involved in offering a government-backed loan guarantee or credit facility to MSMEs.

3.2 Introduction

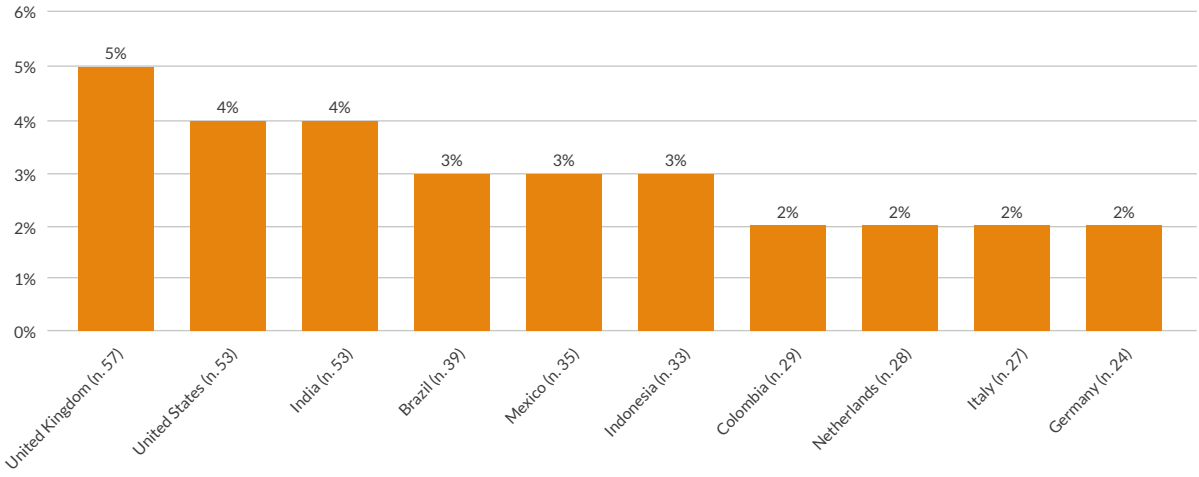
As a retail-facing vertical, platforms operating a digital lending model conduct a variety of activities related to digitalizing the processes and provisions of lending to consumers, businesses, or other borrower entities, ranging from the application process to distributing the funds.
Digital lending platforms leverage digital mediums to collect customer information, use technological developments that incorporate this information to streamline the application process, and then distribute loans to approved applicants through digital channels.

These debt-based models are usually divided into balance-sheet platforms, where the platform provides a loan directly to a borrower, and off-balance-sheet platforms (more commonly called P2P/marketplace lending), where platforms simply act as intermediaries that facilitate online credit to individuals, businesses, or other borrower entities, ranging from individual lenders to institutional investors. This debt can be in the form of a secured or an unsecured loan, a bond, or another type of debtor note.

Overview of respondents

Digital lending accounted for the largest number of survey responses, with 640 unique firms globally accounting for 44% of the entire dataset. This translated to 1,232 country-level observations as 16% of firms operated in more than one country. In total, respondent digital lending firms operated in 147 countries or jurisdictions.

Figure 3.1: 2020 top ten countries by firm-level observations: digital lending



Firms from the top ten countries represented 31% of the dataset, with the United Kingdom (57), the United States (53), and India (53) constituting the highest concentration of firms.

Table 3.1: 2020 share of respondents and observations by region: digital lending

Region	Number of respondents by region	Number of observations by region	Market share of observations (%)
Europe	132	431	35
APAC	138	241	20
LAC	126	192	16
China	100	105	9
SSA	29	100	8
North America (US and Canada)	53	64	5
United Kingdom	49	61	5
MENA	13	38	3
Total	**640**	**1,232**	

When we look at firm-level activities by regional market share, Europe, APAC, and LAC accounted for nearly 70% of total observations.

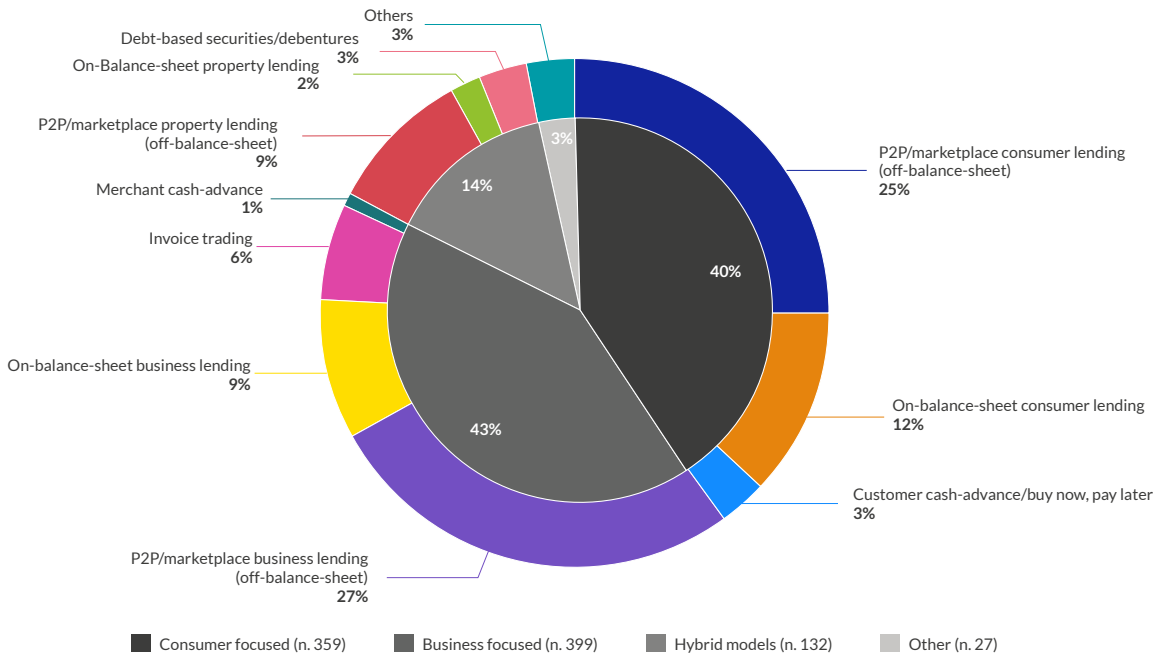
At a regional level, Brazil and Mexico had the most operational firms within LAC. In Europe, the Netherlands, Italy, and Germany accounted for the highest number of firm-level activities. In APAC, India, Indonesia, and Australia were responsible for one-third of the regional activity. In SSA, it was Kenya, Nigeria, and Uganda, and for MENA, it was the United Arab Emirates and Israel. A list of the top countries by number of observations for each region can be found in Appendix 9.

Table 3.2: 2020 domestic vs foreign number of observations from respondents: digital lending

Region	Domestic	Foreign	Total
APAC	138	103	241
China	100	5	105
Europe	132	299	431
LAC	126	66	192
MENA	13	25	38
North America (US and Canada)	53	11	64
SSA	29	71	100
United Kingdom	49	12	61
Total	**640**	**592**	**1,232**

In terms of the number of domestic versus foreign platforms that operate at a regional level, Europe, SSA, and MENA had a larger number of foreign domiciled firms serving their markets compared to other regions. This proportion of foreign-based platforms has increased over the last few years, as noted in *The 2nd Benchmarking Report.*[17]

Figure 3.2: 2020 distribution of respondents by model: digital lending



A digital lending working taxonomy

The digital lending vertical includes 11 different business models that can be broadly divided into three groups. Those groups each serve different stakeholders.

1. Individuals or households are referred to as consumer-focused and include P2P/marketplace consumer lending, on-balance-sheet consumer lending, customer cash advance or buy now/pay later.
2. MSMEs or other business entity borrowers are referred to as business focused and include P2P/marketplace business lending, on-balance-sheet business lending, invoice trading, and merchant cash advance.
3. Hybrid models are those that cater to both consumer and business clients and include P2P/marketplace property lending (off-balance-sheet), on-balance-sheet property lending, debt-based securities/debentures, and crowd-led microfinance.

It is not uncommon for firms to operate across different business models. For example, in the case of digital lending, 31.4% of firms were actively operating in more than one sub-vertical.

Table 3.3: Digital lending working taxonomy

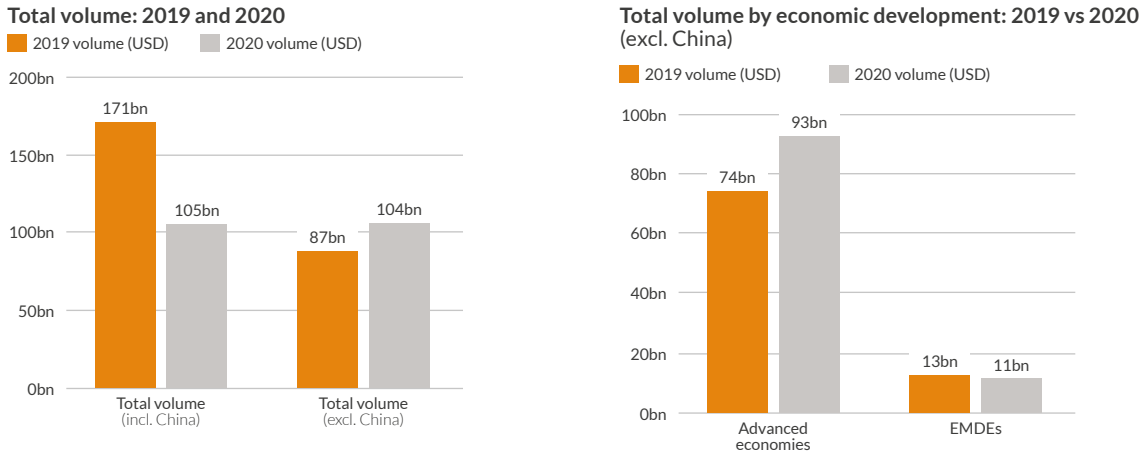
Category	Business model	Stakeholders
Consumer facing	P2P/marketplace consumer lending (off-balance-sheet)	Individuals or institutional funders provide a loan to a consumer borrower, commonly ascribed to off-balance-sheet lending.
	On-balance-sheet consumer lending	The platform entity provides a loan directly to a consumer borrower, ascribed to balance-sheet non-bank lending.
	Customer cash advance or buy now/pay later	A buy now/pay later payment facilitator or store credit solution.
Business facing	P2P/marketplace business lending (off-balance-sheet)	Individuals or institutional funders provide a loan to a business borrower, commonly ascribed to off-balance-sheet lending.
	On-balance-sheet business lending	The platform entity provides a loan directly to the business borrower, ascribed to balance-sheet non-bank lending.
	Invoice trading	Individuals or institutional funders purchase discounted invoices or receivables from a business.
	Merchant cash advance	A merchant cash advance, provided via an electronic platform, typically with a retail and/or institutional investor counterpart receiving fixed payments or future payments based on sales.
Hybrid (facing both consumers and business)	P2P/marketplace property lending (off-balance-sheet)	Individuals or institutional funders provide a loan, secured against a property, to a consumer or business borrower, commonly ascribed to off-balance-sheet lending.
	On-balance-sheet property lending	The platform entity provides a loan, secured against a property, directly to a consumer or business borrower, ascribed to balance-sheet non-bank lending.
	Debt-based securities	Individuals or institutional funders purchase debt-based securities, typically a bond or debenture, at a fixed interest rate.
	Crowd-led microfinance	Interests and/or other profits are re-invested (forgoing the interest by donating) or microcredit is provided at lower rates.

The largest number of responses were from P2P/marketplace business lending (27%), followed by P2P/marketplace consumer lending (25%), and on-balance-sheet consumer lending, which accounted for 12% of responses.

3.3 Market performance

Total value of loan origination

Figure 3.3: 2019–2020 total value of loan origination by economic development (USD): digital lending



Excluding the Chinese digital lending market, there was an increase in total loan origination from 2019 to 2020 in the global digital lending landscape, although this varied between jurisdictions and levels of economic development. We excluded China because its unique lending market dynamics make it an outlier. Up until 2019, the Chinese digital lending market was the largest in the world.

Since then, the total transaction value has shrunk significantly from USD84 billion in 2019 to USD1 billion in 2020. This decline seems to be the direct result of specific policy measures implemented by Chinese authorities to reduce the risk to the financial system by this sector, rather than to challenges resulting from the pandemic.

Thus, excluding China, values of loan origination rose from USD87 billion in 2019 to USD104 billion in 2020, an increase of 19% year-on-year, with platforms in AEs contributing most of the values. This is in stark contrast to the findings in *The Rapid Assessment Study*,[18] where digital lending firms reported a net decrease in loan origination. However, this recovery was triggered mainly by some markets in AEs rebounding, with the second half of 2020 compensating for the initial market upheaval experienced in the first half. Other markets have not recovered fully. Notably, firms in EMDEs saw a 15% drop in loan origination value during 2020, driven mainly by a decrease in activities of platforms operating in India and the Philippines.

When analyzed against lockdown stringency, the responses suggest that the services of firms in jurisdictions with high stringency lockdown measures were in greater demand than those in jurisdictions with low stringency lockdown measures. In this regard, loan origination in jurisdictions with high stringency lockdown measures accounted for USD92 billion or 88% of total values for 2020, followed by platforms in jurisdictions with medium stringency measures (6%). When we consider annual rates of change, platforms in high stringency lockdown jurisdictions reported a 28% increase in origination, while platforms in jurisdictions with medium and low stringency lockdown measures reported a decline of 28% and 20%, respectively. The correlation between the level of loan origination and lockdown stringency was validated by the regression analysis conducted, which can be found in Appendix 3.

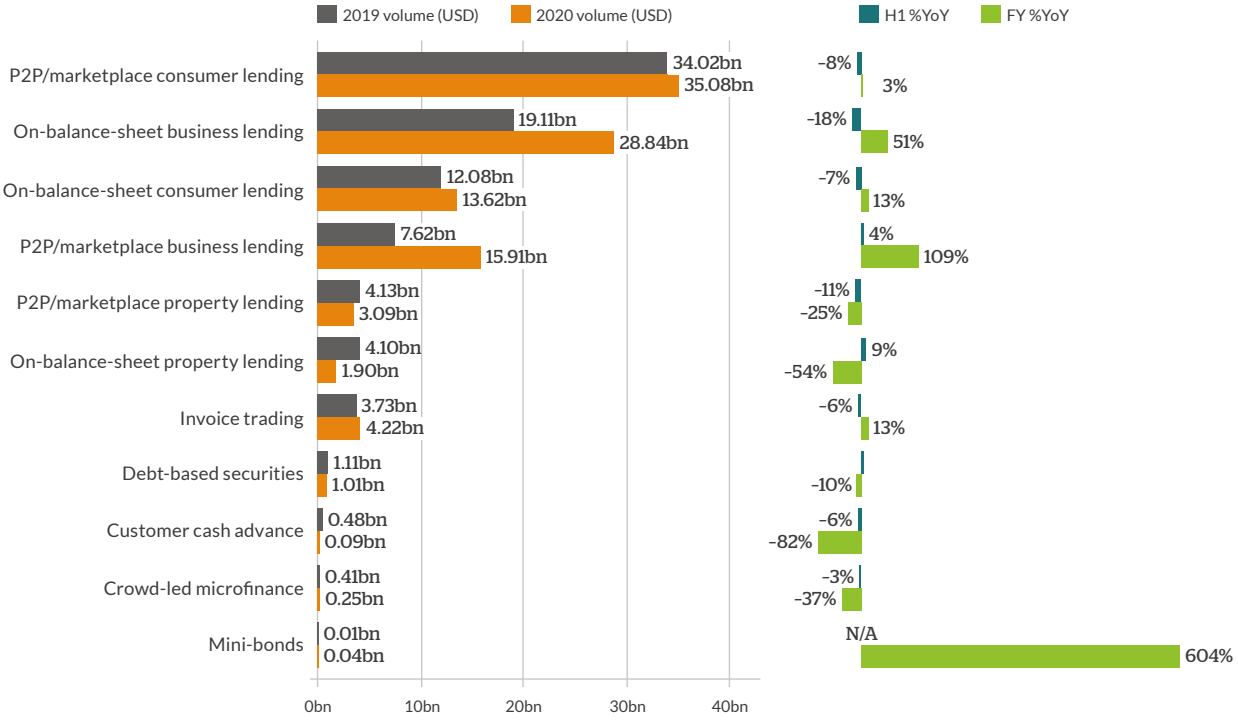
Table 3.4: 2019–2020 market share of transaction values by region (USD): digital lending

Region	2019		2020		2019 vs 2020 change in value (%)
	Total value (USD)	Market share (%)	Total value (USD)	Market share (%)	
North America (US and Canada)	50,235,157,637	29.35	72,954,900,071	69.34	↑ 45
APAC	9,055,909,046	5.29	8,163,787,668	7.76	↓ –10
Europe	11,312,938,125	6.61	8,300,278,118	7.89	↓ –27
LAC	5,131,394,066	3.00	5,878,706,950	5.59	↑ 15
United Kingdom	8,902,986,929	5.20	6,732,334,905	6.40	↓ –24
SSA	1,024,180,524	0.60	1,191,755,078	1.13	↑ 16
China	84,336,608,932	49.28	1,152,768,943	1.10	↓ –99
MENA	1,131,099,133	0.66	836,361,592	0.79	↓ –26
Total	**171,130,274,392**	**100**	**105,210,893,324**	**100**	

When looking at the market share of loan origination values by region, the decline of the Chinese market in terms of loan origination values has caused market dynamics across regions to shift significantly. North America (the US and Canada) has become the largest overarching region, accounting for almost 70% of global market values, followed by Europe and APAC, each of which contributed approximately 7%.

Platforms operating in LAC and SSA reported growth in values for 2020 compared to 2019, with Brazil and Chile reporting the greatest growth in LAC. In contrast, the United Kingdom, MENA, APAC, and Europe saw a decrease in absolute value. However, key lending markets in Europe, such as Italy, Germany, and France, reported an increase in lending values compared to the previous year.

Figure 3.4: 2019–2020 total loan origination by model, excluding China (USD): digital lending



**H1 percentage YoY transaction volume data for mini-bonds was unavailable.*

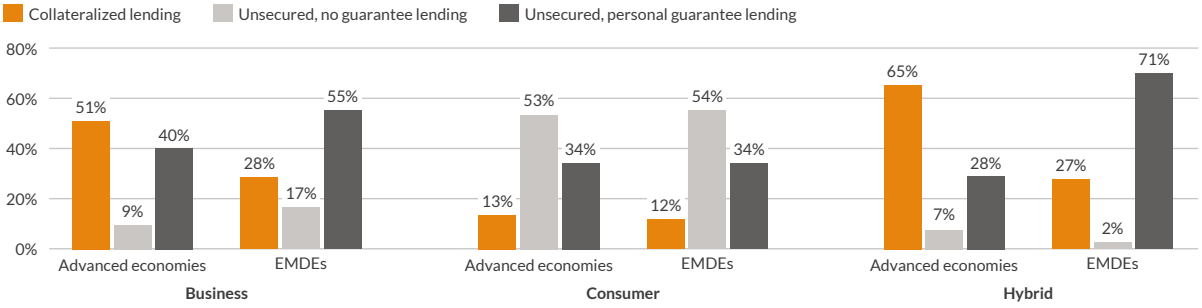
Despite the pandemic, most digital lending models grew in 2020 overall. Only a few of the smallest business models reported decreases.

The P2P/marketplace consumer lending model remained the largest business model globally, predominantly in APAC, Europe, North America, and SSA, and continued to lead global transaction values as reported in *The 2nd Benchmarking Report*.[19] However, the model's year-on-year growth was modest largely due to the decline of the Chinese market.

Other business models grew at a faster pace, especially P2P/marketplace business lending and on-balance-sheet business lending. The increase in values in the on-balance-sheet business lending model was mainly due to activities in the United States, which contributed 81% (USD23.38 billion). This activity increase in the US was largely driven by fintechs participating as distributors of the government's support for small businesses (for example, its Paycheck Protection Program (PPP)). A few regions did not recover, with both the United Kingdom (–31%) and APAC (–20%) reporting considerable decreases.

From a development perspective, the greatest positive impact on digital lending was concentrated in AEs, which originated the bulk of transaction values. However, this vertical is also making inroads in EMDEs, for example, five EMDEs, mostly in larger and emerging markets, passed the one billion transaction mark out of the 13 countries with a transaction value of over USD1 billion. A list of countries or jurisdictions and their respective value of loan origination for 2019 and 2020, economic development status, lockdown stringency category, and annual rate change can be found in Appendix 4.

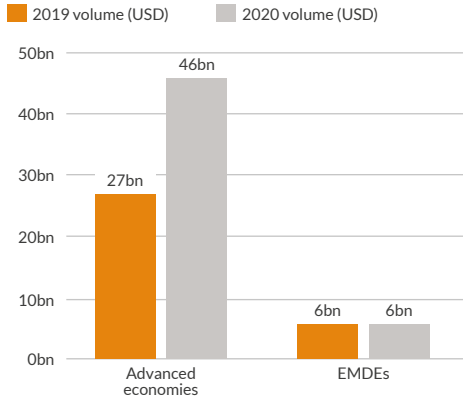
Figure 3.5: 2020 proportion of lending value by business model category and economic development: digital lending



Platforms were asked to indicate the proportion of their transaction value that could be categorized as either collateralized, unsecured with a personal guarantee, or unsecured with no guarantee in terms of loan origination in 2020.

There were important differences between business and hybrid lending arrangements reported by firms in EMDEs and those in AEs. As shown in Figure 3.5, most of the loans in EMDEs for those two categories were unsecured, although with a personal guarantee, and collateral was required in only about one-third of the loans. In contrast, most loans in AEs were secured with collateral. Overall, the need for collateral is seen as a major hindrance for SMEs to access financing. Thus, the lower levels of collateral requirements in EMDEs compared to AEs is a finding that should be further analyzed and compared with other key information, such as the size of loans and practices by traditional banks, to understand the full implications that the activities of fintech lenders could be having on financial inclusion. We found no material differences between consumer lending in AEs and EMDEs. As expected, collateralized loans constituted a minor portion of the consumer lending portfolio.

Figure 3.6: 2019–2020 value of loan origination to SMEs by economic development, excluding China (USD): digital lending



**Note: 2019 SME values for digital lending platforms were sourced from The 2nd Benchmarking Report.*

SMEs used online alternative finance channels and instruments for their funding needs. Evidence from our previous research suggested that the USD value of transactions going to entrepreneurs, start-ups, and SMEs globally are increasing and proving to be a viable, long-lasting funding source, which may have been critical during Covid-19.[20]

This survey built on those initial findings. In this regard, digital lending platforms were asked to indicate the portion of their total value of digital loan origination that went to business borrowers (for example, SMEs, sole proprietors, and start-ups) in 2020. Platforms reported having raised USD51.6 billion for business borrowers in 2020 compared to USD32.8 billion in 2019. These loans benefited over 1.6 million small business borrowers, most of which were in APAC (38%), North America (34%), and LAC (11%).

However, the rates of growth were very different for firms in AEs than those in EMDEs. Compared to 2019, digital lending firms in AEs reported a 70% increase in SME-based lending, while origination remained flat in EMDEs. As previously mentioned, this significant increase in SME lending in AEs was largely driven by platforms operating in the United States. Nevertheless, despite the relatively low origination value in EMDEs, there were more SME borrowers compared to in AEs.

Growth in business finance in light of the pandemic is not entirely surprising, considering that digital lending firms functioned as delivery or implementation partners in government schemes to support the SME sector. Examples include the SBA's Paycheck Protection Program in the US, the Coronavirus Business Interruption Loan Scheme in the UK, and the Coronavirus Small and Medium Enterprises Guarantee Scheme in Australia, all of which enabled several fintech digital lenders to originate loans via these programs.

Table 3.5: 2019–2020 value of loan origination to SMEs by key regions (USD): digital lending

Region	2019		2020		2019 vs 2020 change in value (%)
	Total value (USD)	Market share (%)	Total value (USD)	Market share (%)	
North America (US and Canada)	14,997,868,423	31.84	31,994,868,159	61.99	↑ 113
LAC	4,103,828,456	8.71	4,989,525,920	9.67	↑ 22
United Kingdom	5,614,301,624	11.92	6,034,089,268	11.69	↑ 7
Europe	3,795,457,938	8.06	4,724,578,951	9.15	↑ 24
APAC	4,110,187,433	8.72	3,646,517,136	7.07	↓ –11
MENA	217,381,894	0.46	168,866,980	0.33	↓ –22
SSA	59,056,321	0.13	34,119,022	0.07	↓ –42
China	14,212,247,759	30.17	16,311,861	0.03	↓ –100
Total	**47,110,329,848**	**100**	**51,608,877,297**	**100**	

**Note: 2019 SME values for digital lending platforms were sourced from The 2nd Benchmarking Report.*

In terms of regional values, North America contributed the most, driven largely by the United States, followed by LAC and the UK. The United States, the United Kingdom, and Brazil were the top three markets/jurisdictions, contributing to over three-quarters of total SME values in 2020. Italy and France were among those that contributed the highest SME values for Europe.

It is important to mention, however, that APAC, MENA, and SSA reported a decrease in SME lending. The decline in APAC was mainly driven by platforms operating in India, which reported a nearly 80% decrease in loan origination compared to 2019. In contrast, other key markets, such as Indonesia (contributing one-third of regional SME values), Japan, and Singapore, reported growth in values for 2020. Notably, in Indonesia, the government and some state-owned banks collaborated with P2P lenders to channel loans to SME borrowers as part of the government's economic recovery efforts during Covid-19.[21] In MENA, the decrease in SME lending activities was mainly driven by platforms operating in Israel and the United Arab Emirates.

In terms of the key models that contributed to the growth of SME funding in 2020, two models that exclusively cater to business borrowers – on-balance-sheet business lending and P2P/marketplace business lending models – together contributed nearly 84% of the total global SME value in 2020. These models were followed by invoice trading, which contributed just over 11%.

There was an increase in lending values for SMEs in jurisdictions across all three lockdown stringency measures for 2020 compared to the previous year, with platforms operating in high stringency lockdown jurisdictions reporting the greatest increases in SME lending (USD48 billion, a 60% increase from 2019). Platforms in medium stringency lockdown jurisdictions contributed USD3.9 billion (compared to USD3 billion in 2019), and those in low stringency lockdown jurisdictions contributed USD1.6 billion (compared to USD1 billion in 2019). A list of countries or jurisdictions and their respective value loan of origination for 2019 and 2020, lockdown stringency category, and annual rate change can be found in Appendix 4.

Market performance indicators

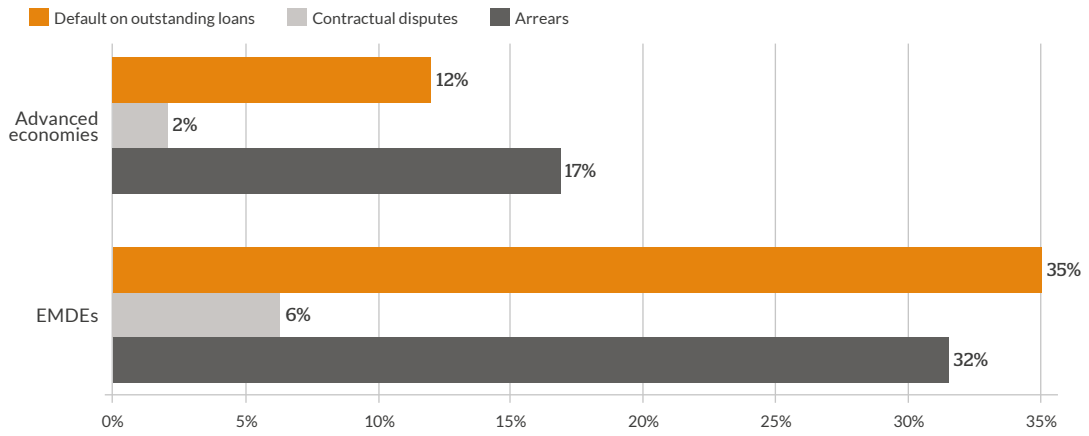
To measure the impact of Covid-19 on different market activities, digital lending platforms were asked to indicate the extent of disruption caused by the pandemic based on three indicators of market performance:

1. Default on outstanding loans, defined as failure to pay over 90 days
2. Arrears, defined as late repayment for up to 90 days
3. Contractual disputes with borrowers

Globally, the most significant disruption for digital lending platforms was an increase in arrears, followed by defaults on outstanding loans, which increased by 23% and 21% year-on-year, respectively, compared to 2019.

It is important to mention that as part of the relief measures, some governments implemented moratoriums in loan payments, which might partly explain the increases reported.

Figure 3.7: 2019–2020 market performance indicators by economic development (percentage change): digital lending



Firms in AEs were generally less affected by the pandemic than those in EMDEs. The most significant impact on firms in EMDEs was an increase in loan defaults, whereas in AEs, it was an increase in arrears. The increase in defaults on outstanding loans for platforms in EMDEs was almost three times that experienced by those in AEs. Similarly, firms in EMDEs reported greater increases in late repayment of loans (up to 90 days) by borrowers compared to those in AEs.

In terms of Covid-19 impact by region, all regions reported an increase in late repayments and loan defaults. On average, platforms in SSA reported the highest increase in defaults (59%) and arrears (47%). In Europe, platforms saw a 23% increase in both defaults and arrears. This was followed by LAC and APAC, both of which saw a higher increase in arrears (20% and 22%, respectively) compared to increases in loan defaults (18% and 17%, respectively). For firms in EMDEs, the proportional increases in both these impact areas were even higher. Conversely, the United Kingdom was the only market to report an average decrease in contractual disputes.

When comparing these results with those from *The Rapid Assessment Study*, we noted that the level of defaults and arrears increased significantly during the second half of 2020, both across AEs and EMDEs,[22] especially in EMDEs, where default rates nearly tripled and arrears more than doubled compared to anticipated values during the first half of 2020.[23]

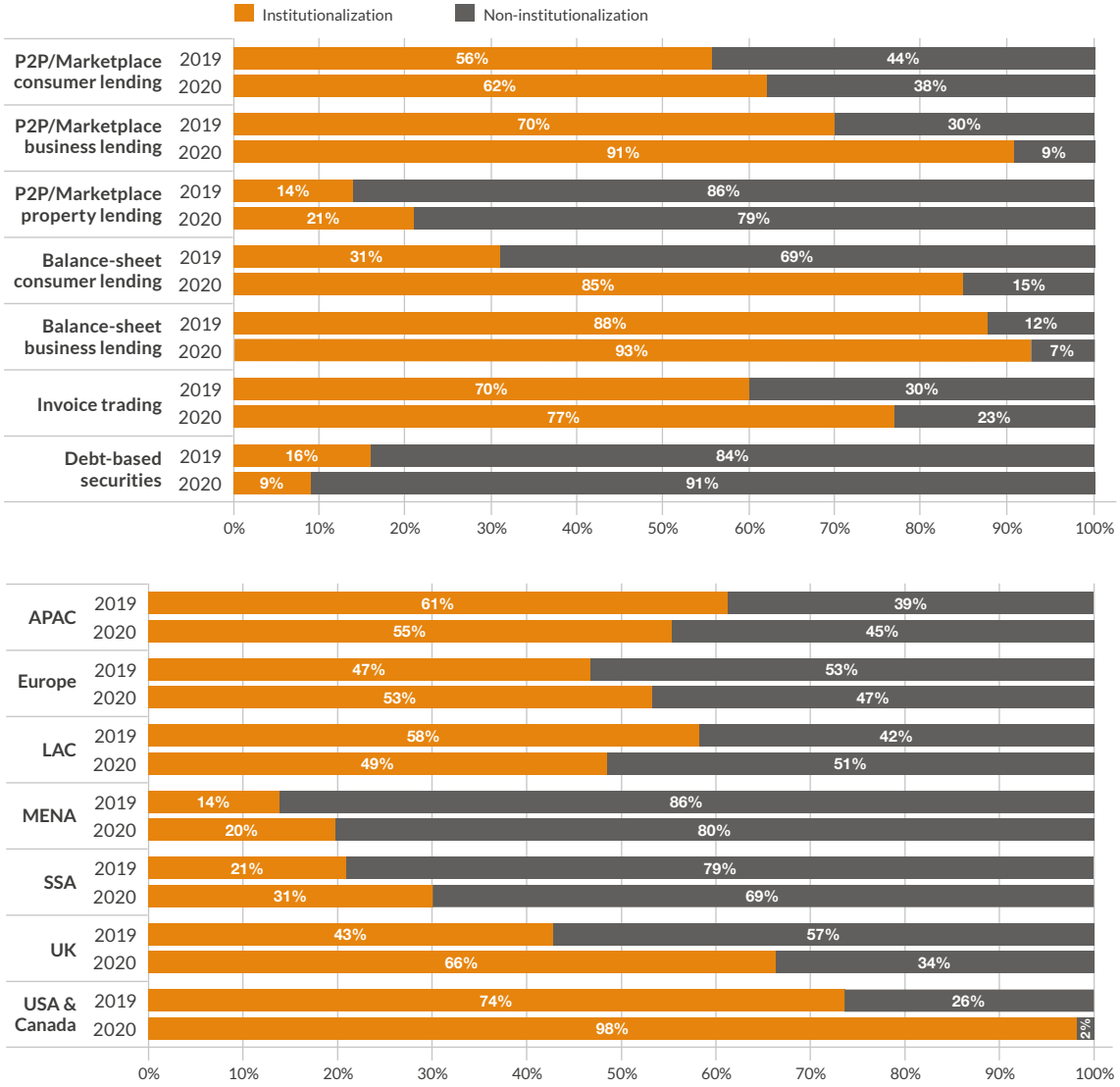
The portfolio deterioration cut across all business models. However, digital lending platforms with a business-focused clientele reported more defaults on outstanding loans than those with a consumer-facing focus. Business-facing models, such as invoice trading and P2P/marketplace business lending, reported a more than 25% increase in defaults on outstanding loans. The consumer-facing model, P2P/marketplace consumer lending, reported a 21% increase in defaults. In contrast, the increase in arrears was higher for consumer-facing platforms. For instance, P2P/marketplace consumer lending models saw a 28% increase in arrears compared to a 21% increase for P2P/marketplace business lending models.

3.4 Institutional investment

Institutional investors play an important role in digital lending as this was the fintech sector they used to support investment strategies and portfolio diversification for themselves or their clients. We asked platforms to indicate the proportion of origination in 2020 that came from institutional investors (for example, banks, trusts, brokerage firms, investment dealers, and insurance companies) compared to retail/individual investment.[24]

From *The 2nd Benchmarking Report*, we found that institutional investors contributed nearly USD28.5 billion of the alternative finance volumes in 2019, and USD43.6 billion in 2020. Digital lending models make up the highest proportion of institutionally led finance, with most debt-based verticals deriving more than two-thirds of their total volume from institutional investors.

Figure 3.8: 2019–2020 proportion of investment by (a) key model, and (b) key region (percentage change): digital lending



When looking at key models, we found that most funding for loan origination for digital lending models came from institutional investors. It was noted that balance-sheet business lending, P2P/marketplace business lending, balance-sheet consumer lending, and invoice trading models received a substantial proportion of investment from institutions. The exceptions were debt-based securities and P2P/marketplace property lending models, which were still predominantly catered to retail investor cohorts. Concerning the year-on-year change in the proportion of institutional investment, we noticed there was a shift toward more institutionalization in all models, except debt-based securities.

In terms of absolute value contribution, the largest institutional investments by value were reported by balance-sheet business lending models at USD21.2 billion in 2020, a nearly 98% increase in value compared to 2019. P2P/marketplace business lending came next, reporting USD13 billion from institutional funders, an increase of 195% from 2019. Notably, the P2P/marketplace model, which is meant to be a crowd-led model, reported higher levels of investment from institutional investors, suggesting this model relied heavily on institutional investors for finance in 2020.

Across both years, and in most regions, there were almost equal numbers of institutional and non-institutional investors. However, there were some

exceptions. Firms in MENA and SSA had more individual investors compared to firms operating in the United States, which had the most institutional investor activity.

In terms of year-on-year investment changes, institutional investment increased in 2020 compared to the previous year across all regions, except for firms in APAC. In Europe, the increase in institutional investment was predominantly led by balance-sheet business lending fintechs, which reported they derived 99% of funds from institutional investors, an increase of 25% compared to 2019. Similarly, in LAC and North America, balance-sheet consumer lending firms reported they received 95% of loan value from institutional investors in 2020.

In APAC, most models reported a slight decrease in institutionally derived investments. However, this decline was largely driven by less institutional investment for on-balance-sheet business lending models, which reported a 27% institutionalization rate in 2020 compared to 72% in the previous year.

3.5 Client profile and potential contribution to financial inclusion

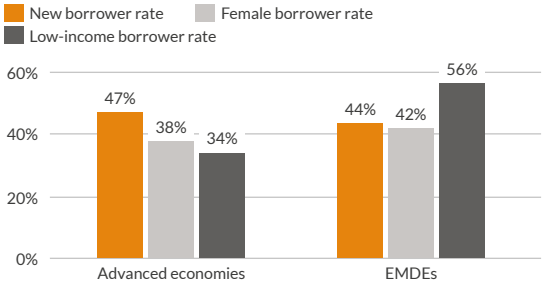
In addition to capturing the growth in the size of the digital lending market in 2020, we also wanted to understand whether the sector is enabling greater access to finance for specific groups that have traditionally faced challenges. We assessed this by looking at how different borrower client groups, such as new borrowers, female borrowers, and low-income borrowers, were serviced by fintechs during the pandemic.

Our findings indicated that these three groups are an important part of fintechs' customer base and lending values, as we describe in more detail below. This is a significant finding that should be followed up. Additional information should be collected, particularly on lending rates, and compared with lending arrangements by traditional firms, particularly banks, to assess the full effects that these fintechs lenders could have on financial inclusion.

Firms were first asked to indicate the relative proportion of these borrower cohorts compared with the number of total borrowers.

Overall, digital lending platforms reported that 47% of their borrowers were from low-income populations, 39% were women, and 46% could be categorized as new or first-time borrowers. We could not account for nor quantify the proportional overlap of these borrowers, although a considerable overlap between these three cohorts certainly exists.

Figure 3.9: 2019–2020 proportion of borrowers by economic development (percentage numbers of customers/users): digital lending



We identified differences in the proportions of each type of borrower between AEs and EMDEs. As can be seen in Figure 3.9, the proportion of women and low-income borrowers was higher for firms in EMDEs than for those in AEs, while the proportion of new borrowers was higher for firms in AEs.

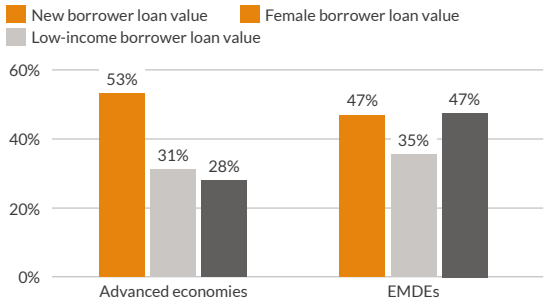
When analyzing the proportion of new borrowers by key model or region, business-focused models, such as on-balance-sheet business lending and P2P/marketplace business lending, reported a higher number of new borrowers than consumer-focused models, with over half their customers categorized as new. P2P/marketplace consumer lenders reported that 40% of their borrowers were first-time borrowers. By region, platforms operating in MENA indicated some of the highest numbers of new borrowers, accounting for 58% of total borrowers in the region. This was followed by platforms in Europe, APAC, and LAC, where nearly half their 2020 borrowers were first-time borrowers.

When looking at which key models or key regions catered most to low-income borrowers, platforms operating in APAC and LAC were top, with 58% and 48%, respectively. Platforms operating in Europe reported a lower, but still significant, proportion of 37%. Fintechs from business-focused models, such

as on-balance-sheet business lending and invoice trading, reported some of the highest low-income borrower rates with 60% and 59%, respectively. The consumer-focused models, on-balance-sheet consumer lending and P2P/marketplace consumer lending, followed with 55% and 49%, respectively. Another model of notable importance was on-balance-sheet property lending, where 62% of borrowers were low-income borrowers.

In terms of female inclusion, platforms operating in LAC, MENA, and Europe reported the highest female borrower proportions. APAC lagged slightly behind with 37% female borrowers. When looking at specific models, consumer-focused models catered to a greater proportion of female borrowers compared to business-focused models. In LAC, however, business-focused fintech models (such as invoice trading and P2P/marketplace business lending) reported significantly higher female borrower rates.

Figure 3.10: 2019–2020 borrower values by economic development (percentage of number of customers/ users): digital lending



Platforms were also asked to indicate the proportion of loan origination that went to new, female, and low-income borrowers compared with the total loan origination value for 2020.

Overall, loan value to new borrowers represented an average of 51% of the total loan origination value in 2020, with platforms operating in AEs reporting a higher loan origination value than those in EMDEs. Across the different regions, platforms reported over 40% of loan origination value from new borrowers, except for SSA. Notably, platforms operating in MENA, Europe, and LAC reported that over half their total loan origination came from new borrowers. By model-type, both P2P/marketplace business lending (58%) and consumer lending (56%) models reported the highest loan origination values going to new borrowers.

Platforms globally reported that an average of 39% of loan origination went to low-income borrowers, with platforms in EMDEs reporting greater loan originations compared to firms in AEs. LAC and APAC reported the greatest percentages of loan origination from low-income borrowers at 50% and 42%, respectively. The proportion of loan originations going to low-income borrowers was even higher in predominantly business-focused models such as invoice trading (52%) and on-balance-sheet business lending (48%). Among consumer-focused models, both P2P/marketplace consumer lending and on-balance-sheet consumer lending reported above-average loan origination toward low-income borrowers, particularly in emerging markets of APAC and LAC.

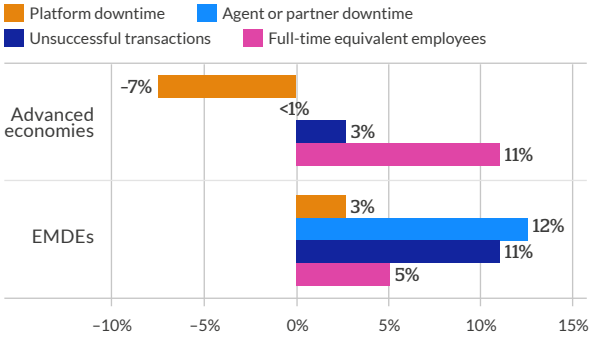
In terms of loan origination for female borrowers, on average, 34% of global digital lending total loan origination value went to female borrowers. Firms in EMDEs reported marginally higher female loan origination than firms in AEs. By region, platforms operating in LAC and MENA reported the highest female loan origination values at over 40%. Similarly, when looking at specific models, consumer-focused models, such as on-balance-sheet consumer lending and P2P/marketplace consumer lending, reported the highest loan values for female borrowers.

3.6 Market resilience and financial health

Impact on operational indicators

The growth in activities experienced by the digital lending vertical was, unsurprisingly, accompanied by operational challenges. Firms in both AEs and EMDEs reported an increase in agent or partner downtime and unsuccessful transactions, although the problems were greater in EMDEs. Firms in EMDEs also reported an increase in the downtime of their own platforms.

Figure 3.11: 2019–2020 operational impact and employment type changes by economic development (percentage change): digital lending



**Top markets by economic development: AEs: United Kingdom, Italy, Netherlands, Spain, and France; EMDEs: India, Brazil, Indonesia, Colombia, and Mexico*

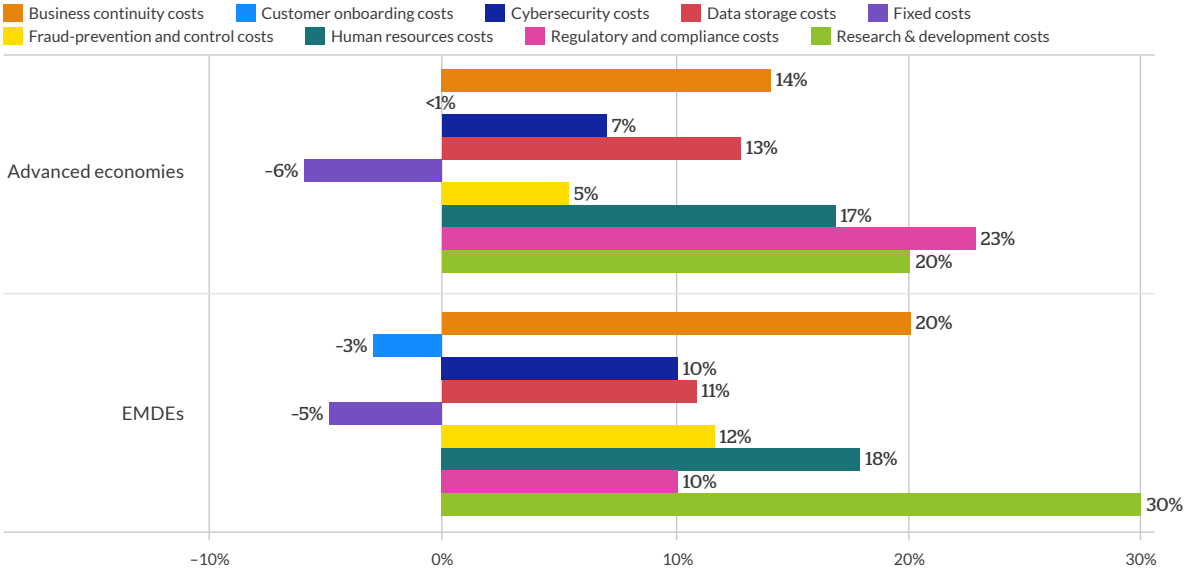
By business models, the P2P/marketplace business lending firms faced significant increases in agent or partner downtime, while P2P/marketplace consumer lending firms reported an increase in the number of unsuccessful transactions. When analyzing by lockdown stringency, platforms in high stringency lockdown jurisdictions experienced more unsuccessful transactions and platform downtime.

Overall, firms reported an increase in the number of FTEs, which was higher in AEs than EMDEs. Model analysis showed that P2P/marketplace business lending firms reported a significant increase in the number of FTEs.

Expenditure changes observed in 2020

Companies also reported an increase in business costs in 2020. Costs associated with R&D, regulatory compliance, HR, and business continuity increased the most compared to the previous year. In contrast, fixed costs declined, which corresponds with work-from-home instructions due to Covid-19.

Figure 3.12: 2019–2020 cost structure changes by economic development (percentage change): digital lending



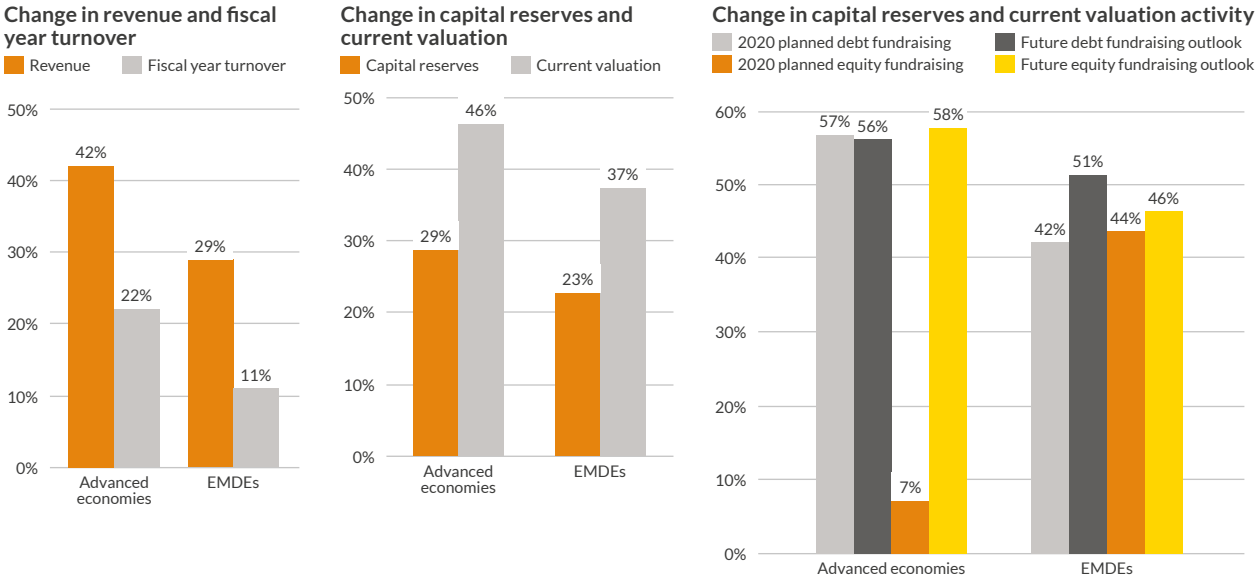
By economic development, R&D costs for firms in EMDEs increased by nearly one-third, while for firms in AEs, costs for regulatory and compliance increased the most (23%). Business continuity costs increased more among firms in EMDEs compared to those in AEs, as platforms in EMDEs had to try harder to survive due to their relatively underdeveloped digital infrastructure. When reviewing by region, R&D costs and business continuity costs increased the most for platforms in SSA. Firms in Europe experienced greater regulatory and compliance cost increases compared to their average rate.

By lockdown stringency, platforms in jurisdictions with low stringency lockdown measures reported higher costs compared to those in jurisdictions with high stringency lockdown measures. Regulatory and compliance costs increased by 29% in jurisdictions with low stringency lockdown measures (the greatest increases were in firms in AEs) and by only 8% in jurisdictions with low stringency lockdown measures. Notably, HR costs were also higher in low stringency lockdown jurisdictions.

Financial positioning changes in 2020

Globally, digital lending firms reported increases in their fiscal revenue and turnover: 37% and 18%, respectively. The breakdown by economic development revealed that platforms in AEs had greater revenue and fiscal turnover increases compared to platforms in EMDEs,[25] as well as in their fiscal year turnover target for H1-2020 compared to H1-2019, as noted in *The Rapid Assessment Study*.

Figure 3.13: 2019–2020 Covid-19 impact on (a) revenue and fiscal turnover, (b) capital reserves and current valuation, and (c) planned and future fundraising activity, AEs vs EMDEs (percentage change): digital lending



**Top markets by economic development: AEs: United Kingdom, Italy, Netherlands, Spain, and France; EMDEs: India, Brazil, Indonesia, Colombia, and Mexico*

By key regions, platforms in Europe reported the highest changes in revenue (25%) and turnover (44%). In terms of specific model categories, there was a clear difference between business-focused platforms and consumer-focused ones, especially in fiscal year turnover where consumer-focused platforms reported a 42% increase and consumer-focused platforms faced a 13% decrease. Among business-focused platforms, invoice trading and P2P/marketplace business lending firms reported the highest increases. In contrast, consumer-focused platforms that are exclusively consumer-focused reported decreases in fiscal year turnover, –10% in AEs and –18% in EMDEs, which was largely due to decreases reported by P2P/marketplace consumer lending platforms. When analyzing the change in revenue, consumer lending models, particularly in AEs, reported greater increases than business-focused models.

By stringency of lockdown measures, increases in fiscal revenue (46%) and turnover (27%) were greater for platforms operating in jurisdictions with low stringency lockdown measures compared to platforms operating in jurisdictions with high stringency lockdown measures (26% for revenue and 11% for turnover).

Digital lending firms also reported improvements in their capital reserves and current valuations in 2020 compared to 2019. Improvements in current valuations stand out with significant increases reported by platforms in both AEs and EMDEs. Interestingly, platforms in EMDEs reported higher increases in current valuations compared to their counterparts in AEs.

Similarly, platforms in EMDEs reported greater improvements in debt and equity fundraising activities and outlooks compared to those in AEs. Specifically, the greatest improvements were in the outlook of future equity fundraising, which reflects platforms' long-term confidence in the market's potential.

By region, platforms in Europe reported the greatest improvements in fundraising activity across all regions, followed by LAC and APAC. By model, P2P/marketplace business lending and invoice trading firms diverged from the trend and reported decreases in 2020 planned equity fundraising.

Stage of business development

In terms of stage of growth, the data indicated that most digital lending firms are still relatively young, with almost half placing themselves in the seed/pre-series stage. The proportions were higher for firms operating in AEs compared to firms in EMDEs. However, in terms of stage of development compared to annual transaction values and year-on-year growth, the top-performing fintech platforms are concentrated in Series C+ or pre-public offerings.

Table 3.6: 2020 stage of business development by economic development level: digital lending

Recent fundraising activity	Advanced economies (%)	EMDEs (%)	Total (%)
Pre-seed or earlier	1	2	3
Seed/pre-series	31	14	45
Series A	11	8	19
Series B	9	8	17
Series C+	7	5	12
Pre-public offering	2	1	3
Public offering	2	1	3
Total	63	39	100

**Top markets by economic development: AEs: United Kingdom, Italy, Netherlands, Spain, and France; EMDEs: India, Brazil, Indonesia, Colombia, and Mexico*

3.7 Market dynamics

As Covid-19 persisted through 2020, firms used different strategies to ensure business continuity, including changing their products and services, such as pricing and cost structure changes, service agreements and policy amendments, and new product offerings or discontinuing existing products or services.

Changes in pricing, service agreements, and policies

Eighty-five percent of digital lending firms changed their pricing, service agreements, and policies. Overall, the most common changes that digital lending firms implemented were related to how they engaged with clients and platform security measures. Tightening qualification criteria, enhancing cybersecurity features, and enhancing fraud-prevention measures were the most common changes firms in both AEs and EMDEs implemented. However, these changes were more prevalent in AEs.

Figure 3.14(a): 2020 top changes in pricing, service agreements, and policies in EMDEs: digital lending

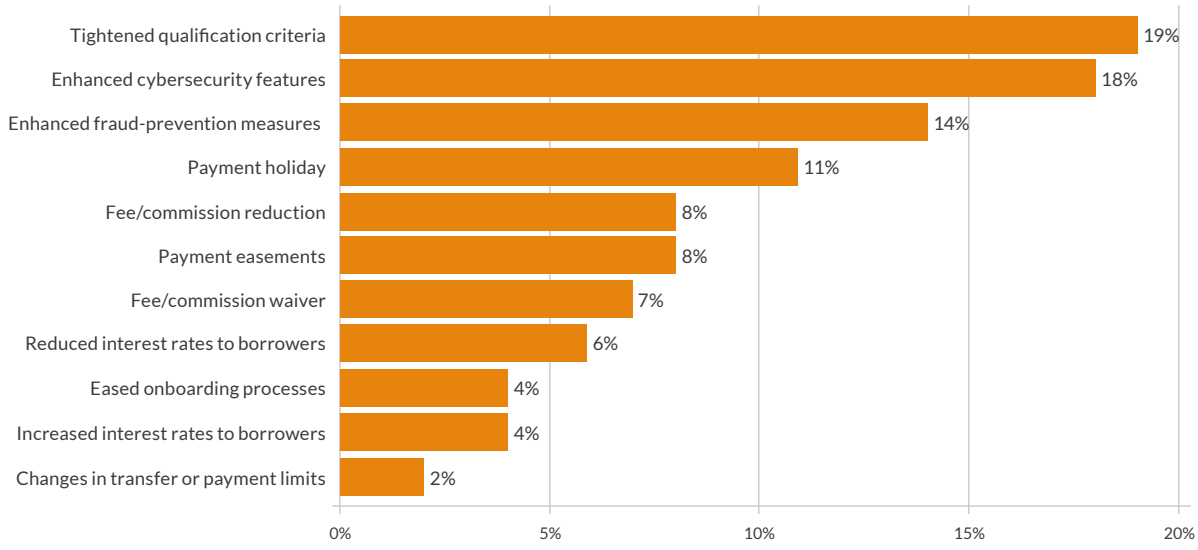


Figure 3.14(b): 2020 implementation status of changes in pricing, service agreements, and policies in EMDEs: digital lending

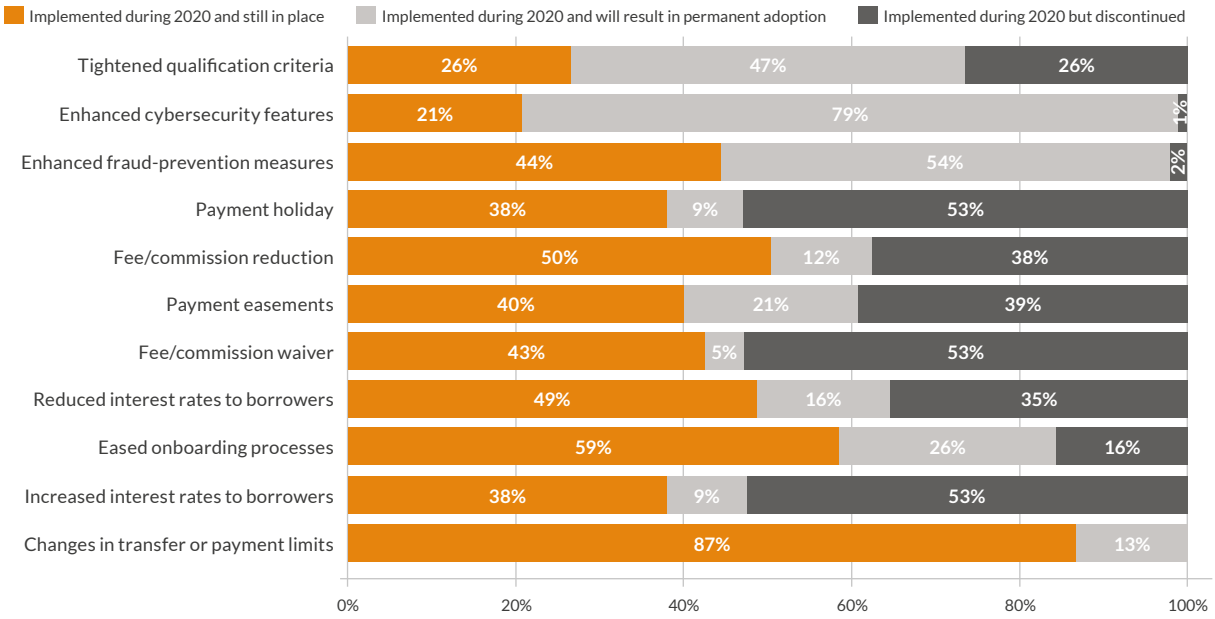


Figure 3.14(c): 2020 top changes in pricing, service agreements, and policies in AEs: digital lending

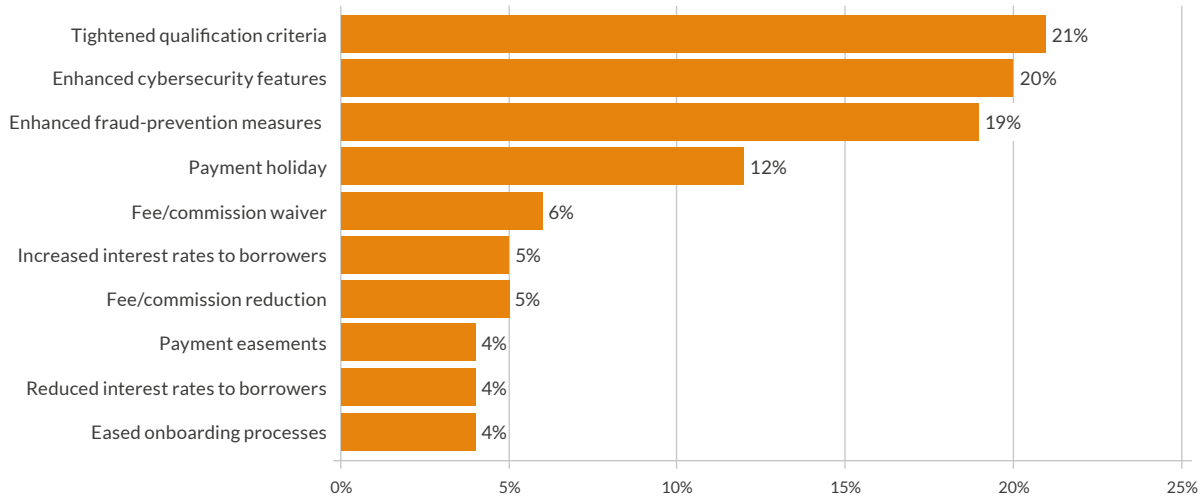
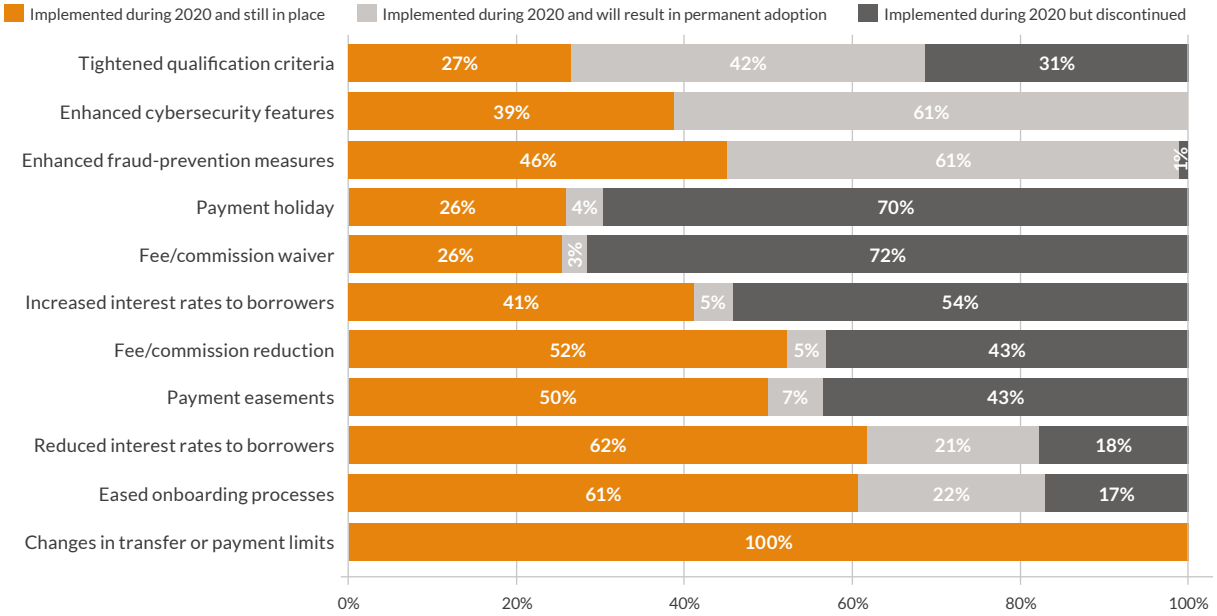


Figure 3.14(d): 2020 implementation status of changes in pricing, service agreements, and policies in AEs: digital lending



**Top markets by economic development: AEs: United Kingdom, Italy, Netherlands, Spain, and France; EMDEs: India, Brazil, Indonesia, Colombia, and Mexico*

Similar changes to those implemented globally were seen across all lockdown stringency levels, although there were more changes adopted by firms in jurisdictions with low stringency lockdown measures. Over 70% of firms that implemented the most common changes reported that these measures were either still in place or had been permanently adopted. Most changes related to pricing structure were short-lived and had been discontinued. For instance, about two-thirds of firms that had implemented payment holidays reported discontinuing them. Broadly, at all levels of analysis, changes that were likely to negatively impact revenue were discontinued.

Table 3.7: Examples of changes to pricing, service agreements, and policies in response to Covid-19: digital lending

Model	Region or market	Change to pricing, service agreements and policies	Example from the field
Digital lending	LAC	Enhanced cybersecurity features	A Colombian digital lender added 50 additional security filters to verify, in real-time, applicants' information, identify the device on which customers requested credit, and check if they had been reported by the credit reporting agencies.
	LAC	Fee/commission waiver	Between March and April 2020, a Colombian digital lender gave clients a 50% discount on their credit interest, insurance, and other related costs.
	North America	Fee/commission waiver	An American-based digital lender waived late fees and allowed eligible borrowers to make interest-only payments or skip payments for up to two months.
	APAC	Eased terms of credit	P2P digital lending firms across India provided an interest rate suspension to borrowers as directed by the Reserve Bank of India.

Changes in product and service offerings

Fifty-six percent of digital lending firms changed their product and service offerings. For digital lending firms in AEs and EMDEs, launching a new credit or micro-credit facility, launching a voucher system, and introducing value-added non-financial services were the most common new products/ offerings implemented.

Figure 3.15(a): 2020 top changes implemented to product and service offerings in EMDEs (percentage of respondents): digital lending

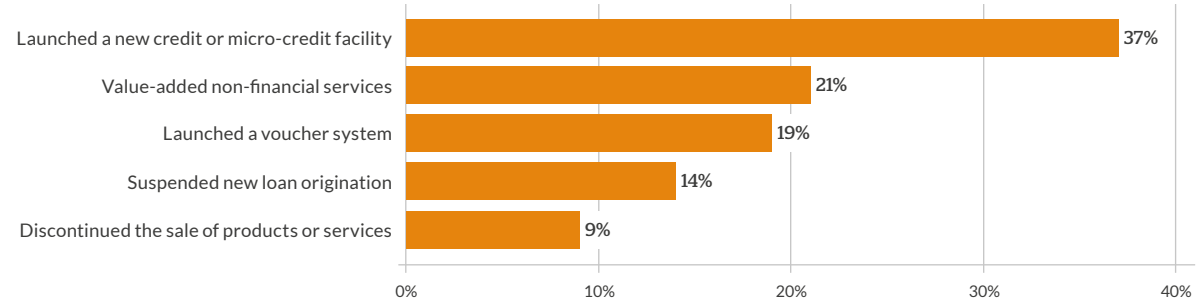


Figure 3.15(b): 2020 implementation status of changes in product and service offerings in EMDEs: digital lending

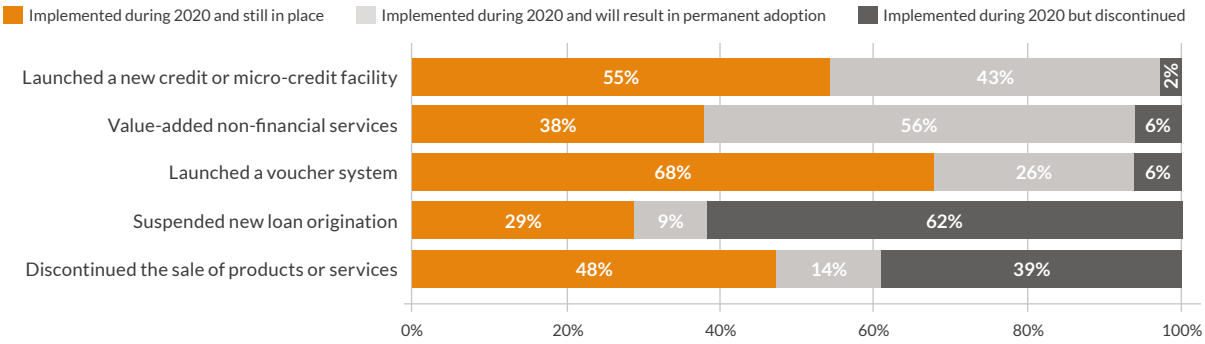


Figure 3.15(c): 2020 top changes implemented to product and service offerings in AEs (percentage of respondents): digital lending

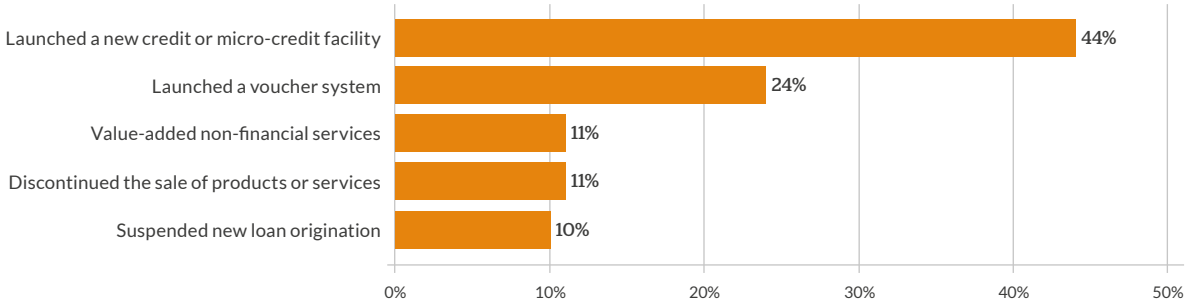
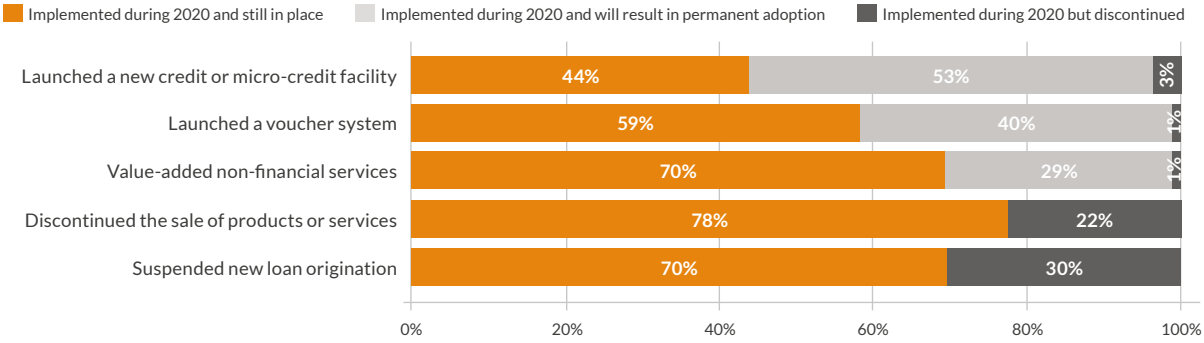


Figure 3.15(d): 2020 implementation status of changes in product and service offerings in AEs: digital lending



**Top markets by economic development: AEs: United Kingdom, Italy, Netherlands, Spain, and France; EMDEs: India, Brazil, Indonesia, Colombia, and Mexico*

Regional analysis showed that while firms in APAC and North America followed the general trend, discontinuing selling products or services was one of the top three changes made by firms in Europe. In LAC, MENA, SSA, and the United Kingdom, suspending new loan origination was one of the top changes. Introducing value-added non-financial services was among the top three changes implemented by business-focused firms, while for consumer-focused firms it was suspending new loan origination. Firms in countries across all lockdown stringency levels followed the global trend. However, suspending new loan origination was also prevalent in jurisdictions with high stringency lockdown measures.

In terms of implementation status, changes such as launching new credit or micro-credit facilities, launching a voucher system, and introducing value-added non-financial services were either still in place or had been permanently adopted. Changes that were likely to negatively impact revenue such as suspending new loan origination and discontinuing the sale of products or services were short-lived and most had been discontinued.

Table 3.8: Examples of new or updated fintech products launched in response to Covid-19: digital lending

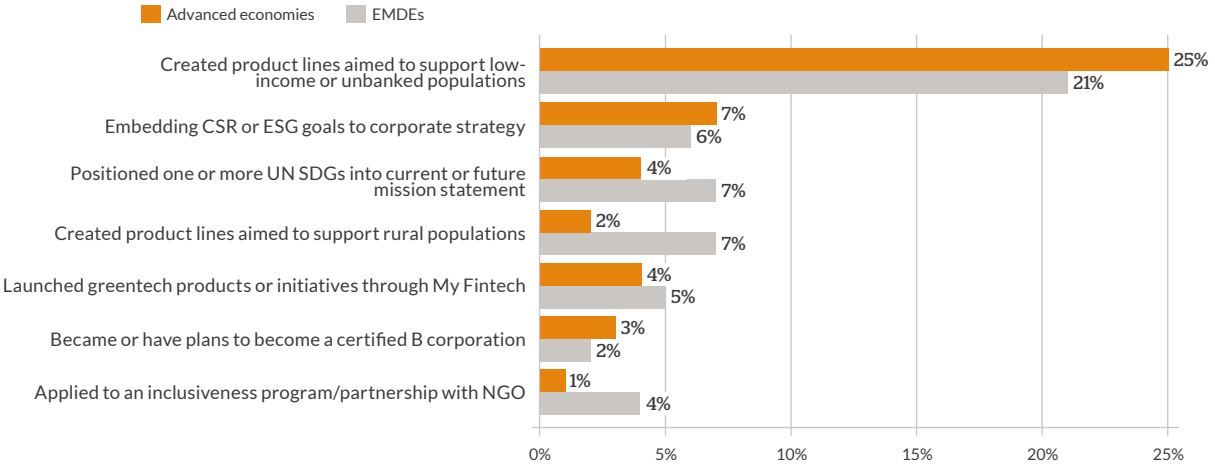
Model	Region or market	Change to existing/ new or updated	Example from the field
Digital lending	LAC	Launched a new credit or micro-credit facility	A Mexican digital lending platform created a credit service to financially support businesses owned by women.
	LAC	Value-added non-financial services	A Colombian-based firm implemented a free health assistance policy for new borrowers in August 2020.
	UK	Launched an open lending platform	A London-based fintech launched a lending platform to provide fast and convenient customized digital access finance solutions to micro-businesses during Covid-19.

Sustainability or inclusion initiatives

A total of 123 digital lending firms responded to the question on sustainability or inclusion initiatives, accounting for 19% of total unique digital lending firms in this study. Hence, the analysis in this section relates to that proportion of respondents.

Overall, the most pursued sustainability initiative across firms in both AEs and EMDEs was creating product lines to support low-income or unbanked populations. Another notable initiative was creating product lines aimed at rural populations.[26]

Figure 3.16: 2020 sustainability or inclusion initiatives by economic development: digital lending



**Top markets by economic development: AEs: United Kingdom, Italy, Spain, Chile, and Lithuania; EMDEs: India, Brazil, Colombia, Indonesia, and Mexico*

In terms of sustainability initiatives by region, firms in Europe concentrated more on financial inclusion initiatives, while 'green' initiatives were more prevalent in APAC. By model, financial inclusion initiatives were prevalent among P2P/marketplace business lending platforms.

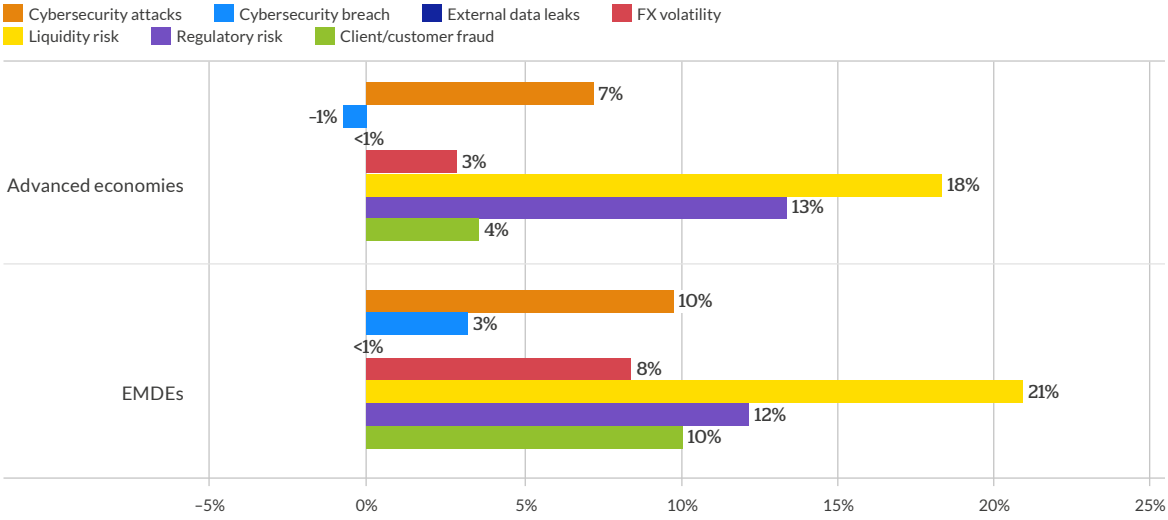
Table 3.9: Example of sustainability initiatives or strategies pursued in response to Covid-19: digital lending

Model	Region or market	Sustainability initiative or strategy pursued	Example from the field
Digital lending	LAC	Created product lines aimed at supporting low-income or unbanked populations	A Peruvian-based lender developed an e-wallet for the unbanked population. Customers download an app, enabling them to open a savings account online without any paperwork. The account is linked to a digital MasterCard card.

3.8 Potential business disruptors in a Covid-19 environment

Digital lending firms reported an increase in almost all key risk indicators. Globally, firms reported the highest increase in liquidity risk, regulatory risk, and cyber risk. In general, firms operating in EMDEs reported higher increases across almost all risk categories, except regulatory risk.

Figure 3.17: 2019–2020 potential disruptor changes by economic development (percentage change): digital lending



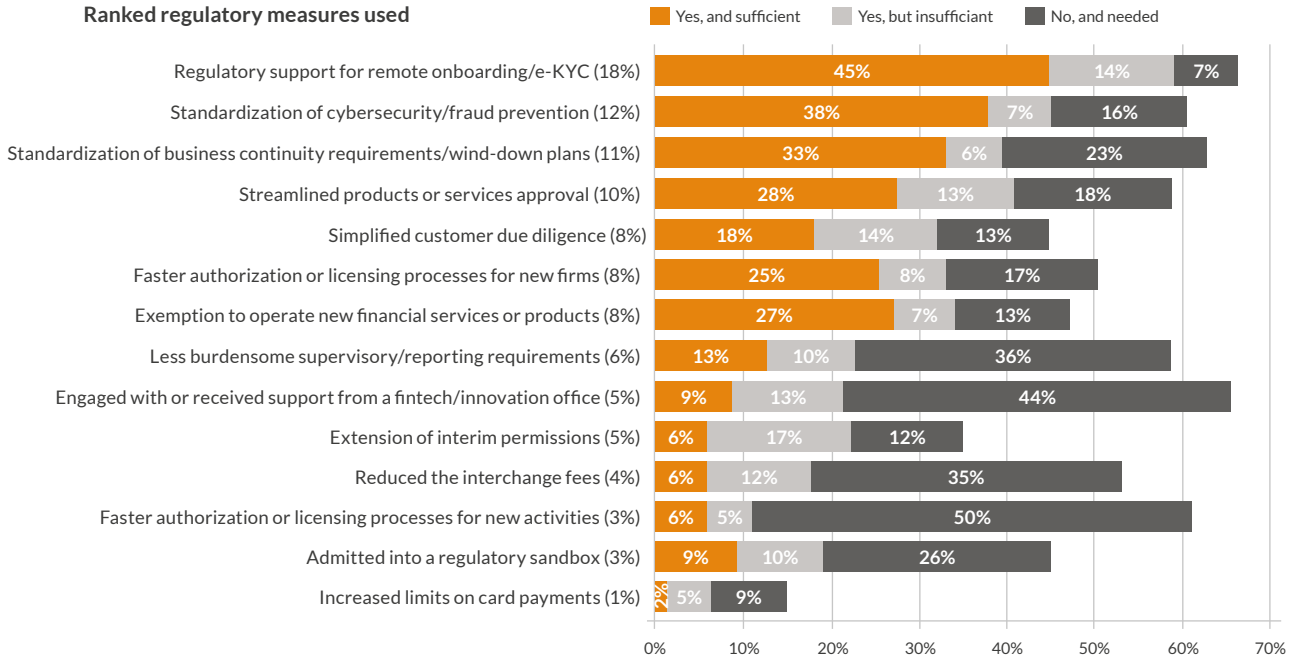
**Top markets by economic development: AEs: United Kingdom, Italy, Netherlands, Spain, and France; EMDEs: India, Brazil, Indonesia, Colombia, and Mexico*

By region, liquidity and regulatory risks increased the most in firms in Europe and APAC, while foreign currency volatility risk was more prevalent for firms in LAC. Liquidity and regulatory risks were higher in firms in countries with low stringency lockdown measures compared to those operating in high stringency lockdown jurisdictions.

3.9 Regulation, policy, and government intervention

Regulatory support use

Figure 3.18: 2020 regulatory support initiatives: digital lending use and needs



**Note that 'N/A' and 'No, and not needed' responses have been omitted from this chart.*
***Top markets by economic development for firms that used regulatory measures: AEs: France, United Kingdom, Finland, Portugal, and Spain; EMDEs: India, Indonesia, Brazil, Kenya, and Malaysia*
****Top markets by economic development that did not use regulatory measures but needed support: AEs: Spain, France, Latvia, Lithuania, and United States; EMDEs: Indonesia, India, Colombia, Mexico, and Vietnam*

In terms of regulatory measures offered to firms to mitigate the effects of Covid-19, digital lending platforms reported high use of some core regulatory support measures.

The regulatory mechanism most used by digital lending platforms was regulatory support for remote customer onboarding. This was followed by cybersecurity/fraud-prevention standardization, standardization of business continuity requirements/wind-down plans, and streamlined products and services approval. Across the top four most used measures, most platforms reported that regulatory support was sufficient.

This finding also applied to firms operating in both AEs and EMDEs. Across the top four measures used, over 60% of platforms in both AEs and EMDEs that used those measures reported receiving sufficient support. While still mostly satisfied, a higher proportion of platforms in EMDEs indicated that support was not sufficient compared to platforms in AEs.

A much smaller percentage of firms reported using other forms of regulatory support such as engaging with an innovation office, faster authorization processes for new activities, and reducing interchange fees. Most firms, however, considered that the existing support for these mechanisms was insufficient, indicating that regulators may need to pay more attention to them.

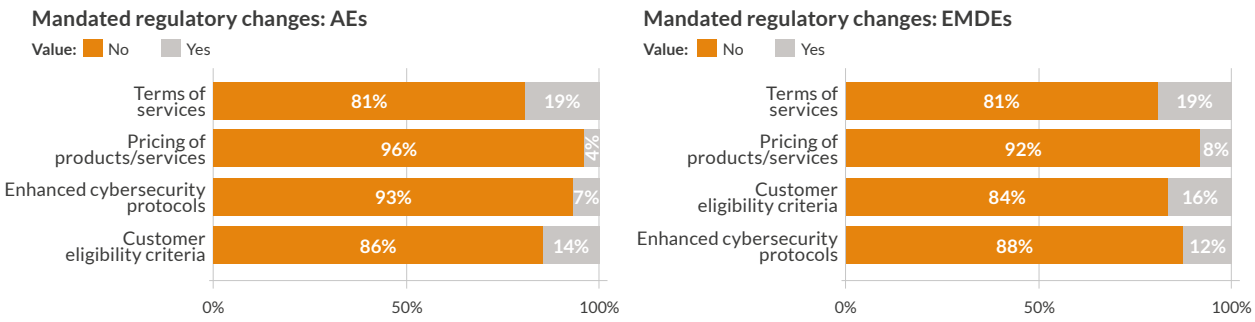
Table 3.10: Examples of fintechs using regulatory mechanisms or interventions during the Covid-19 pandemic: digital lending

Model	Region or market	Regulatory support used	Example from the field
Digital lending	Europe	Regulatory support for remote onboarding	The government in Greece took measures to enable a digital lending firm to more easily onboard customers (electronic power of attorneys and e-signatures) during the pandemic.
	APAC	Regulatory responses	Based on suggestions from fintechs in Thailand, the Central Bank of Thailand allowed applications for digital loan business licenses based on alternative data, such as utility bills and online shopping information.

Mandated regulatory changes

As a result of Covid-19, regulatory authorities also played a role in impacting firms' pricing, service agreements, or operations through mandated changes across different areas. Most digital lending platforms globally reported they did not have to change any of their operations as mandated by their regulatory authorities. This applied to firms operating in both AEs and EMDEs. Where regulatory changes were mandated, platforms reported that the main changes were to terms of services such as interest rates or pre-existing exclusions, and customer eligibility criteria. Across all regions, the most common changes mandated were also to terms and services and customer eligibility criteria.

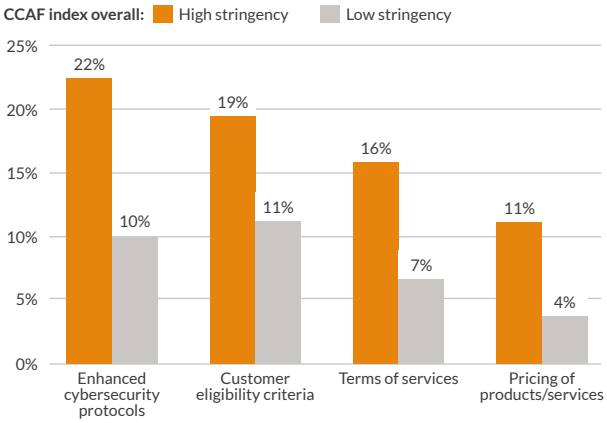
Figure 3.19: 2020 mandated regulatory changes by (a) AEs and (b) EMDEs: digital lending



**Top markets by economic development: AEs: Netherlands, Spain, United Kingdom, France, and Chile; EMDEs: India, Malaysia, Colombia, Indonesia, and Mexico*

By model breakdown, consumer-facing models reported higher mandated changes to their terms of service, while for business-facing models it was enhancing cybersecurity protocols.

Figure 3.20: 2020 mandated regulatory changes by lockdown stringency: digital lending

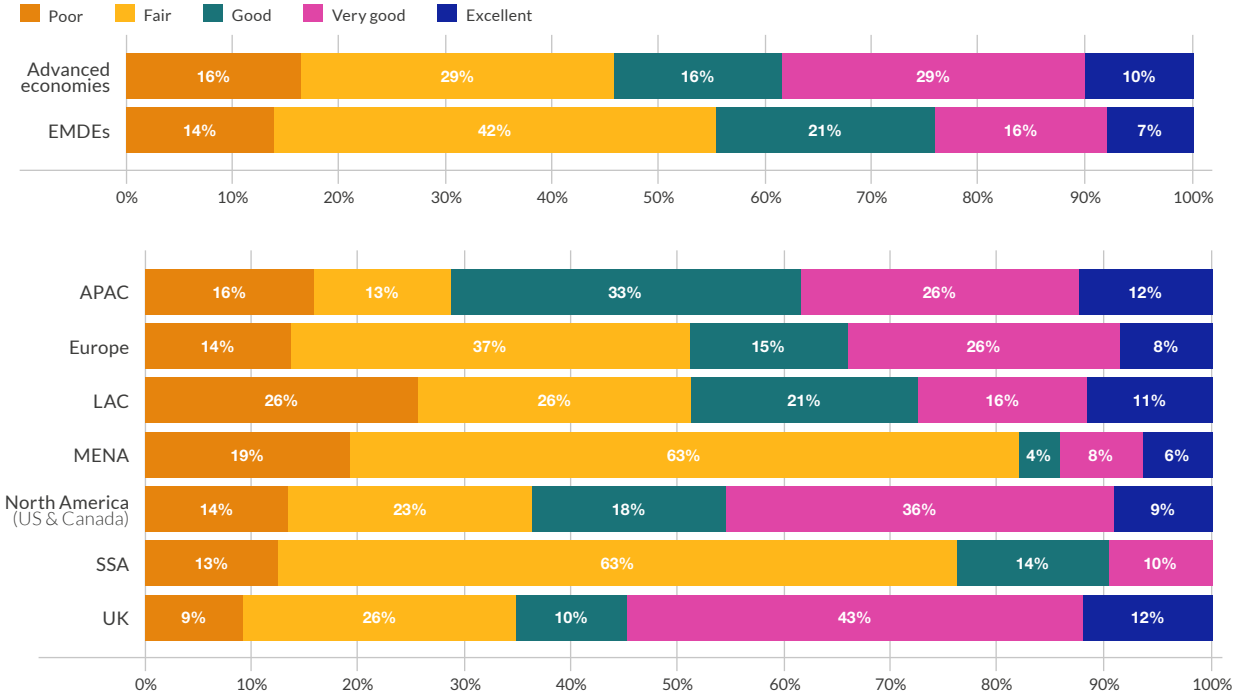


A greater proportion of platforms in jurisdictions with high stringency lockdown measures indicated having to make mandatory changes compared to those in jurisdictions with low stringency lockdown restrictions. While only a few digital lending platforms reported being subjected to mandatory regulatory changes, they all operated in jurisdictions with high stringency lockdown measures.

Regulatory response rating

We also asked firms to rate the level of regulatory support they received. Globally, digital lending platforms' perception of regulatory responses was mixed: 53% had generally positive views and 47% had a more negative perception.

Figure 3.21: 2020 regulatory response rating by (a) economic development and (b) region: digital lending



**Top markets by economic development:*

- *By negative rate – AEs: Spain, United Kingdom, Chile, Finland, and Italy; EMDEs: India, Mexico, Colombia, Brazil, and Bulgaria*
- *By positive rate – AEs: United Kingdom, France, Italy, Australia, and Netherlands; EMDEs: India, Brazil, Indonesia, Colombia, and Malaysia*

The views varied between platforms in EMDEs and AEs, with those in AEs indicating higher satisfaction levels overall. Most (55%) responses received from firms in AEs were positive, whereas most (56%) responses from those in EMDEs were negative.

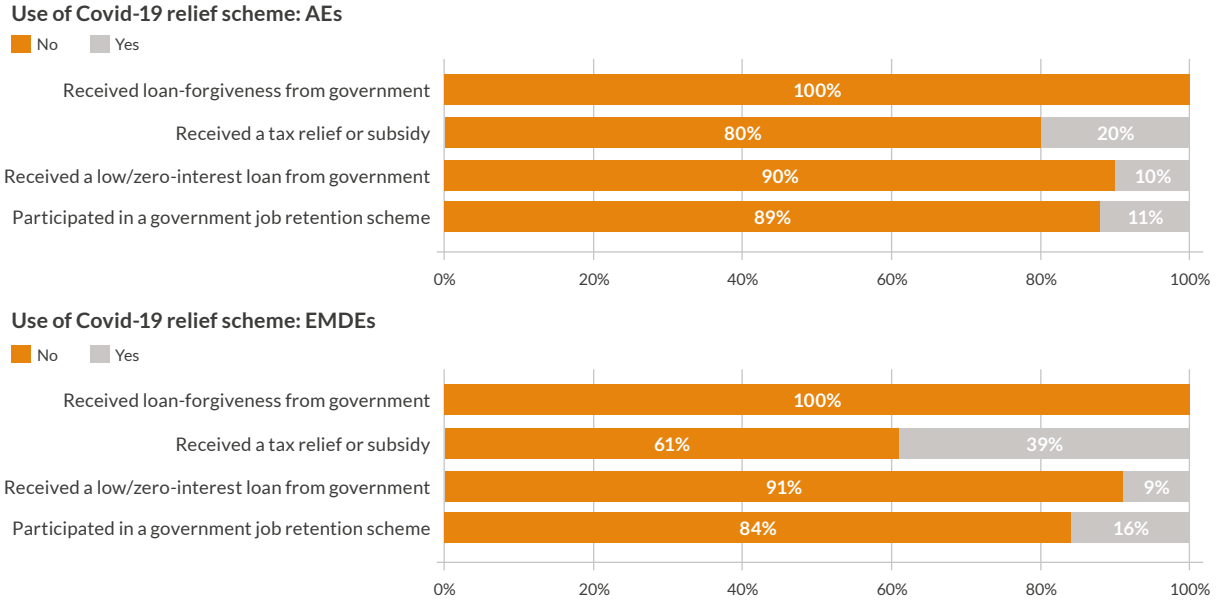
By specific regions, responses from firms in APAC reflected an overwhelmingly supportive regulatory environment, with over 70% reporting a positive perception of regulatory support.

Looking at specific digital lending models, more than 50% of P2P/marketplace lending platforms, both consumer-based and business-based, had a positive view of the regulatory support mechanisms in place. The greatest proportion of total responses was from these models, which may indicate more mature regulatory environments surrounding more developed digital lending ecosystems. Conversely, over 70% of invoice trading firms reported that regulatory responses did not satisfy their needs and rated the responses as either poor or fair.

Use of Covid-19 relief schemes

Globally, most digital lending platforms did not use a Covid-19 relief scheme. For those that did, most received a tax relief or subsidy, or participated in a government job-retention scheme. These results were similar for platforms in both EMDEs and AEs.

Figure 3.22: 2020 use of Covid-19 relief schemes by (a) AEs and (b) EMDEs: digital lending



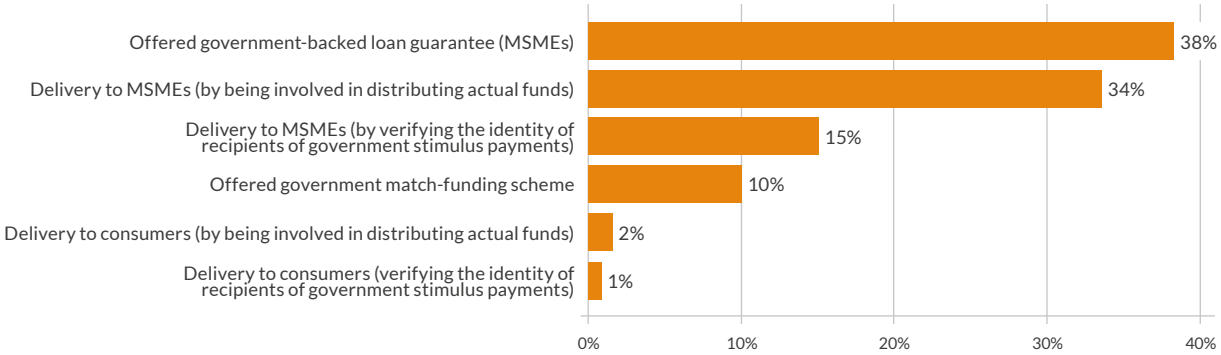
**Top markets by economic development: AEs: United Kingdom, Australia, France, Spain, Finland; EMDEs: Brazil, Malaysia, Colombia, Mexico, and Dominican Republic*

The regional breakdown showed that Covid-19 relief schemes were used more by firms in APAC and Europe. In Europe, 73% of those that had used a relief scheme received a tax relief or subsidy. Platforms in APAC differed from the general trend and the most used Covid-19 relief scheme was participation in a government job-retention scheme. Lockdown stringency analysis showed that platforms in jurisdictions with high stringency lockdown measures were slightly more likely (11%) to use Covid-19 relief schemes than those in jurisdictions with low stringency lockdown measures (8%).

Participation in a government-backed Covid-19 relief measure or stimulus scheme

Of the digital lending platforms that responded to this part of the survey, 76% were not able to partner with a government scheme, suggesting that most respondents did not participate in a government-backed Covid-19 relief measure or stimulus scheme as a delivery or implementation partner.

Figure 3.23: 2020 participation in a government-backed Covid-19 relief measure: digital lending



**Top markets by economic development: AEs: United Kingdom, United States, Denmark, Germany, and Italy; EMDEs: Malaysia, Brazil, Colombia, Indonesia, and India*

Of those platforms that did participate in a scheme, 38% were involved in offering a government-backed loan guarantee or credit facility to MSMEs. These platforms mainly operated in APAC. Similarly, 34% of respondents participated in delivering government-based stimulus funding to MSMEs by distributing actual funds. These platforms mainly operated in APAC and Europe.

Platforms that did participate in a scheme were asked whether they had to make any changes in order to partner with governments to deliver Covid-19 relief schemes or stimulus packages, and the impact that participation had on their revenues. Most participating platforms reported they did have to change their product or service offerings to participate in schemes. Overall, those changes negatively impacted their revenue, the result mainly driven by platforms in APAC where 72% reported this was the case.

It is important to mention that most platforms that did not participate in a government Covid-19 relief measure or stimulus scheme had instead participated in or hosted an industry-led Covid-19-specific funding campaign or relief fund.

Table 3.11: Examples of fintechs' participation in Covid-19 relief measures: digital lending

Model	Region or market	Change to pricing, service agreements and policies	Example from the field
Digital lending	LAC	Government-backed loan guarantee or credit facility for MSMEs	A Colombian digital lender participated in a credit guarantee program launched by the government to support MSMEs.
	North America	Paycheck Protection Program	An American-based digital lender gave loans to more than 106,000 businesses through the Paycheck Protection Program, a centerpiece of the government's USD2 trillion CARES Act.
	UK	Government-backed loan guarantee or credit facility for MSMEs	Some UK-based digital lenders participated in government loan guarantee schemes by providing loans to businesses via government credit guarantee schemes through the Coronavirus Business Interruption Loan Scheme (CBILS).
	Europe	Government SME credit guarantee scheme	A digital lender in the Netherlands was given the approval to provide SMEs with loans under the government's SME credit guarantee scheme, which was launched in response to the Covid-19 pandemic. The scheme, which was available to Dutch businesses with fewer than 250 employees, provided government guarantees for loans of up to €1.5 million. The guarantees covered 75% of the loan amount for up to €2 billion of SME lending in the Netherlands.
	Europe	Government SME credit guarantee scheme	A French digital lender offered everyone whose profession was directly related to the fight against the Covid-19 pandemic a loan at a symbolic interest rate of 0.01%. The fintech company allocated €5 million to the initiative and made it available in all five countries in which it operated.
	Europe	Government SME credit guarantee scheme	A French digital lender offered state-guaranteed loans in France to improve companies' access to credit during the Covid-19 pandemic. The guarantee covers 90% of the outstanding capital. The state-guaranteed loans have unique conditions for the loan's repayment schedule and interest rate.
	Europe	Government SME credit guarantee scheme	A Berlin-based fintech developed the first fully digital application process for instant loans (GER: Schnellkredite). The loans were offered to SMEs with more than ten employees by KfW, a German state-owned development bank based in Frankfurt. The loans were 100% guaranteed by the German Federal Government.
	APAC	Government SME credit guarantee scheme	An Indian-based digital lender provided SMEs with state-guaranteed loans.

4. Digital payments

Chapter 4. Digital payments

4.1 Selected vertical highlights

- Digital payment firms reported year-on-year growth of 30% in payment transaction values, reaching a total of USD492 billion in 2020. Retail-facing digital payment firms accounted for the bulk of total 2020 payment transaction values (68%), with individual clients representing half the total retail-facing transaction values. For both retail and business clients, most payment transaction values stemmed from firms in AEs, which contributed 70% to the total payment transaction values in 2020, approximately the same level of contribution as in 2019. However, the annual rate of growth was higher in firms in EMDEs.
- In 2020, on average, 42% of clients were new or first-time customers, 37% were women, and 55% were from low-income populations. Regarding the client profile of digital payment firms, the proportion of new customers and low-income clients was higher for firms operating in EMDEs, whereas for those in AEs, firms saw a slightly greater proportion of female clients compared to those in EMDEs.
- When considering the types of changes to pricing, service agreements, or policies related to their product offerings, digital payment firms reported that their top changes were enhanced fraud-prevention measures, enhanced cybersecurity features, changes to transfer or payment limits, and deploying additional channels. Firms also prioritized changing their product offerings that created additional revenue streams and improved customer experience such as introducing value-added non-financial services.
- When considering firm-level regulatory support, the regulatory core support measures most used by digital payment firms related to customer onboarding and acquisition and, in general, most firms were satisfied with the support they received in these areas. The top three areas for which most firms considered regulatory support to be insufficient were faster authorization for new activities, admission into a regulatory sandbox, and faster authorization for new firms. Nevertheless, at a general level, most digital payment platforms had a positive view of the regulatory response from their primary regulatory or supervisory body, with platforms in AEs reporting higher levels of satisfaction.
- Only 18% of digital payment firms reported they were able to use government relief schemes. Of those that did use schemes, most received a tax relief or subsidy or participated in a government job-retention scheme.
- Only 12% of firms reported participating as delivery partners of government relief packages. The main program participated in was distributing funds to consumers or households.

4.2 Introduction

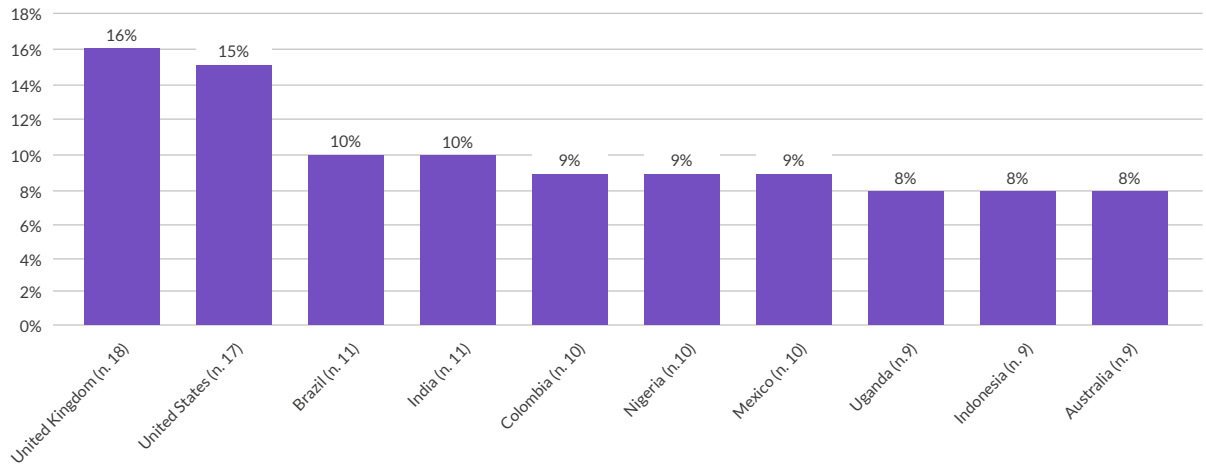
Digital payment firms serve both individual and household clients, and business, clients by facilitating payments through digital modes. We can broadly group platforms in retail-facing models under payment services (hybrid models that cater to both individual clients and businesses) and backend services (those that cater only to businesses). Payment systems operators are market-facing models that primarily support businesses with the underlying digital payments infrastructure requirements. This panel of fintechs comprises a specific cross-section of digital payment firms that are aligned with our fintech taxonomy. Thus, the panel does not cover big techs or incumbents.[27]

Overview of respondents

Digital payments respondents accounted for 9% of the entire dataset, with 125 unique firms contributing to this vertical. Notably, the number of responses received is relatively low compared to the digital payments universe reported in other studies. However, as indicated above, this survey focused on a sub-segment of the whole digital payments universe.[28] We ensured that the respondents were high-value drivers and, thus, this study presents findings that represent market

trends for this specific segment of the digital payments universe. In terms of the distribution across regions, LAC accounted for most of the respondents (29%), followed by APAC (22%) and SSA (18%).

Figure 4.1: 2020 top ten countries by firm-level observations: digital payments



The total number of respondents for this vertical resulted in 444 observations. In total, platforms operated in 129 countries, with nearly 38% of firms operating in two or more countries in 2020.

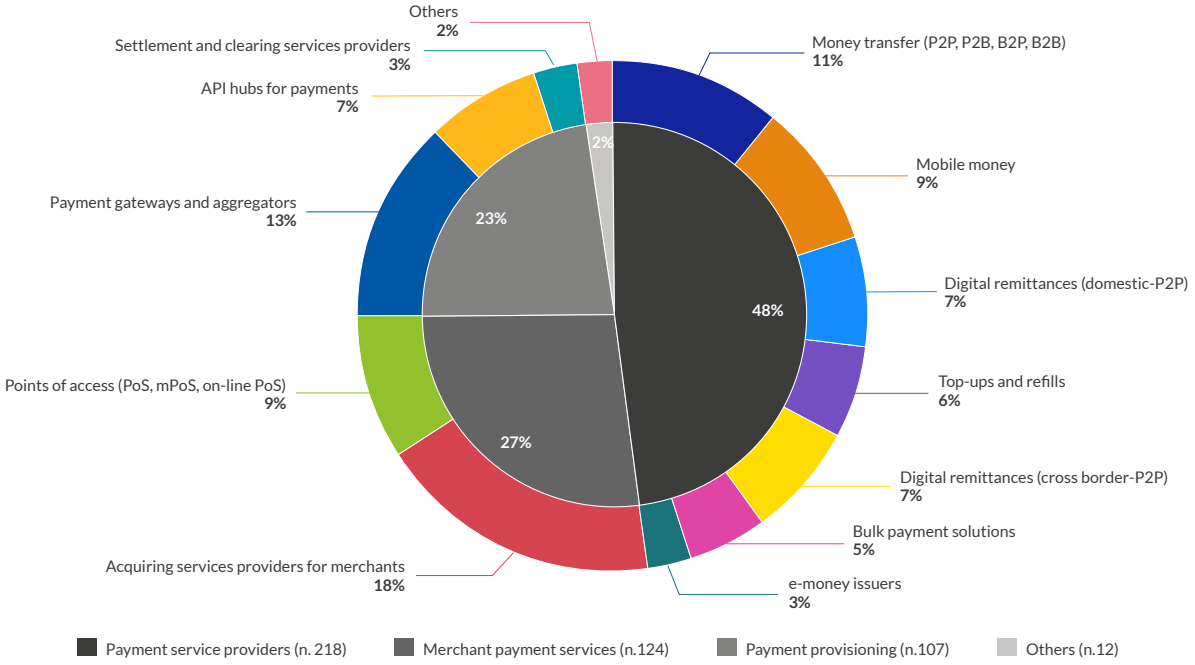
In terms of the top represented countries by operation, more than 10% of observations were from the United Kingdom, followed by the United States, Brazil, and India.

Table 4.1: 2020 share of respondents and observations by region: digital payments

Regions	Number of respondents by region	Number of observations by region	Market share of observations (%)
LAC	36	88	20
APAC	27	98	22
SSA	22	60	14
Europe	14	122	27
United Kingdom	10	18	4
North America (US and Canada)	8	26	6
China	4	6	1
MENA	4	26	6
Total	**125**	**444**	

When analyzing the number of observations by region, Europe accounted for 27% of responses, the highest numbers coming from Spain, France, and Italy. APAC represented the second-highest number of observations (22%), the greatest numbers coming from India, Indonesia, and Australia. In LAC, the concentration of digital payment activities was higher in Brazil, Colombia, and Mexico, which together accounted for nearly 35% of regional responses. A list of the top countries by number of observations for each region can be found in Appendix 10.

Figure 4.2: 2020 distribution of respondents by model: digital payments



Digital payments working taxonomy

The digital payments vertical included 12 models or sub-verticals that can be grouped into two main categories. The first is retail-facing models, which include fintech activities that facilitate payments to and from individual and business clients (payment service providers) and merchant/business clients only (merchant payment services). The second category caters to businesses/corporations and is more closely aligned with payment infrastructure provisioning. More than half the respondents classified themselves as payment service providers, with merchant payment services accounting for nearly 20% of the dataset and payment provisioning platforms accounting for 27%.

Table 4.2: Digital payments working taxonomy

Model		Business model	Stakeholders
Retail	Payment service providers (individual and business clients)	Digital remittances (cross-border P2P)	Provide cross-border remittance services.
		Digital remittances (domestic P2P)	Provide domestic remittance services.
		Money transfer (P2P/P2B/B2P/B2B)	Provide digital means of payment to access and use funds stored in an account (for example, a virtual debit/credit card or wallet).
		E-money issuers	Issue electronic funds and provide digital means of payment to access and use those funds (for example, virtual prepaid cards or e-money).
		Mobile money	Using a mobile phone to transfer funds between banks or accounts, deposit or withdraw funds, or pay bills.
		Top-ups and refills	Provider facilitates the top-ups or refills of various products and services such as mobile phone contracts.
		Bulk payment solutions	Provide payments to multiple beneficiaries from one transaction.
	Merchant payment services (Merchant/business clients)	Acquiring service providers for merchants	Provide means for merchants to accept digital payments.
		Points of access (PoS/m-PoS/online PoS)	Provide hardware or software to capture payment transactions to transmit to a network.
Payment provisioning		Payment gateways and aggregators	Provide digital payment acceptance services on behalf of multiple acquirers to integrate different types of digital payment mechanisms/instruments. Collect payments on behalf of multiple merchants and accept different digital payment instruments.
		API hubs for payments	Integrate different online payment services through a unified API service.
		Settlement and clearing services providers	Manage and operate digital platforms where different entities exchange funds on their behalf or on behalf of their customers.

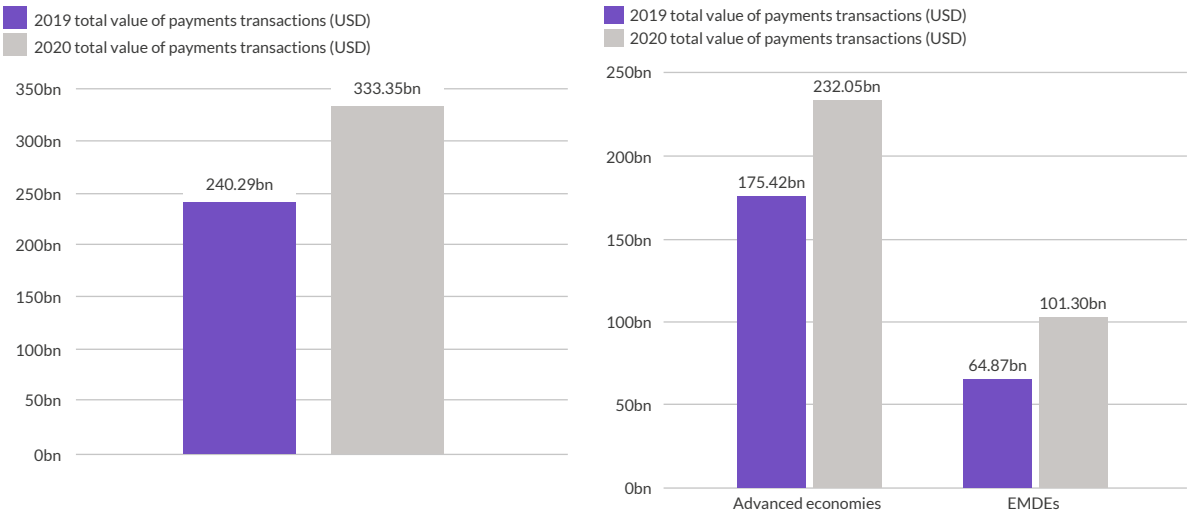
Looking at the breakdown by region, SSA (38%) reported the highest number of responses for mobile money networks, while for APAC (27%) and LAC (25%) it was money transfer platforms. Most responses for digital remittances (domestic and cross-border) platforms came from SSA, followed by APAC and LAC. For merchant payment services, LAC (36%) and SSA (24%) reported the greatest number of respondents for acquiring services providers for merchants. LAC also contributed 30% of responses for point-of-access firms. For payment provisioning models, such as payment gateways and aggregators, LAC (34%), APAC (20%), and SSA (19%) reported the highest responses.

4.3 Market performance

Total value of payment transactions per year

The transaction values presented in this section of the report represent the digital payments panel specific to this study and, thus, exclude entries from big techs, embedded finance from non-financial service providers, and incumbents. Big techs and incumbents, particularly, are large value drivers concerning estimated transaction values worldwide and thus, by excluding them, the reported transaction values are lower than those found in other studies. Another important caveat is that most respondents from our panel of digital payments fintechs were based in EMDEs, where the USD exchange rate is high, resulting in relatively lower reported transaction values.

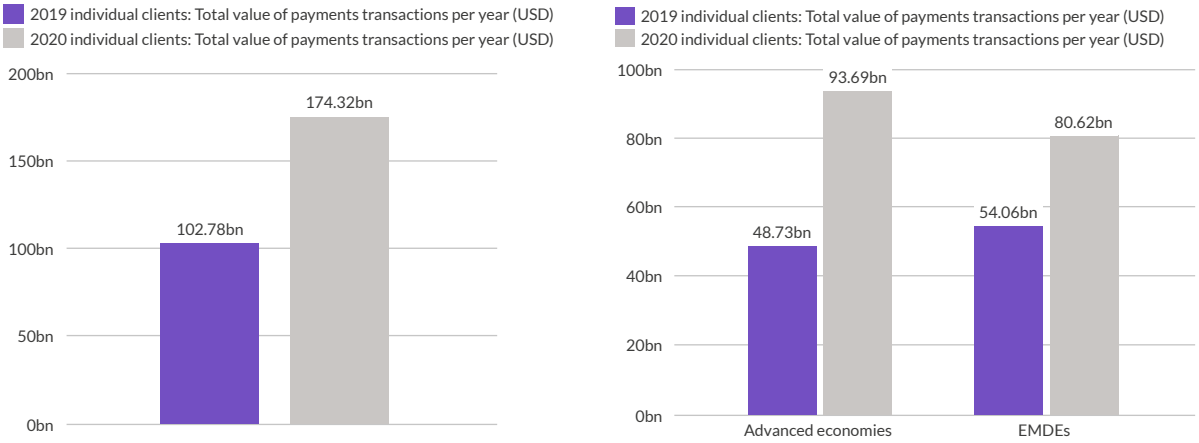
Figure 4.3: 2019–2020 total value of payment transactions per year for retail clients by economic development (USD): digital payments



On average, retail-facing digital payment firms from this panel reported a 39% year-on-year growth in payment transaction values, reaching USD333.5 billion in 2020. Most values stemmed from firms in AEs, which contributed approximately 70% to the total retail-facing payment transaction values in 2020; the same level of contribution as in 2019. However, the rate of growth was higher for payment platforms in EMDEs, which reported a year-on-year growth of about 60% in payment transaction compared to 32% for payment firms in AEs. In this study, we allowed digital payment firms to report their transaction value activities as related to their underlying clients. Although there is substantial overlap between firms that cater to both individual clients, and business or merchant clients, transaction data collected in this study suggests that individual customers make up the greater proportion of overall activity.

Transaction values related to individual clients and households

Figure 4.4: 2019–2020 total value of digital payment transactions per year to individual clients by economic development (USD): digital payments



Individual client transactions represented half of all total transaction values, increasing by 69% from 2019 to 2020, and reaching a value of USD174 billion. This suggests that the value of transactions for individual clients increased substantially, and by more than expected, during the second half of 2020. (The results from *The Rapid Assessment Study* showed a year-on-year increase of 21%[29] from the first half of 2019 to the first half of 2020.) In addition, firms in AEs reported a significant year-on-year growth of 92%, which was the largest share of individual client payment transaction values and contributed approximately 54% to the total individual client payment transaction values per year in 2020.

When considering payment transaction values under a lockdown stringency lens, a high proportion of 2020 activity came from platforms in jurisdictions with high stringency lockdown measures, accounting for USD123.6 billion or 71% of total transaction values for the year, followed by platforms operating in jurisdictions with medium stringency lockdown measures (19%).

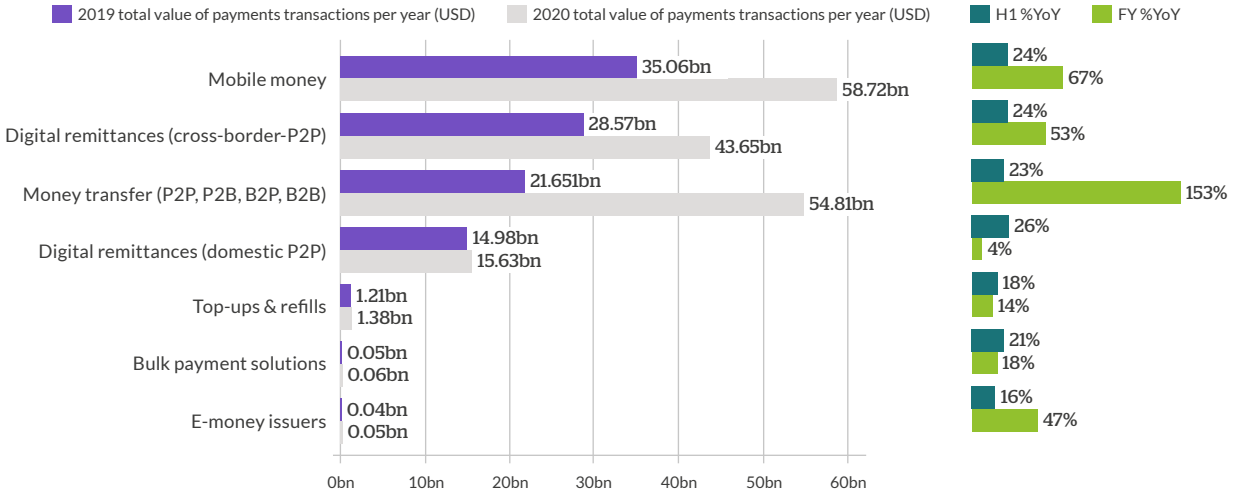
Table 4.3: 2019–2020 value of digital payment transactions per year (individual clients) by region (USD): digital payments

Region	2019		2020		2019 vs 2020 change in value (%)
	Total value (USD)	Market share (%)	Total value (USD)	Market share (%)	
United Kingdom	39,345,593,697	38.28	75,282,986,448	43.19	↑ 91
SSA	33,139,818,502	32.24	44,169,941,451	25.34	↑ 33
APAC	21,388,667,145	20.81	36,671,740,731	21.04	↑ 71
Europe	6,182,488,480	6.02	15,147,523,183	8.69	↑ 145
LAC	2,655,567,828	2.58	3,009,964,469	1.73	↑ 13
North America (US and Canada)	69,716,609	0.07	34,014,495	0.02	↓ –51
China	0	0.00	217,653	0.00	N/A
MENA	25,556	0.00	24,534	0.00	↓ –4
Total	**102,781,877,817**	**100.00**	**174,316,412,964**	**100**	

Across all regions, the value of digital payment transactions for individual clients increased between 2019 and 2020, reflecting the global increase in the use of cashless transactions during the pandemic. The United Kingdom accounted for the largest share of individual client payment transaction values in both 2019 and 2020, followed by SSA, APAC, and Europe.

In SSA, Uganda, Tanzania, and Zambia contributed the largest share of transaction values in 2020. In APAC, it was Pakistan, Myanmar, and Malaysia, while in Europe it was Spain, Russia, and Turkey. A complete list of countries or jurisdictions and their respective value loan of origination for 2019 and 2020, lockdown stringency category, and annual rate change can be found in Appendix 7.

Figure 4.5: 2019–2020 value of digital payment transactions per year to individual clients by model (USD): digital payments



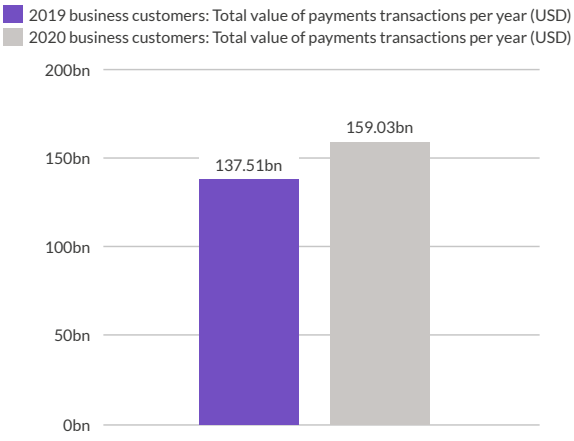
Looking at individual client payment transaction values per year by model, mobile money was the largest, accounting for 34% of the total individual transaction values in 2020. Notably, digital remittances (cross-border and domestic P2P), money transfers, and mobile money accounted for the highest volumes in jurisdictions with high lockdown stringency measures, where digital payment platforms performed better.

Transaction values related to merchant and business clients

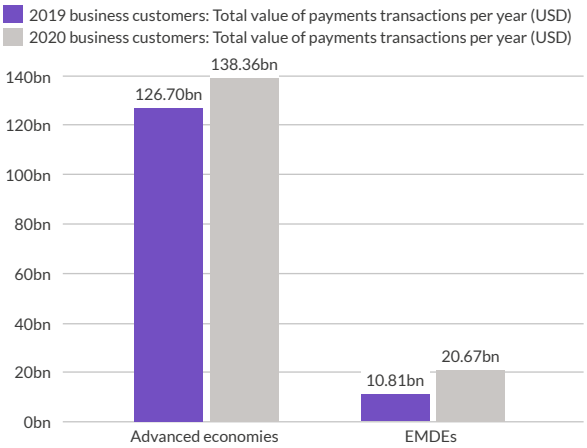
Transactions related to business or merchant clients grew by 15% between 2019 and 2020, reaching a payment transaction value of USD159 billion in 2020. This transaction volume came mainly from firms operating in AEs, which experienced a smaller year-on-year increase. In comparison, firms operating in EMDEs reported significant growth of 91% in transaction value, although from a very low base.

Figure 4.6: 2019–2020 total value of digital payment transactions per year (business/merchant clients) by economic development (USD): digital payments

Total business clients payments transaction value: 2019 vs 2020



Individual clients transaction value by economic development: 2019 vs 2020



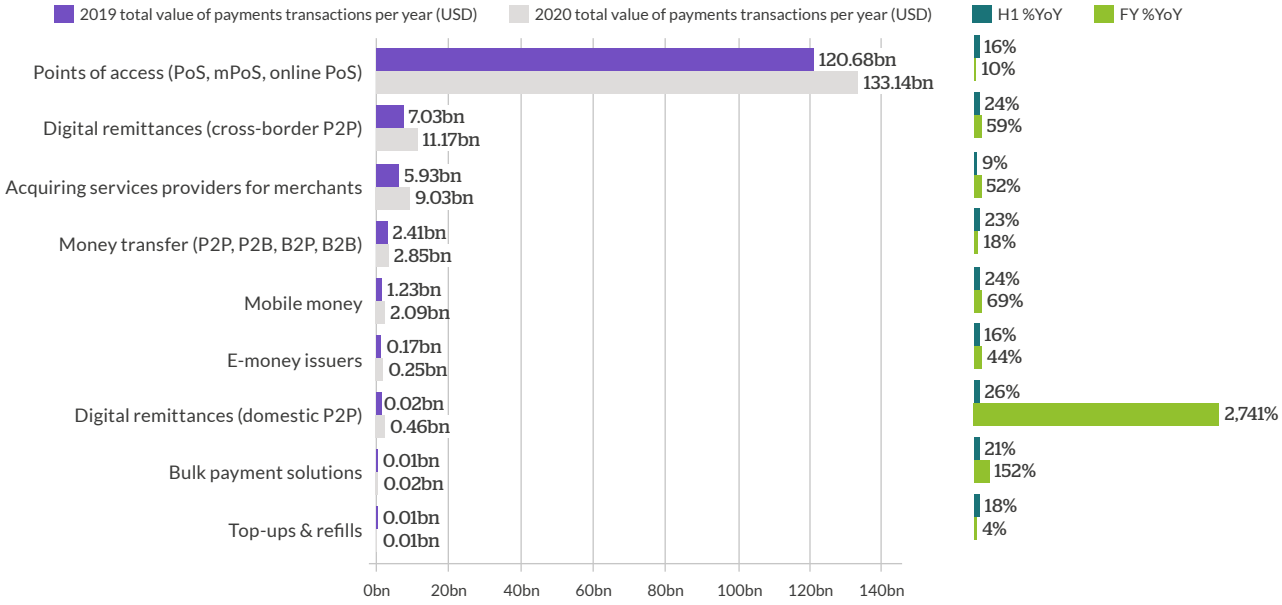
Digital payment platforms in jurisdictions with high stringency lockdown measures accounted for most merchant customer transaction values, accounting for over 90% of values in 2020. Platforms in jurisdictions with medium lockdown stringency measures saw the biggest year-on-year growth (60%), from USD5 billion to USD8 billion.

Table 4.4: 2019–2020 total value of digital payment transactions per year (business/merchant clients) by region (USD): digital payments

Region	2019		2020		2019 vs 2020 change in value (%)
	Total value (USD)	Market share (%)	Total value (USD)	Market share (%)	
North America (US and Canada)	99,371,615,931	72.27	105,918,000,000	66.60	↑ 7
United Kingdom	20,549,402,609	14.94	24,924,192,104	15.67	↑ 21
APAC	10,910,251,002	7.93	13,825,665,260	8.69	↑ 27
LAC	3,434,659,174	2.50	9,780,930,380	6.15	↑ 185
SSA	2,902,398,926	2.11	3,773,676,271	2.37	↑ 30
Europe	191,162,923	0.14	458,289,195	0.29	↑ 140
MENA	106,872,225	0.08	271,149,227	0.17	↑ 154
China	42,933,333	0.03	79,215,971	0.05	↑ 85
Total	137,509,296,123	100	159,031,118,408	100	

The digital payment transaction values related to businesses/merchant customer activities increased across all regions. Some regions experienced significant growth in payment transactions, especially in LAC, which reported a 185% increase, followed by platforms in MENA. The increase in both regions stemmed from point-of-access models. In Europe, platforms experienced growth from mainly cross-border remittances models.

Figure 4.7: 2019–2020 total value of digital payment transactions per year (business/merchant clients) by model (USD): digital payments

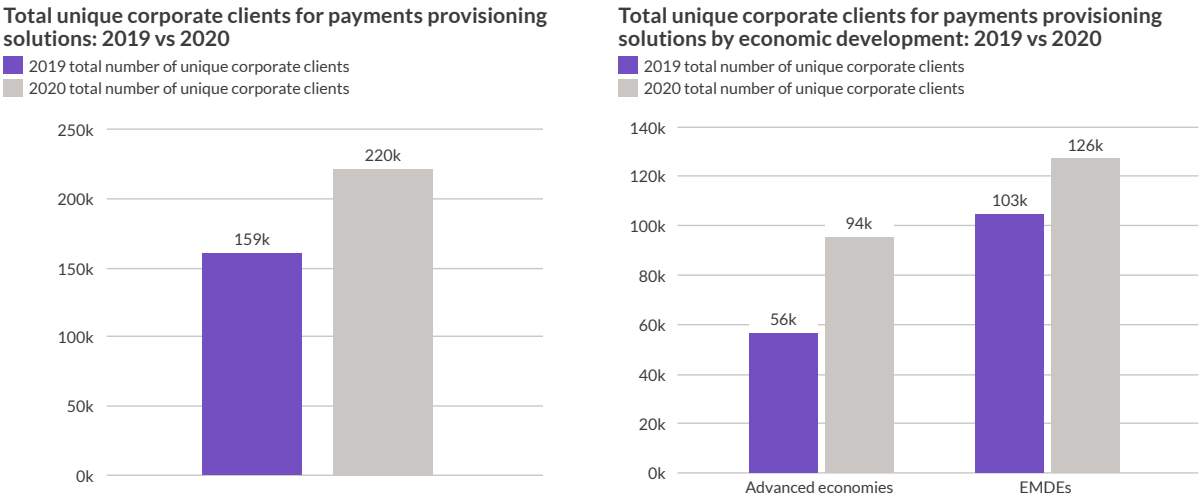


In terms of digital payment transaction values directed to business or merchant clients by model, the points-of-access model was, by far, the main channel used, reporting a growth of 10% in business accounts transaction value, accounting for over 87% of the business client market share in 2020. The remaining models also reported increases in business client transaction values, with digital remittances (domestic P2P) showing a noticeable increase, despite constituting a small proportion.

Unique corporate clients

As noted previously, digital payment firms that serve corporate clients through payment provisioning or infrastructure could not report on nominal transaction values. However, to assess how these models have grown within the Covid-19 environment, we asked these firms to provide information regarding their number of unique corporate clients. The total number of unique corporate clients served by digital payment platforms increased by 38% from 159,000 in 2019 to 220,000 in 2020.

Figure 4.8: 2019–2020 total number of unique corporate clients by economic development (USD): digital payments



Digital payment platforms grew in AEs and EMDEs, with firms in AEs experiencing a 68% growth compared to 22% for firms in EMDEs. However, even with slow growth, firms in EMDEs accounted for 57% of the total unique corporate clients served in 2020, a drop from 65% in 2019. In terms of the number of unique corporate clients served by lockdown stringency measures, the number of unique corporate clients doubled for platforms in jurisdictions with low lockdown stringency measures, while firms in jurisdictions with high lockdown stringency measures reported a 38% increase. Firms operating in countries with high stringency lockdown measures accounted for most of the observed unique corporate clients.

Looking at the number of queries or transactions processed, digital payment infrastructure provisioning firms reported an 80% increase in the number of queries or transactions they processed on behalf of their clients in 2020 (96 million) compared to 2019 (441 million). Platforms in both AEs and EMDEs reported higher numbers for 2020, with firms in EMDEs experiencing a greater change in the number of queries processed from 401 million in 2019 to 735 million in 2020. Platforms in AEs processed 61 million queries or transactions on behalf of their clients in 2020.

Table 4.5: 2019–2020 total number of unique corporate clients by region: digital payments

Region	2019		2020		2019 vs 2020 change in value (%)
	Total number	Market share (%)	Total number	Market share (%)	
China	50,000	31.36	100,000	45.40	↑ 100
MENA	52,300	32.80	83,450	37.89	↑ 60
APAC	47,808	29.98	18,653	8.47	↓ -61
LAC	5,222	3.28	11,011	5.00	↑ 111
United Kingdom	1,003	0.63	4,003	1.82	↑ 299
North America (US and Canada)	2,202	1.38	2,038	0.93	↓ -7
SSA	757	0.47	869	0.39	↑ 15
Europe	156	0.10	222	0.10	↑ 42
Total	**159,448**	**100**	**220,246**	**100**	

In terms of the distribution of unique corporate clients by region, Chinese firms reported the highest number. MENA and LAC also reported significant numbers of unique corporate clients.

Although firms in APAC reported growth in transaction value for businesses, they saw the greatest decrease in the number of unique clients among all regions.

Table 4.6: 2019–2020 total number of unique corporate clients by model: digital payments

	Total number of unique corporate clients for payments provisioning solutions		
Model	2019	2020	2019 vs 2020 change in value (%)
Payments gateways and aggregators	107,872	118,151	↑ 10
Settlement and clearing service providers	50,114	100,523	↑ 101
API hubs for payments	1,462	1,572	↑ 8
Total	**159,448**	**220,246**	

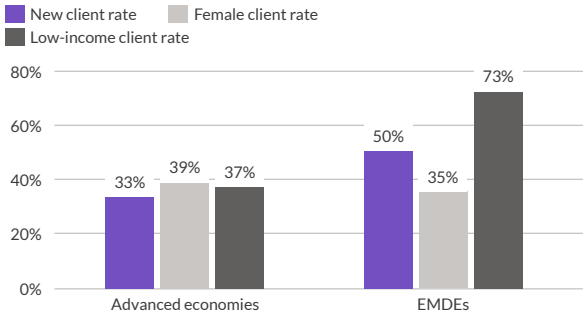
Analyzing the number of unique clients served by model showed that payment gateways and aggregators was the key business model, accounting for over half of unique corporate clients served in 2019 and 2020, followed by settlement and clearing services providers. However, the number of unique corporate clients doubled for settlement and clearing services firms in 2020, recording the highest growth across all payments provisioning firms.

In terms of the total number of queries or transactions processed, the payment gateways and aggregators model saw an increase from 386 million in 2019 to 731 million in 2020, an 89% year-on-year growth. Similarly, API hubs for payments reported 54.2 million queries or transactions processed in 2020, an increase from 45 million in 2019, while settlement and clearing service providers experienced a moderate increase of 4% from 10.8 million in 2019 to 11.2 million in 2020. Overall, the year-on-year change in the number of transactions processed for payment gateways and aggregators, and API hubs for payments, was considerably higher than originally anticipated during the first half of 2020.[30]

4.4 Client profile and potential contribution to financial inclusion

The pandemic stimulated a shift toward contactless modes of payment, resulting in substantial growth in the digital payments arena. Our results also suggest that digital payment firms are playing an important role in helping specific groups that have traditionally faced challenges in accessing key financial services, such as women and low-income customers, which we explain in more detail below. These findings should be followed up by collecting additional key information, for example on pricing, and comparing it with similar data from traditional firms to better understand the full impact that digital payment firms in this report are having on financial inclusion.

Figure 4.9: 2020 proportion of clients by economic development (percentage of number of customers/ users): digital payments



In 2020, on average, 42% of clients were new or first-time customers, 37% were women, and 55% were from low-income populations.

The importance of each customer category varied across firms in AEs and EMDEs. Firms operating in EMDEs reported a higher percentage of new and low-income customers compared to firms in AEs. In contrast, payment firms in AEs reported a higher percentage of female customers..

When considering specific model types, models that catered to individual clients, such as mobile money and money transfer, reported that 40% of their customers were new customers. Nearly one-third of customers of merchant-focused models, such as point-of-access models and acquiring service providers for merchants, were classified as new. APAC and LAC reported some of the highest percentages of new clients (over 60%), while Europe reported the lowest proportion (22%).

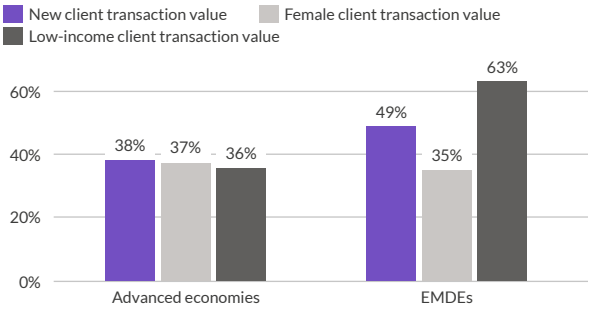
Looking at the key models and regions that catered most to low-income clients, key retail-facing models (individual clients and merchants), such as mobile money, money transfer, digital remittances (domestic and cross-border P2P), and acquiring service providers for merchants, reported, on average, that over half their clients were from low-income populations. These proportions were even higher for firms operating in EMDEs. And in terms

of key regions, SSA (83%) reported the highest percentage of clients from low-income populations, followed by APAC and LAC (56% each).

When considering female inclusion, digital payment platforms across the regions reported that nearly one-third of their customers were women, with platforms in Europe and LAC reporting the highest percentages (39%). In terms of specific models, point-of-access, digital remittances (domestic P2P), and mobile money had the highest proportion of female clients at nearly 40%.

Lockdown stringency measures also impacted how digital payment firms served these customer groups. Fintechs operating in high stringency lockdown markets served a greater percentage of new clients (on average, 55%) compared to firms in medium (34%) and low (36%) lockdown stringency markets. However, when looking at female and low-income clients, firms operating across high, medium, and low stringency lockdown markets all reported similar proportions.

Figure 4.10: 2020 client values by economic development (percentage of number of customers/ users): digital payments



We also asked digital payment platforms to provide information about the proportion of transaction values that went to new, female, and low-income clients against the total transaction value for 2020. Overall, transaction value to new customers represented an average of 43% of the total transaction values of digital payment firms in 2020: 36% from female clients and 49% from low-income clients.

There were significant differences in transactional value contribution by different customer bases between firms in AEs and EMDEs. Platforms in EMDEs reported a higher transaction value from new and low-income customers (49% and 63%, respectively) compared to firms in AEs (38% and 36%, respectively). However, contribution to financial access for females was slightly higher in AEs, with female client transaction values accounting for 37% compared to 35% in EMDEs.

Across the regions, over 40% of transaction values was from new customers, with platforms in APAC (64%) and LAC (53%) recording the highest transaction values. The exception was Europe, where just under 30% of transaction values were from new customers. By model, mobile money and money transfers reported the highest percentages of new customer transaction values (over 40% each).

Digital payment platforms also reported that, on average, 49% of transaction values went to clients from low-income populations. Nearly three-quarters of transaction values from low-income customers were reported by platforms in SSA, while firms in APAC and LAC reported around 52% and 43%, respectively. Notably, platforms in Europe reported one-third of transaction values from low-income customers, the lowest across all regions. By specific models, individual client-facing models, such as money transfers, mobile money, and digital remittances (domestic P2P), reported nearly half their transaction values from these customer groups.

In terms of female customers, on average, 36% of the total transaction value of digital payment platforms went to female customers. Similar to customer proportions, transaction values for female clients were also approximately one-third of total transaction values across the regions, with platforms in Europe and LAC reporting the highest percentages (39% each). Models of note, such as point-of-access, digital remittances (domestic P2P), mobile money, and payment gateways and aggregators, reported some of the highest transaction values for women (40% each).

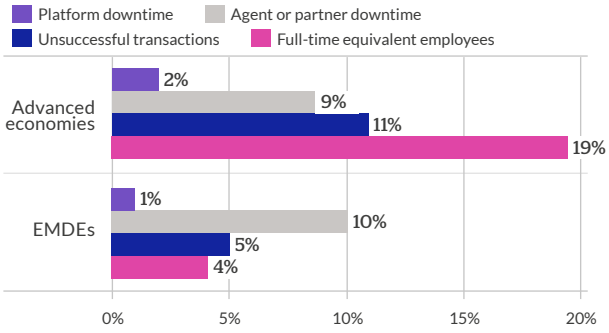
By lockdown stringency measures, platforms operating in high and medium stringency lockdown markets noted higher transaction values for new and low-income customers, respectively. Platforms in low stringency lockdown markets reported slightly higher transaction values for female clients.

4.5 Market resilience and financial health

Impact on operational indicators

Globally, digital payment platforms reported increases across the three key operational risks of platform downtime, agent or partner downtime, and the number of unsuccessful transactions in 2020 compared to 2019. Those results also applied to firms in AEs and EMDEs, although in different proportions. Firms in EMDEs reported a much higher number of unsuccessful transactions.

Figure 4.11: 2019–2020 operational impact and employment type change by economic development (percentage change): digital payments



Top markets by economic development: AEs: United Kingdom, United States, Australia, Canada, and France; EMDEs: Nigeria, India, Indonesia, Mexico, and Brazil

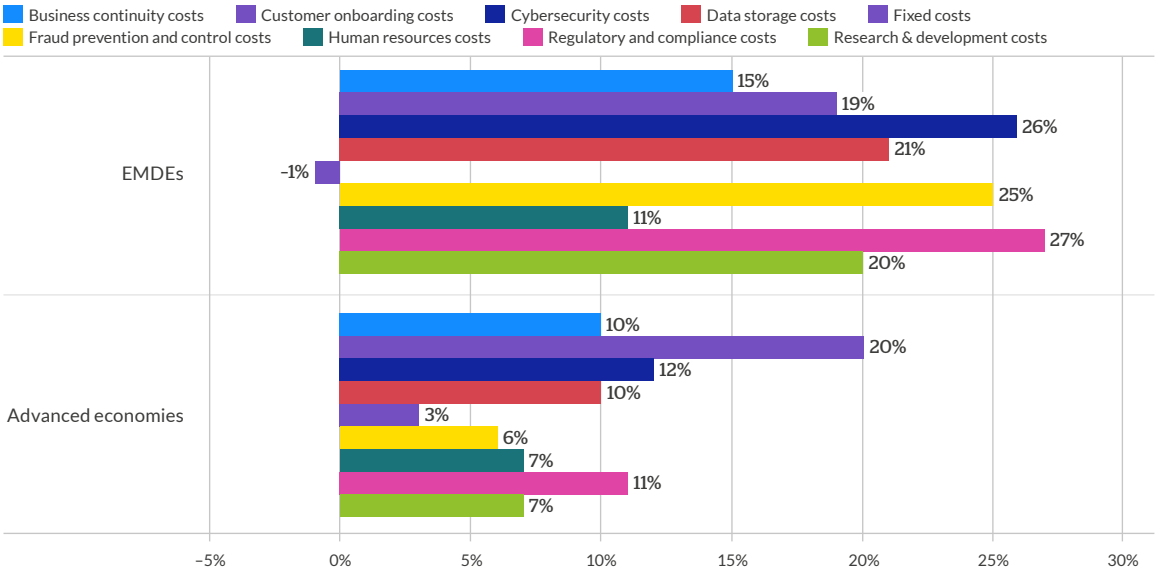
Digital payment firms reported increases in unsuccessful transactions (7%) and agent/partner downtime (10%) in 2020 compared to 2019, with platform downtime remaining almost flat. When comparing this change against that reported in *The Rapid Assessment Study*, the number of unsuccessful transactions decreased during the second half of 2020, while agent/partner downtime increased slightly. Firms in EMDEs reported a greater percentage increase in terms of platform downtime and unsuccessful transactions than firms in AEs. By region, European firms experienced the smallest change in all four parameters, while firms in SSA reported the highest increases in partner downtime (30%).

The number of FTEs also increased in 2020. Firms in EMDEs saw a higher increase than those in AEs, with companies operating in LAC recording the greatest increase (36%) in the number of FTEs. In terms of lockdown stringency measures, firms operating in jurisdictions with high stringency lockdown measures reported a greater increase in full-time equivalent employees than those in jurisdictions with low stringency lockdown measures.

Expenditure changes observed in 2020

Globally, firms reported an increase in all expenditure lines, with the largest increases seen in customer onboarding costs, cybersecurity costs, and regulatory compliance costs (all at 19%) in 2020 compared to 2019.

Figure 4.12: 2019–2020 cost structure changes by economic development (percentage change): digital payments



Top markets by economic development: AEs: United Kingdom, United States, Australia, Canada, and France; EMDEs: Nigeria, India, Indonesia, Mexico, and Brazil

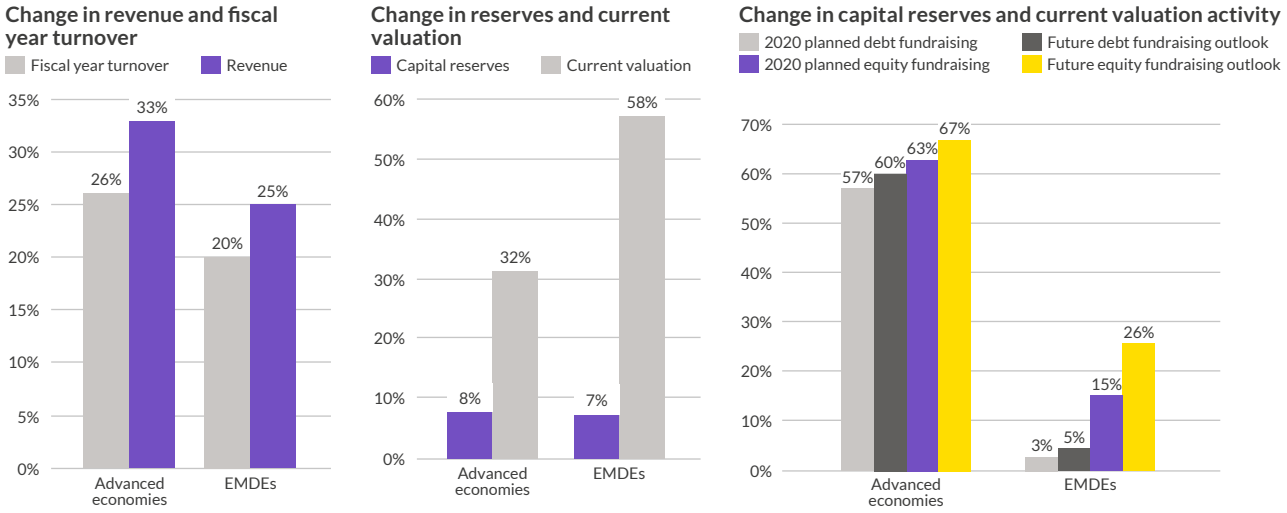
Overall, platforms operating in EMDEs reported a greater increase across all expenditure lines compared to those in AEs, particularly in costs associated with cybersecurity, regulation and compliance, fraud prevention, and R&D. The only exception was fixed costs, which decreased in EMDEs but increased in AEs. By region, firms in SSA reported the highest increases in costs.

When analyzing by lockdown stringency, firms in EMDEs operating in jurisdictions with low stringency lockdown measures generally experienced the greatest cost increases: more than a 40% increase in prevention and control costs, cybersecurity costs, and regulatory and compliance costs. In contrast, firms in AEs in jurisdictions with low stringency lockdown measures had the lowest rates of change for all costs, except customer onboarding costs, which increased by 19%. In addition, human resources costs were the greatest in firms in EMDEs operating under high stringency lockdown measures.

Financial positioning changes in 2020

The panel of digital payment firms also reported increases in revenue and turnover. Firms indicated an increase of 22% in revenue and 21% in fiscal year turnover in 2020 compared to 2019. The increase in turnover far exceeded expectations reported in *The Rapid Assessment Study*, in which firms said they were aiming for 5% turnover growth in 2020.

Figure 4.13: 2019–2020 impact of Covid-19 on (a) revenue and fiscal turnover, (b) capital reserves and current valuation, and (c) planned and future fundraising activity, AEs vs EMDEs (percentage change): digital payments



**Top markets by economic development: AEs: United Kingdom, United States, Canada, Australia, and Spain; EMDEs: Brazil, Colombia, India, Mexico, and Nigeria*

By economic development grouping, firms in AEs had, on average, higher increases in fiscal year revenue and turnover compared to firms in EMDEs. When looking at specific regions, firms in APAC and LAC reported some of the highest increases in fiscal year turnover and revenue relative to other regions. Conversely, platforms in SSA reported decreases in both fiscal year turnover and revenue.

In terms of model, payment provisioning firms in AEs and EMDEs reported higher increases in both turnover and revenue compared to retail-facing models. For instance, payment provisioning firms in AEs reported an increase in fiscal year turnover and revenue of 53% and 55%, respectively, while retail-facing firms in AEs saw increases of 13% in fiscal year turnover and 15% in revenue. Concerning lockdown stringency measures, firms in jurisdictions with high stringency lockdown measures doubled their fiscal year revenue and turnover compared to those in jurisdictions with low stringency lockdown measures. Firms in jurisdictions with low stringency lockdown measures reported an increase of 13% in revenue and 15% in turnover.

Digital payment firms also reported, on average, an improvement in their capital reserves and current valuation. Despite higher increases in fiscal turnover and revenue for platforms in AEs, those in EMDEs outperformed them in terms of increases in their current valuation. Platforms in EMDEs also reported higher improvements in their planned

and future fundraising activities as they relate to debt and equity. As reported by other verticals, digital payment firms experienced the greatest improvement in their future equity fundraising outlook, reflecting their trust in raising long-term financing on the back of higher valuations. The breakdown by region shows that platforms in SSA reported the highest improvements in financial positioning factors, on average, especially in planned and future equity fundraising. In contrast, firms in Europe reported the lowest proportional change in their financial position in 2020 compared to the previous year.

Regarding the effect of lockdown stringency measures, firms in jurisdictions with low stringency lockdown measures reported greater levels of improvement in their current valuation and planned and future fundraising activities than those in jurisdictions with high stringency measures. In contrast, firms in jurisdictions with low lockdown stringency measures noted an average decrease of 12% in capital reserves compared to an average increase of 23% in platforms in jurisdictions with high lockdown stringency measures.

Stage of business development

Based on their most recent round of fundraising, almost half of digital payment firms in this panel were in the mid-stage level of business development, identifying as series A firms. However, over one-third of firms identified as being in seed or earlier stages of development, suggesting a growing market.

Table 4.7: 2020 stages of business development by economic development level: digital payments

Recent fundraising activity	Advanced economies (%)	EMDEs (%)	Total (%)
Pre-seed or earlier	5	19	24
Seed/pre-series	5	8	13
Series A	19	29	48
Series B	3	4	7
Series C+		3	3
Pre-public offering	4	1	5
Total	36	64	100

Those results also applied to firms in AEs and EMDEs although, as can be seen from Table 4.7, the proportion of firms in EMDEs that had just completed Series A financing was much higher, as was the proportion of firms in pre-seed.

4.6 Market dynamics

As Covid-19 persisted, firms employed a variety of strategies to ensure business continuity and customer service. Among these were changes to how firms offered their products or services to their customers.

Changes in pricing, service agreements, and policies

Seventy-four percent of digital payment firms changed their pricing, service agreements, and policies. Digital payment firms prioritized changes related to platform or use-case protection and safety, and changes that would influence the monetization of their services. In this regard, the top changes were enhanced fraud-prevention measures, enhanced cybersecurity features, changes to transfer or payment limits, and deploying additional channels.

Figure 4.14(a): 2020 top changes in pricing, service agreements, and policies in EMDEs: digital payments

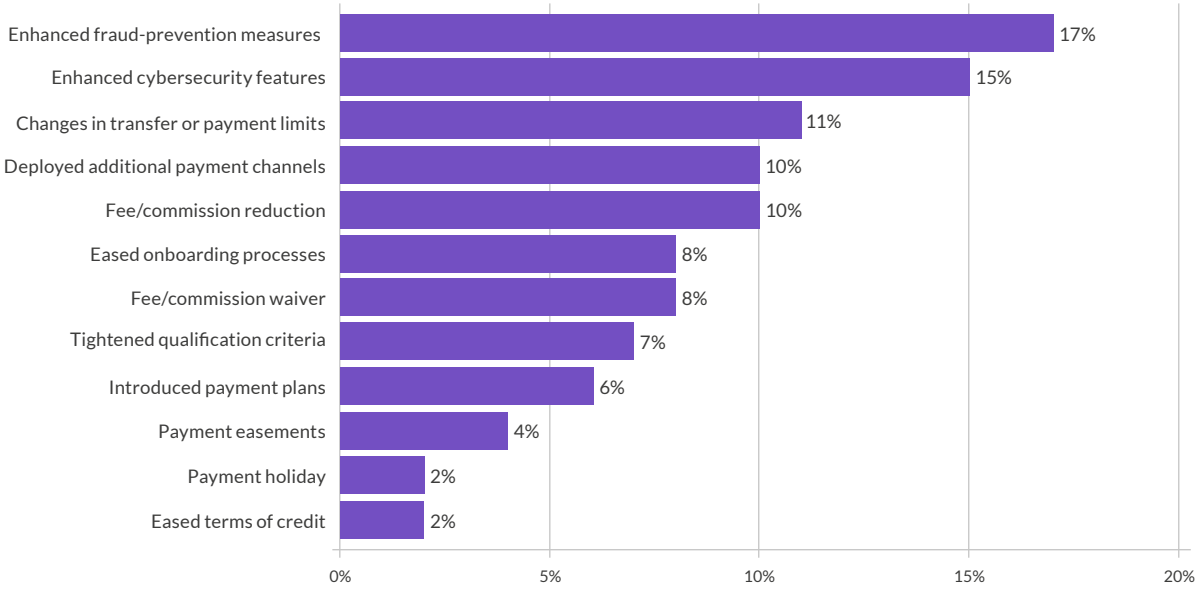


Figure 4.14(b): 2020 implementation status of changes in pricing, service agreements, and policies in EMDEs: digital payments

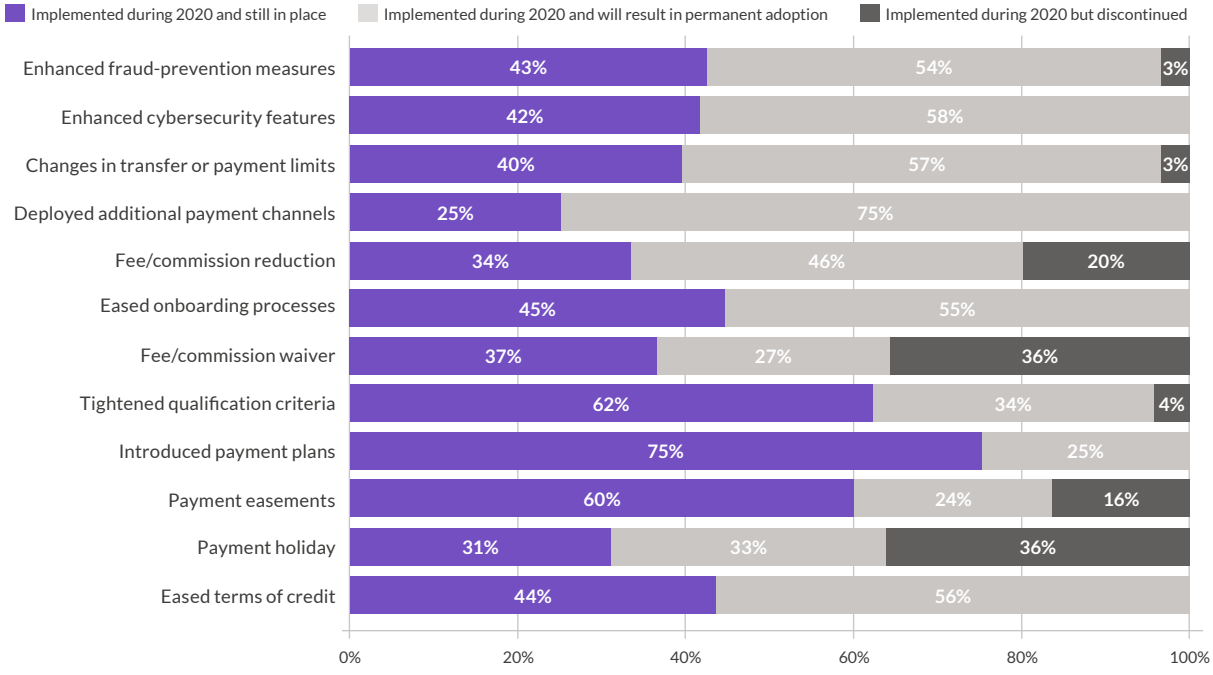


Figure 4.14(c): 2020 top changes in pricing, service agreements, and policies in AEs: digital payments

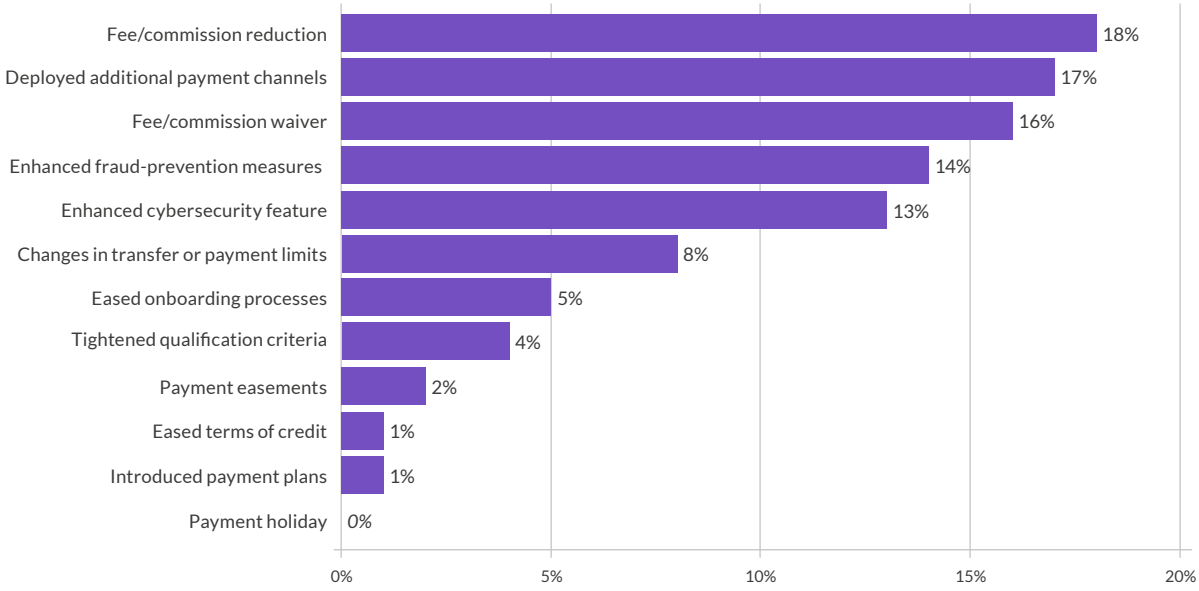
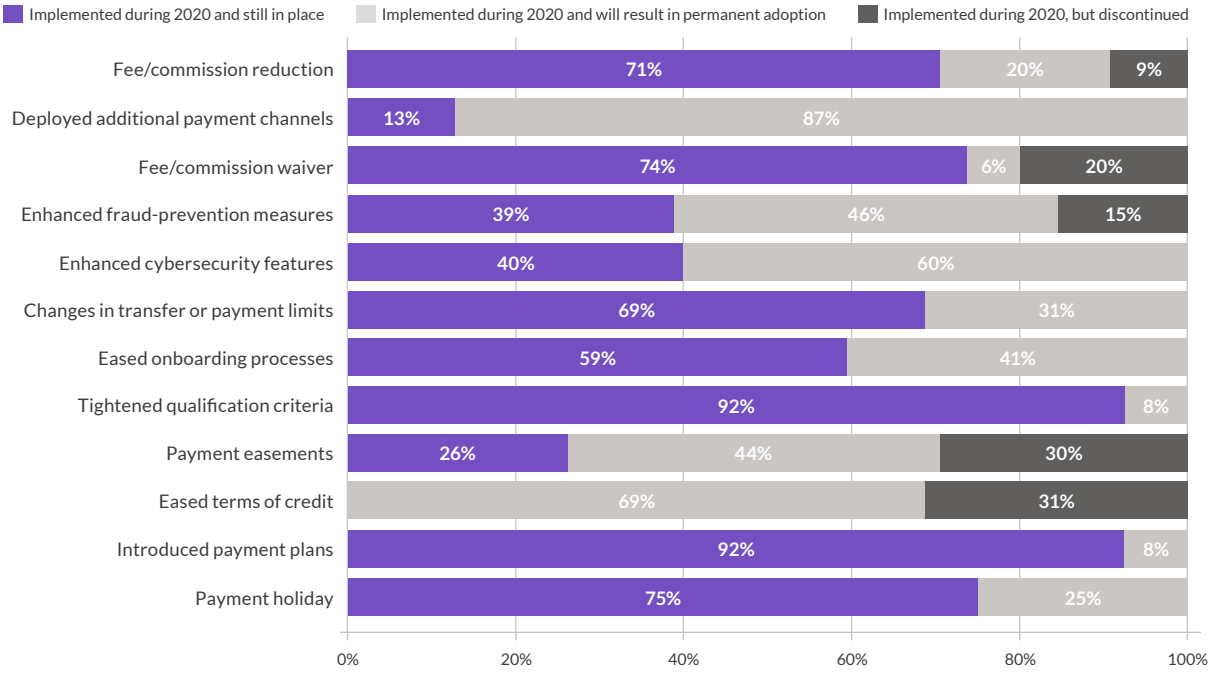


Figure 4.14(d): 2020 implementation status of changes in pricing, service agreements, and policies in AEs: digital payments



**Top markets by economic development: AEs: United Kingdom, United States, Canada, Chile, and Spain; EMDEs: Colombia, Brazil, Mexico, Uganda, and Indonesia*

When reviewing key changes against income-level groupings, changes implemented by firms operating in EMDEs aligned with those made by the global panel. However, firms operating in AEs prioritized changes related to pricing structure (with reducing fees or commissions, deploying additional payment channels, and waiving fees or commissions comprising the top three changes) over enhanced safety measures such as enhanced fraud-prevention and cybersecurity features, which ranked fourth and fifth, respectively.

Regional analysis showed that firms in all regions prioritized fraud-prevention measures and cybersecurity features. Firms in APAC, MENA, LAC, and the UK also prioritized changes in

transfer or payment limits. Most firms in Europe and North America also reduced or waived fees or commissions, while firms in SSA eased onboarding processes. The trend was similar across all sub-verticals where fraud-prevention measures and cybersecurity features were prioritized. In addition, most mobile money firms reported changing transfer or payment limits, while money transfer firms deployed additional payment channels.

In terms of lockdown stringency, enhanced fraud-prevention measures were prioritized by firms across all levels. However, firms in jurisdictions with low stringency lockdown measures also prioritized reducing fees or commissions and deploying additional payment channels, while firms in jurisdictions with high stringency lockdown measures prioritized changing transfer or payment limits.

Overall, most changes adopted during Covid-19 were still in place, many of which will be permanently adopted. However, a substantial number of firms had discontinued changes related to their pricing or monetization structures such as payment easements and fees or commission waivers.

Table 4.8: Examples of changes to pricing, service agreements, and policies in response to Covid-19: digital payments

Model	Region or market	Change to pricing, service agreements and policies	Example from the field
Digital payments	SSA	Fee/commission waiver	The largest Kenyan mobile money provider waived transaction fees on its mobile money platform.
	North America	Fee/commission waiver	A global mobile money transfer firm based in the United States waived certain fees and deferred repayments on business loans for some of its most affected small business customers.
	APAC	Fee/commission waiver	An Australian firm capped late fees to a low level, allowing a maximum of 25% of the repayment or CAD68, whichever was the lower amount.
	APAC	Fee/commission waiver	An Indian digital payment firm offered its payment gateway services with 0% transaction fees.
	United Kingdom	Fee/commission waiver	A UK-based digital payment firm offered a free non-transactional android app for three months, with no commitment to continue using the app. With this app, financial institutions could communicate with their clients and also load different types of forms, for example, for user or product onboarding.

Changes in product and service offerings

Sixty-three percent of digital payment firms reported changing their product and service offerings. Overall, firms prioritized changes that created additional revenue streams such as launching e-commerce platforms or products and voucher systems, and changes that improved customer experience such as introducing value-added non-financial services. These were the main changes implemented by firms in both AEs and EMDEs.

Figure 4.15(a): 2020 top changes implemented in product and service offerings in EMDEs (percentage of respondents): digital payments

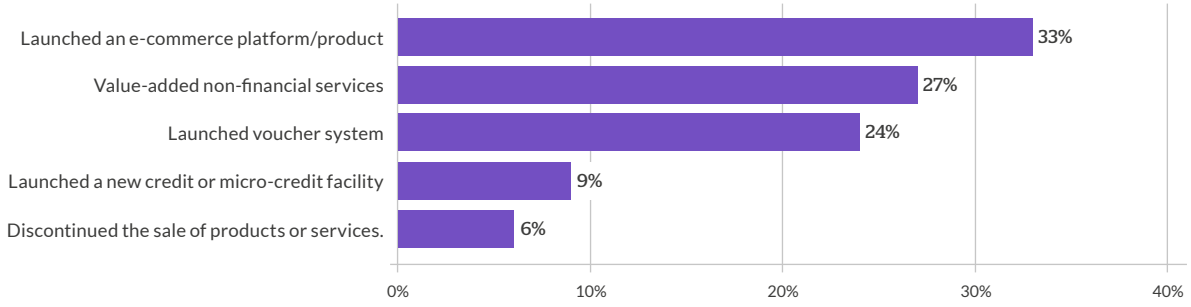


Figure 4.15(b): 2020 implementation status of changes in product and service offerings in EMDEs: digital payments

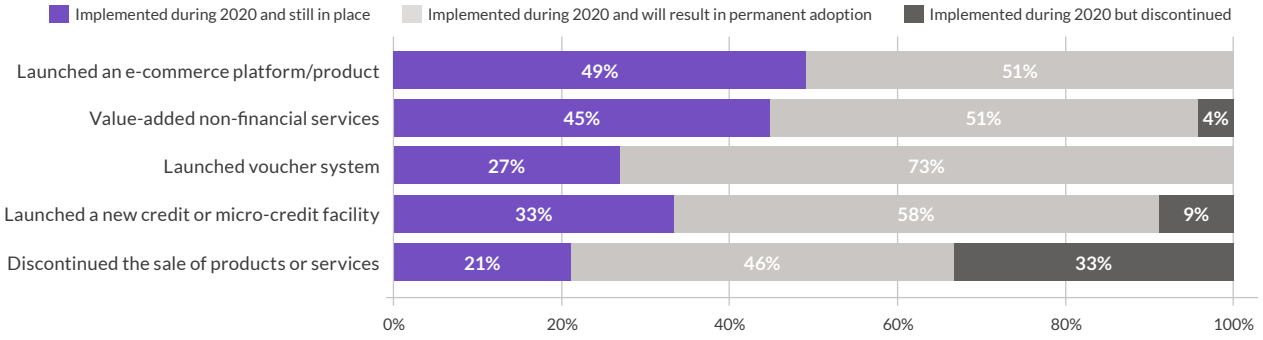


Figure 4.15(c): 2020 top changes implemented in product and service offerings in AEs (percentage of respondents): digital payments

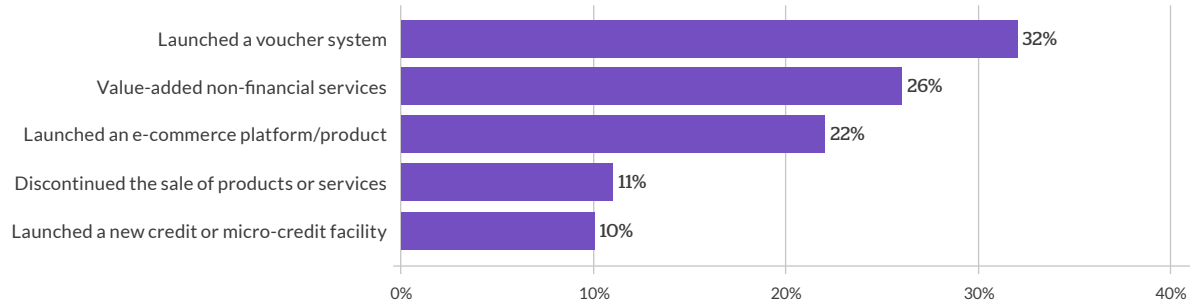
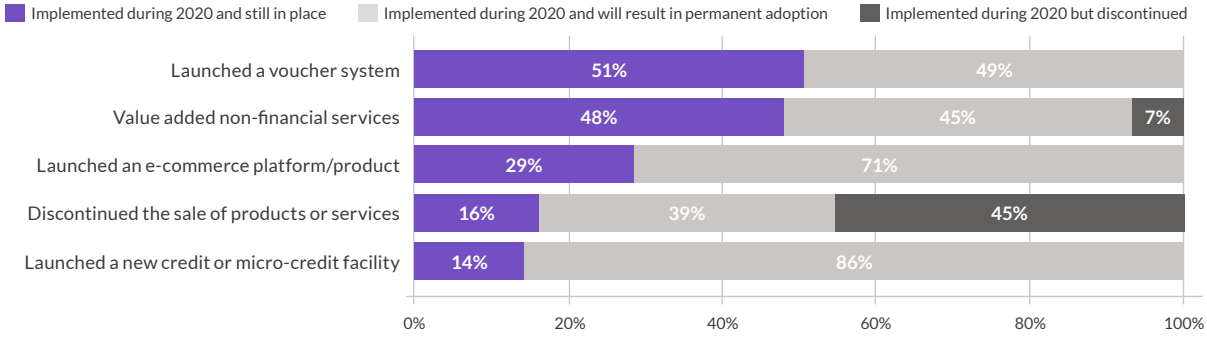


Figure 4.15(d): 2020 implementation status of changes in product and service offerings in AEs: digital payments



**Top markets by economic development: AEs: United States, United Kingdom, Hong Kong, Chile, and Singapore; EMDEs: Colombia, Brazil, Mexico, Indonesia, and Nigeria*

The trend seen in the top three changes was similar for firms across all regions, except firms in APAC that also prioritized discontinuing selling products or services. This trend was also reported by firms in API hubs for payments and bulk payment solutions. In terms of lockdown stringency measures, firms in jurisdictions across all lockdown stringency levels followed the global trend where the top three changes were launching e-commerce platforms, launching voucher systems, and introducing value-added non-financial services.

Overall, firms reported that most of those changes were in place and were likely to be permanently adopted, except discontinuing selling products or services, which was likely to reduce revenues.

Table 4.9: Examples of new or updated fintech products launched in response to Covid-19: digital payments

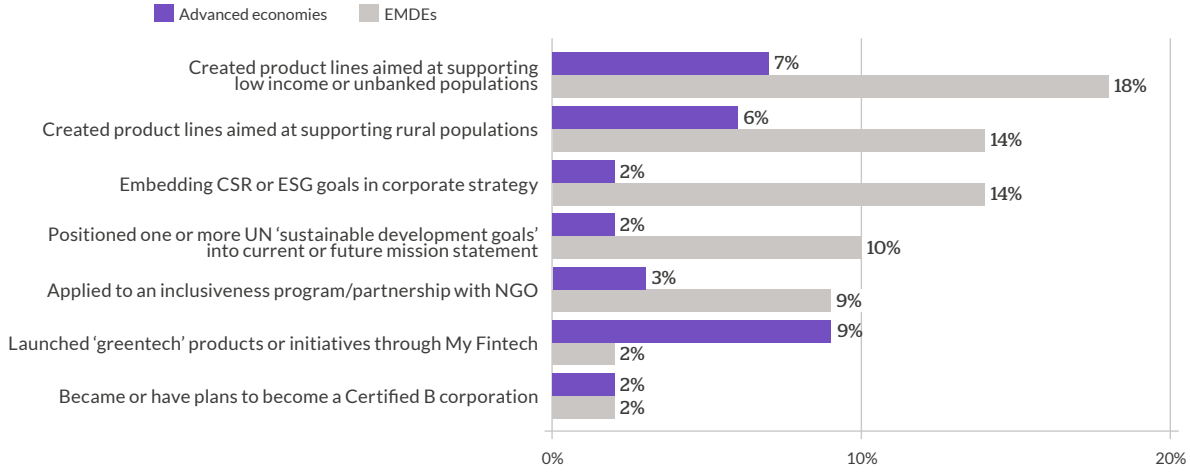
Model	Region or market	Regulatory support used	Example from the field
Digital payments	SSA	Launched a remote payment product	A Cape-Town-based start-up accelerated its development of a remote payment product that would enable transfers for its clients' network via weblink.
	LAC	Launched a new credit or micro-credit facility	A Colombian e-wallet company launched a micro-credit facility to support its users.

Sustainability or inclusion initiatives[31]

A total of 57 digital payments firms responded to the question on sustainability or inclusion initiatives, accounting for 46% of total unique digital payments firms in this study. Hence, the analysis in this section represents that proportion of respondents.

Overall, creating product lines to support low-income and unbanked populations was the top sustainability initiative pursued by digital payment firms globally. This was followed by creating product lines to support rural populations (20%). The third most prioritized initiative globally was embedding corporate social responsibility (CSR) or ESG goals into corporate strategies (16%).

Figure 4.16: 2020 sustainability or inclusion initiatives by economic development: digital payments



**Top markets by economic development: AEs: United Kingdom, United States, Italy, Spain, and Australia; EMDEs: Nigeria, Indonesia, Mexico, India, and Uganda*

Overall, firms in EMDEs pursued sustainability strategies more than firms in AEs, except firms that launched greentech[32] products which were more prevalent in firms in AEs.

In terms of sustainability initiatives by region, the highest number of firms that reported creating product lines to support low-income or unbanked populations were in LAC, North America, and APAC. Additionally, there were no major differences in the sustainability initiatives pursued by consumer-focused firms and business-focused firms.

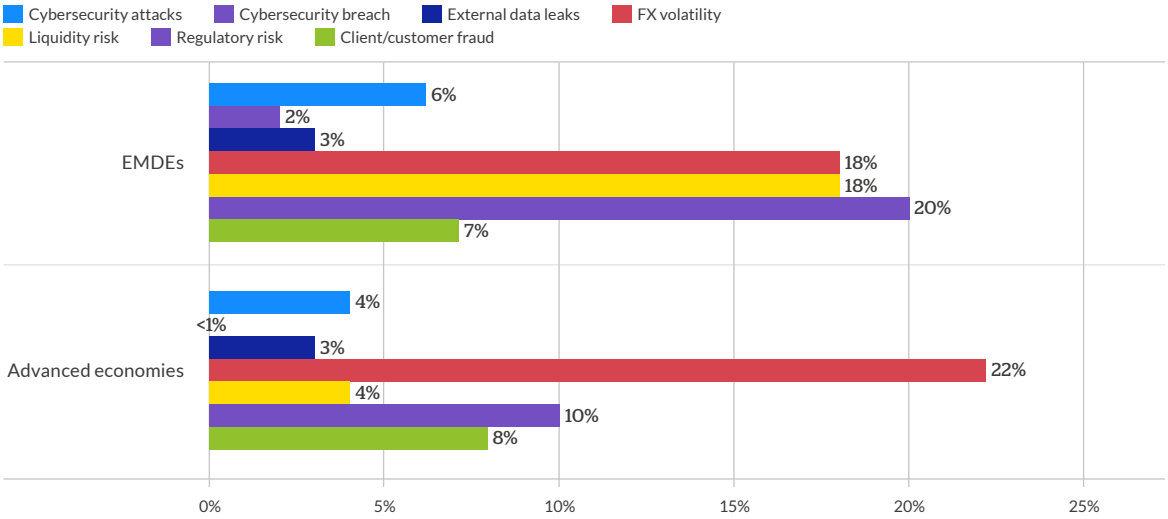
Table 4.10: Example of sustainability initiatives or strategies pursued in response to Covid-19: digital payments

Model	Region or market	Sustainability initiative or strategy pursued	Example from the field
Digital payments	Europe	Promoted new ESG initiatives in fintech	Key digital payment firms collaborated to promote new ESG initiatives in fintech to plant 1 million trees in the EU by 2025.

4.7 Potential business disruptors in a Covid-19 environment

Globally, firms perceived an increase in all key risks that could disrupt their operations, except cybersecurity breaches. At the global level, foreign exchange (FX) rate fluctuations, regulatory risks, and liquidity risks were the top three potential disruptive factors for business operations during the epidemic.

Figure 4.17: 2019–2020 potential disruptor changes by economic development (percentage change): digital payments



**Top markets by economic development: AEs: United Kingdom, United States, Australia, Canada, and France; EMDEs: Nigeria, India, Indonesia, Mexico, and Brazil*

By economic development, operational risks were generally more prevalent for firms in AEs than in EMDES, except for foreign exchange volatility, and client or customer fraud risks. In terms of regions, FX volatility was the biggest potential disruptor in LAC (48%), while liquidity risk was highest in SSA (61%).

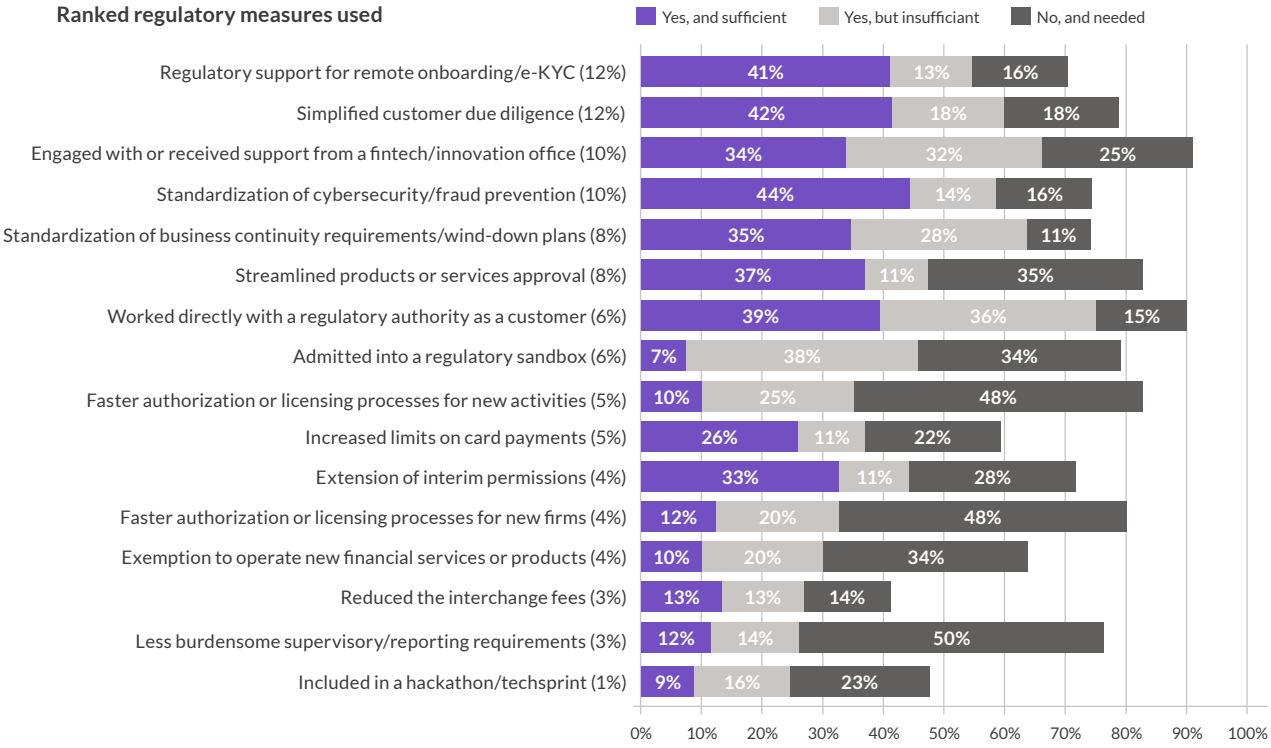
When looking at potential disruptors by model, globally, cybersecurity attack risks decreased by 2% in API hubs for payments firms. Conversely, it increased by 8% in points-of-access firms. Regarding lockdown stringency measures, firms in AEs in jurisdictions with low stringency lockdown measures reported the highest increase in FX volatility (40%). However, firms in EMDEs in jurisdictions with low stringency lockdown measures faced relatively high liquidity and regulatory risks, increasing by 39% and 22%, respectively, from 2019 to 2020.

4.8 Regulation, policy, and government intervention

Use of regulatory support

When considering firm-level regulatory support, digital payment firms reported that customer onboarding and acquisition were the regulatory core support measures they most often used. The innovation-based initiatives supporting engagement with a fintech/innovation office were also among the most used regulatory support measures, ranking third.

Figure 4.18: 2020 regulatory support initiatives: digital payments use and needs



**Note that 'N/A' and 'No, and not needed' responses have been omitted from this chart.*
***Top markets by economic development that used regulatory measures: AEs: United Kingdom, United States, Hong Kong, Italy, and Spain; EMDEs: Uganda, Colombia, Indonesia, Brazil, and Nigeria*
****Top markets by economic development that did not use regulatory measures but needed support: AEs: United Kingdom, United States, Canada, Chile, and Hong Kong; EMDEs: India, Indonesia, Mexico, Uganda, and Honduras*

Firms in EMDEs followed the general trend, but in AEs, support for streamlined product or service approval appeared to be more prominent, ranking second and accounting for 15% of total use compared to 5% in EMDEs. Across the top two measures used, most digital payment platforms in both AEs and EMDEs found regulatory support measures to be sufficient.

However, regarding other regulatory support areas where use was lower, the proportion of firms that indicated improved support was needed exceeded those that found support to be sufficient. Digital payment platforms identified faster authorization for new activities, admission into a regulatory sandbox, and faster authorization for new firms as the areas that needed the most support

Lockdown stringency analysis indicated that demand for additional regulatory support was greater in jurisdictions with low stringency lockdown measures. Those platforms also placed a greater emphasis on improved support for innovation-based regulatory support mechanisms, with engagement with fintechs and admission into a regulatory sandbox comprising the top three most demanded measures.

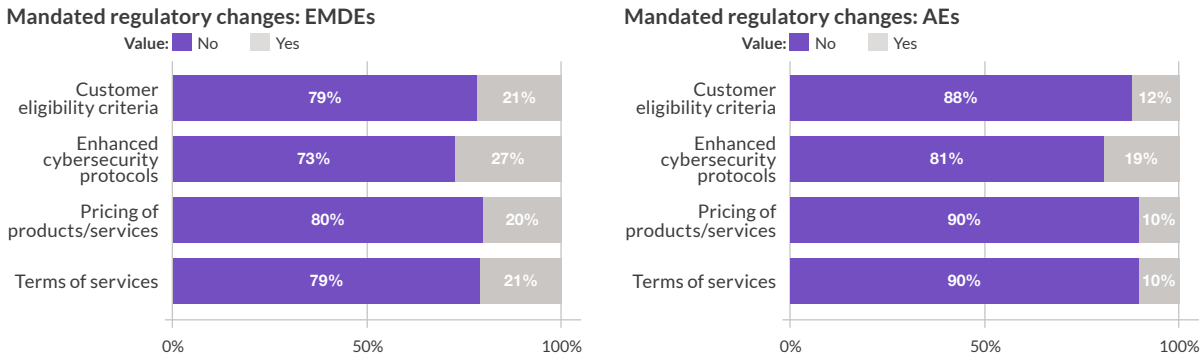
Table 4.11: Examples of fintechs using regulatory mechanisms or interventions during the Covid-19 pandemic: digital payments

Model	Region or market	Regulatory support used	Example from the field
Digital payments	Europe	Exemption to operate new financial services or products	In Turkey, TR QR code standards were established to support innovative methods of executing and handling payments. This initiative also supported the use of contactless and electronic payment methods which had increased in importance due to the Covid-19 pandemic.
	Europe	Regulatory support for remote onboarding/ e-KYC	New regulations in Turkey enabled authentication via video calls (digital onboarding) and electronic notarization of contracts, while NFC technology was mandated as the primary method for identity document authentication for the banking and payment sectors.
	SSA	Amendments to transaction limits	The Central Bank of Kenya increased the transaction and balance limits for mobile money by over 100% in March, which led to increased use of mobile money in the country during the pandemic.

Mandated regulatory changes

Globally, most (81%) digital payment firms reported they were not mandated to change any of their operations due to Covid-19. Of the small percentage that did have to make changes, a higher proportion were firms operating in EMDEs. The main change requested was introducing cybersecurity protocols. This applied equally to firms in both EMDEs and AEs.

Figure 4.19: 2020 mandated regulatory changes by (a) EMDEs and (b) AEs: digital payments

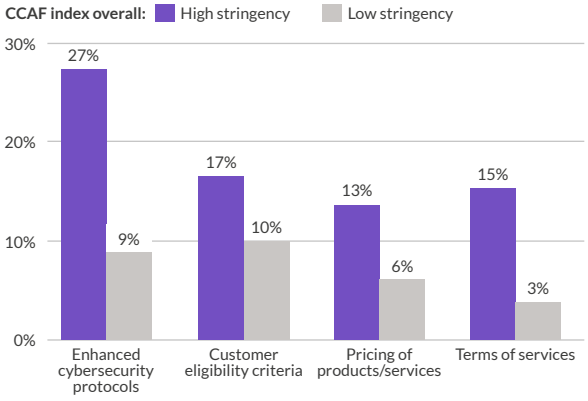


**Top markets by economic development: AEs: Chile, Hong Kong, Italy, Saudi Arabia, and Singapore; EMDEs: Nigeria, Uganda, Argentina, Colombia, and Dominican Republic*

At the regional level, there were some departures from the global trend in the types of mandated regulatory changes implemented. For example, the most common mandated regulatory change in firms from SSA was changing customer eligibility criteria, while for firms in APAC, it was changing the pricing of products and services.

The model breakdown showed that enhanced cybersecurity protocols were the most common mandated regulatory change across all models for both retail and payment provisioning platforms, except for mobile money where changes to customer eligibility criteria were more common.

Figure 4.20: 2020 mandated regulatory changes by lockdown stringency: digital payments

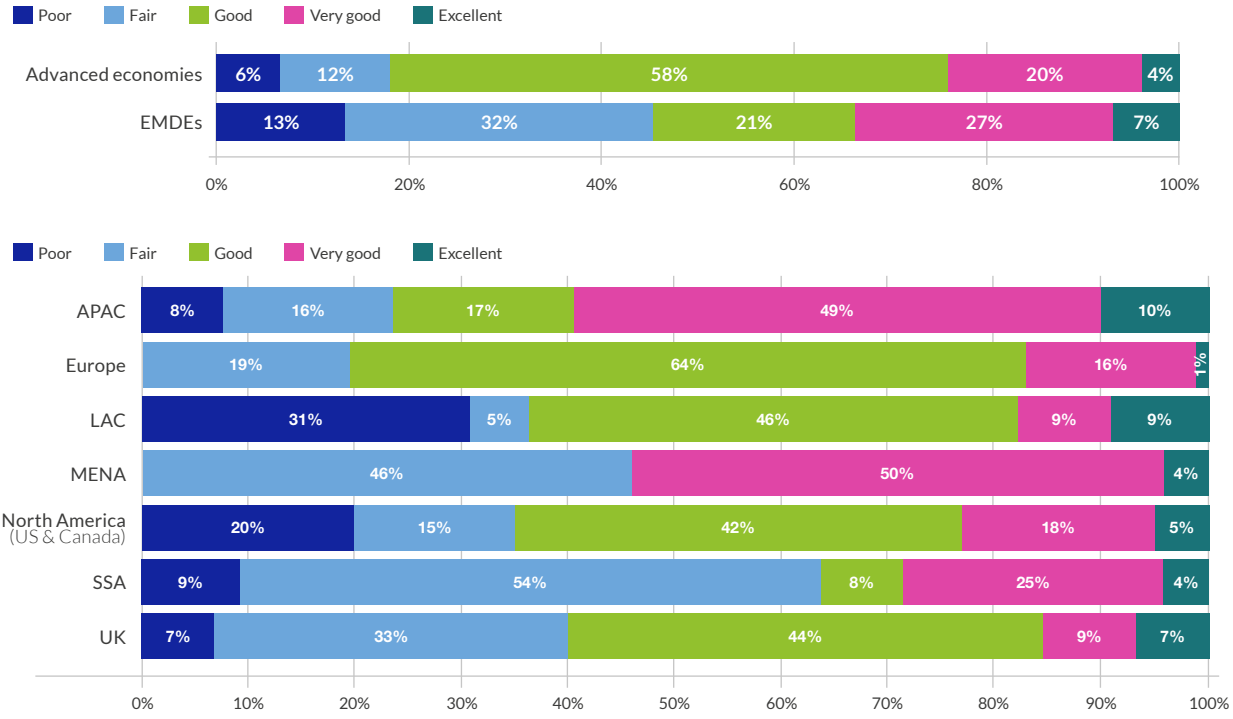


In terms of lockdown stringency measures, mandated regulatory changes were, overall, higher in jurisdictions with high stringency lockdown measures compared to those with less stringent lockdown measures.

Regulatory response rating

Globally, digital payment platforms regarded the regulatory responses from their primary regulatory or supervisory body in a generally favorable light, with 68% rating the responses as good, very good, or excellent.

Figure 4.21: 2020 regulatory response rating by (a) economic development and (b) region: digital payments



**Top markets by economic development:*

- *By negative rate – AEs: United Kingdom, United States, Canada, Chile, and Hong Kong; EMDEs: Nigeria, Uganda, Colombia, Mozambique, and Russia*
- *By positive rate – AEs: United Kingdom, United States, Australia, Spain, and Canada; EMDEs: Brazil, India, Mexico, Colombia, and Indonesia*

This overall finding applied equally to firms in AEs and EMDEs. However, firms in AEs expressed a higher level of satisfaction with regulatory responses than those in EMDEs (82% compared to 55%).

The regional breakdown showed that, on the whole, perceptions of regulators' responses to Covid-19 were positive, with platforms in Europe expressing the most positive view. This was true for all regions from which we received a significant number of responses, except SSA where most platforms had a negative perception.

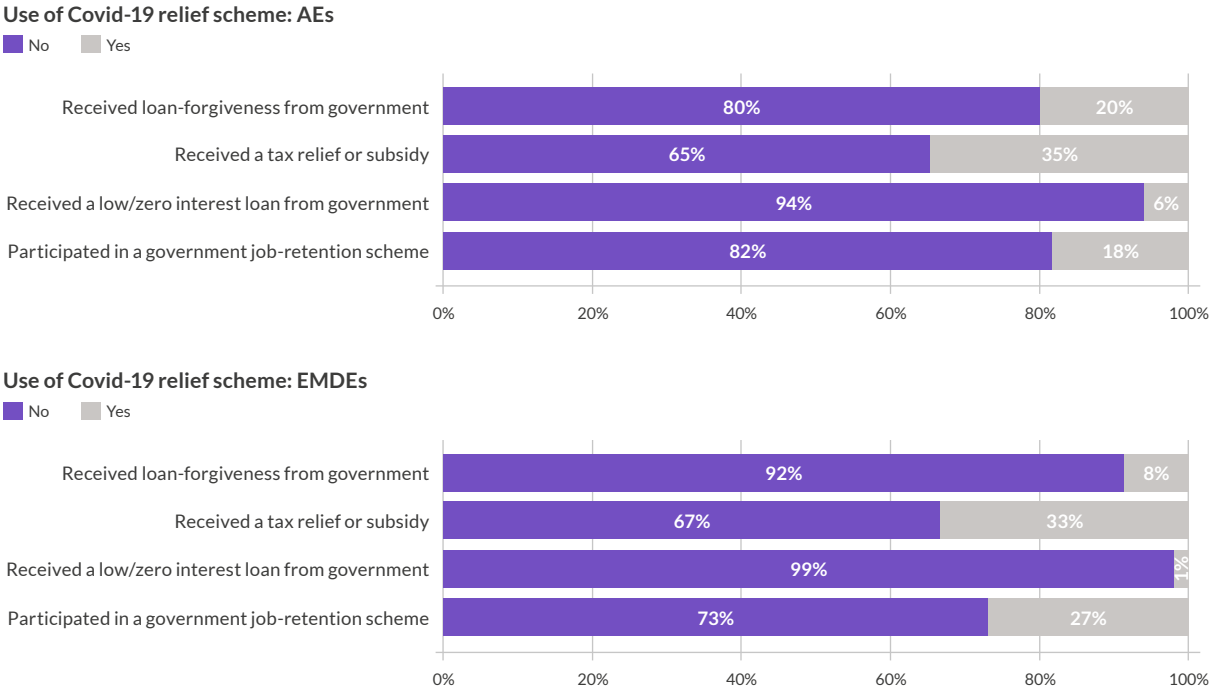
The model breakdown showed that for all models from which we received a significant number of responses, most platforms perceived the regulatory response favorably. Payment provisioning platforms regarded regulatory responses more positively than retail-facing platforms. In fact, payment provisioning models, API hubs for payments, and payment gateways and aggregators had a more positive perception of regulatory responses compared to other models.

The level of lockdown stringency did not greatly impact platforms' perceptions of their regulators' responses, with platforms operating in jurisdictions with more strict lockdown measures reporting slightly higher satisfaction levels.

Use of Covid-19 relief schemes

Globally, 18% of payment firms reported they used government relief schemes. Of those platforms, most received a tax relief or subsidy (40%) or participated in a government job-retention scheme (25%).

Figure 4.22: 2020 use of Covid-19 relief schemes by (a) AEs and (b) EMDEs: digital payments



**Top markets by economic development: AEs: United Kingdom, United States, Canada, Australia, and Hong Kong; EMDEs: Brazil, Indonesia, Malaysia, Philippines, and India*

Overall, however, firms in AEs had more access to relief schemes than those in EMDEs, with 21% of firms in AEs reporting using schemes compared to 17% of firms in EMDEs. Of those that did use schemes, platforms in AEs reported higher levels of use across all relief schemes compared to those in EMDEs, except for participation in government job-retention schemes, which was more popular among platforms in EMDEs. In terms of region, Covid-19 relief schemes were most used by firms in SSA, followed by those in APAC and Europe. Platforms in SSA and APAC followed the general pattern in terms of the types of schemes used, while those in Europe prioritized government loan-forgiveness, making it the second most used scheme in that region.

Looking at the use of schemes by lockdown stringency measures, digital payment firms in countries with high stringency lockdown measures used similar relief schemes to those in countries with low stringency lockdown measures. However, more firms used relief schemes in countries with low stringency lockdown measures than those in countries with high stringency lockdown measures.

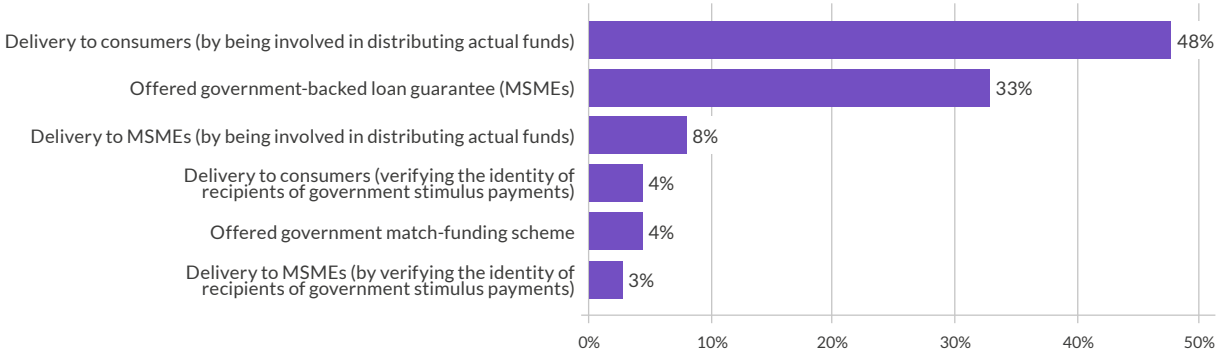
Table 4.12: Example of fintechs using Covid-19 schemes: digital payments

Model	Region or market	Covid-19 scheme used	Example from the field
Digital payments	North America	Received a tax relief or subsidy	New Jersey granted a USD109 million corporate tax break for a financial technology firm to create a dynamic hub of innovation, making it one of the largest state subsidies. NJ Emerge is part of the much larger USD14.5 billion incentive program called the New Jersey Economic Recovery Act of 2020, which Murphy signed in January 2021 to chart the state's recovery from the Covid-19 recession.

Participation in a government-backed Covid-19 relief measure or stimulus scheme

Globally, 88% of digital payment respondents reported they had not participated in a government-backed Covid-19 relief measure or stimulus scheme as a delivery or implementation partner. Most respondents were headquartered in EMDEs (71%). This highlights that the intentions of digital payment platforms reported in the first half of 2020 did not materialize as, in *The Rapid Assessment Study*, one-third of platforms had indicated they would be willing to act as a delivery partner.

Figure 4.23: 2020 participation in a government-backed Covid-19 relief measure: digital payments



**Top markets by economic development: AEs: United Kingdom, Saudi Arabia, Australia, Canada, and Denmark; EMDEs: Indonesia, Pakistan, Uganda, Argentina, and Cambodia*

Of those platforms that did participate, 48% helped to distribute funds to consumers or households, making it the most popular form of partnership. This was followed by offering government match-funding schemes. These results were mainly driven by platforms in APAC and firms operating an API hub model.

Globally, 88% of firms that participated in delivering government support had to change or adapt their product or service offering to become a government partner and, for 79% of those firms, participation had a positive impact on their 2020 revenue. In contrast, 69% of firms that were excluded from serving as a delivery or implementation partner reported that this exclusion negatively impacted potential revenue.

Table 4.13: Examples of fintechs' participation in Covid-19 relief measures: digital payments

Model	Region or market	Covid-19 relief scheme	Example from the field
Digital payments	APAC	Delivered government-based stimulus funding to consumers/households	The Indonesian government used a digital payment firm to deliver aid to the communities that needed it most.
	LAC	Delivered government-based stimulus funding to consumers/households	A Colombian digital payment firm transferred government funds to more than 700,000 citizens free of charge.
	LAC	Delivered government-based stimulus funding to consumers/households	A mobile money platform in Paraguay transferred more than USD100 million in government subsidies to households.
	SSA	Delivered government-based stimulus funding to consumers/households	The Kenyan government and humanitarian organizations joined their emergency responses on mobile money platforms to facilitate mobile-based cash transfers to households affected by Covid-19.

5. Digital capital raising

Chapter 5. Digital capital raising

5.1 Selected vertical highlights

- Overall, fundraising via digital capital raising platforms grew from USD9.86 billion in 2019 to USD13.14 billion in 2020, an increase of 33%. Digital capital raising remained a more prevalent activity in firms in AEs. For investment-based models specifically, nearly 98% of total volumes stemmed from platforms operating in AEs, with a year-on-year growth of 14%.
- Globally, digital capital raising firms reported that out of the total number of fundraisers in 2020, 58% were new fundraisers, 40% were female, and 26% were from low-income populations. Digital capital raising platforms in AEs reported a higher proportion of new fundraisers compared to those in EMDEs, whereas platforms in EMDEs reported a higher proportion of female fundraisers than those in AEs. In terms of low-income fundraisers catered to by firms, the proportion was equal in both AEs and EMDEs.
- In terms of changes made to pricing and products, digital capital raising firms prioritized enhancing fraud-prevention measures and cybersecurity features. For service offerings overall, the top change prioritized by firms was introducing value-added non-financial services, which was also the top change for both investment-based and non-investment-based platforms.
- In terms of regulatory support during the pandemic, the most used regulatory support measures were standardizing cybersecurity and fraud prevention, followed by less burdensome supervisory/reporting requirements. Overall, digital capital raising firms reported that regulatory support was sufficient across the top two most used measures. At a global level, firms generally had a positive view of regulatory responses. However, there was an important difference between AEs and EMDEs as most firms in EMDEs regarded regulatory responses as unsatisfactory.
- Only 29% of digital capital raising platforms used government relief schemes to mitigate the effects of Covid-19.
- Only ten digital capital raising firms, most of which were in AEs, stated they had participated as a delivery partner of Covid-19 measures, mainly by distributing funds and offering government match-funding schemes to MSMEs.

5.2 Introduction

Digital capital raising activities comprise various investment and non-investment models that enable individuals, businesses, and other entities to raise funds via an online marketplace. Typically, these fundraisers satisfy their funding needs through pooled monies from a 'crowd' or network of retail and/or professional investors.

Investment-based models (including equity-based crowdfunding) relate to activities where individuals or institutions invest in unlisted shares or securities issued by a business, typically a start-up. As equity-based models have advanced, sub-sets of the model, such as real estate and property-based crowdfunding, have flourished, with investors able to acquire full or partial ownership of a property asset by purchasing property shares.

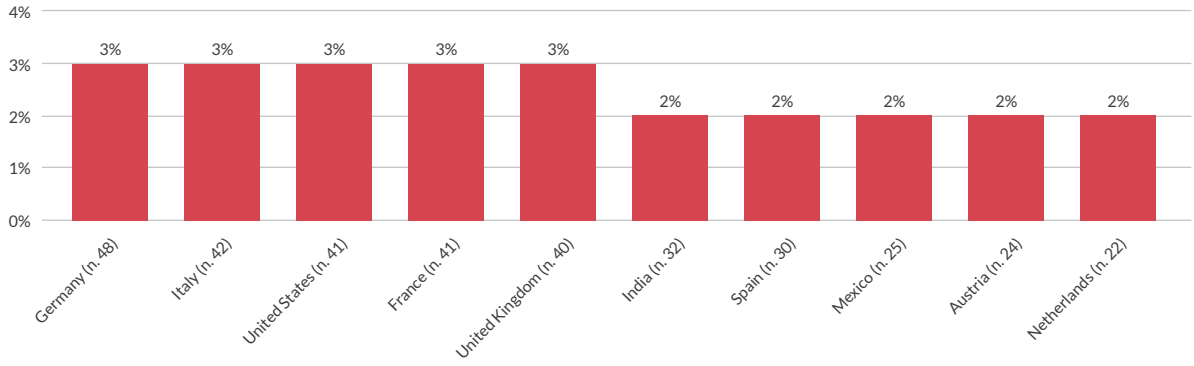
Non-investment-based models, including reward-based and donation-based crowdfunding, are the types of crowdfunding that the public most recognize. In these two models, individuals fund a project, another individual, or a business, and the fundraiser is under no obligation to provide a monetary return for the funds raised.

Given these fundamental differences between the two categories, we statistically analyzed the cohorts separately wherever the findings diverged.

Overview of respondents

In this survey, we identified 331 unique firms in the digital capital raising vertical, representing 23% of the entire dataset.

Figure 5.1: 2020 top ten countries by firm-level observations: digital capital raising



The total number of observations against the country of operation was 1,384, representing 182 countries. It is important to note that 22% of those platforms were operating in two or more countries during 2020. In the top ten countries by operation, the most represented were Germany, Italy, the United States, and the United Kingdom. The rest were from Europe, except India and Mexico.

Table 5.1: 2020 share of respondents and observations by region: digital capital raising

Region	Number of respondents by region	Number of observations by region	Market share of observations (%)
Europe	162	548	40
APAC	61	261	19
LAC	33	192	14
SSA	17	189	14
MENA	7	89	6
North America (US and Canada)	29	56	4
United Kingdom	22	42	3
China	-	7	1
Total	**331**	**1,384**	

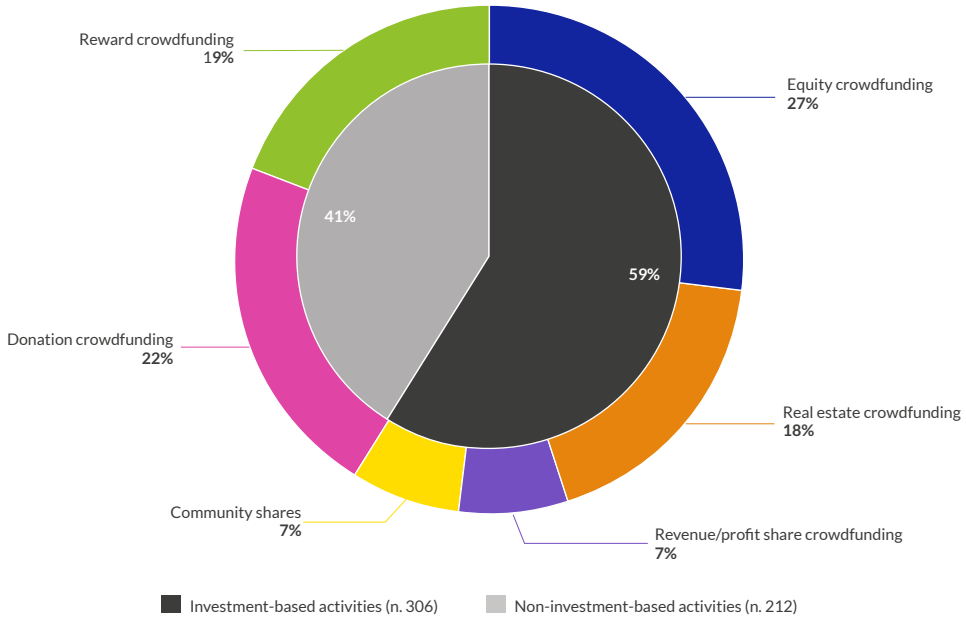
From a regional perspective, Europe accounted for 40% of the total responses, followed by APAC, LAC, and SSA which, together, contributed nearly 47% of total observations. India and Australia reported the highest number of platforms by operation in APAC. Mexico and Brazil reported the highest number of respondents for LAC. A list of the top countries by number of observations for each region can be found in Appendix 11.

Table 5.2: 2020 domestic vs foreign number of observations from respondents: digital capital raising

Region	Domestic	Foreign	Total
APAC	61	200	261
China	-	7	7
Europe	162	386	548
LAC	33	159	192
MENA	7	82	89
North America (US and Canada)	29	27	56
SSA	17	172	189
United Kingdom	22	20	42
Total	**331**	**1,053**	**1,384**

Across all regions, the number of foreign-based firms exceeded those that were domestic , except for North America and the United Kingdom.

Figure 5.2: 2020 distribution of respondents by model: digital capital raising



Digital capital raising working taxonomy

In terms of digital capital raising models, 59% of observations were from investment-based platforms and 27% from equity-based crowdfunding. The remaining 41% were from non-investment-based firms, of which 22% were donation-based crowdfunding and 19% reward-based crowdfunding.

Table 5.3: Digital capital raising working taxonomy

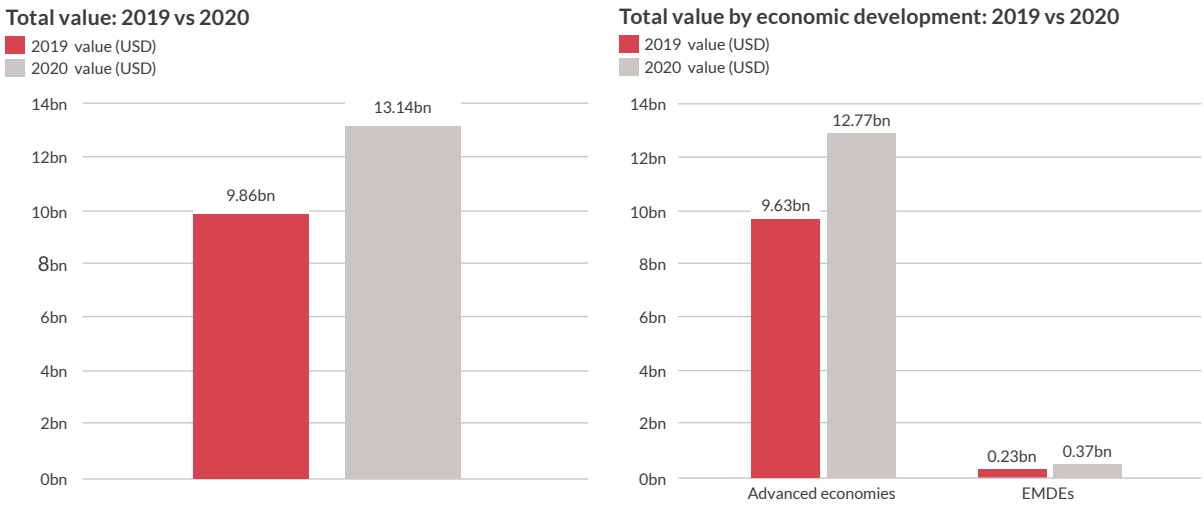
Model	Business model	Stakeholders
Investment-based crowdfunding	Equity-based crowdfunding	Individuals and/or institutional funders purchase equity issued by a company.
	Revenue/profit share crowdfunding	Individuals and/or institutions purchase securities from a company, such as shares, and share in the profits or royalties of the business.
	Real estate crowdfunding	Individuals and/or institutional funders provide equity or subordinated debt financing for real estate.
Non-investment-based crowdfunding	Donation-based crowdfunding	Donors fund individuals, projects or companies based on philanthropic or civic motivations with no expectation of monetary or material rewards.
	Reward-based crowdfunding	Backers fund individuals, projects, or companies in exchange for non-monetary rewards or products.

5.3 Market performance

Total value of funds raised

Overall, fundraising via digital capital raising platforms grew from USD9.86 billion in 2019 to USD13.14 billion in 2020, an increase of 33%. More than half the values stemmed from non-investment-based verticals. This is a significant change from the 16% increase noted in *The Rapid Assessment Study*, which looked at the percentage change in the first half of 2020 compared to that in H1-2019. This result indicates that transaction values for digital capital raising platforms doubled in the second half of 2020. The total number of fundraisers/issuers also increased from 31 million in 2019 to 39 million in 2020, with platforms in AEs accounting for two-thirds (26 million) of fundraisers in 2020.

Figure 5.3: 2019–2020 total value of funds by economic development (USD): digital capital raising



Investment-based models grew by 15% from 2019 (USD4.16 billion) to 2020 (USD4.77 billion), whereas non-investment-based models grew by 47% (USD5.68 billion to USD8.33 billion). For investment-based models, values remained concentrated in AEs, with nearly 98% of total values stemming from platforms operating in AEs, with a year-on-year growth of 14%. Most of these values were from the United States, the United Kingdom, France, Germany, and Singapore. Nevertheless, it is worth noting that firms in EMDEs observed a higher pace of growth of nearly 41%, albeit from a very low base. This was especially true for Malaysia, India, Pakistan, Argentina, and Mexico.

Similarly, for non-investment models, values were concentrated in AEs. Platforms in AEs observed a year-on-year growth of 46%, while those in EMDEs grew by 74%, albeit from a very low base. The countries in AEs that contributed most of the values for non-investment-based models were the United Kingdom, the United States, Japan, South Korea, and Canada. For EMDEs, it was India, Brazil, South Africa, Indonesia, and Mexico.

In terms of values according to lockdown stringency levels, a high proportion of transaction values came from platforms operating in jurisdictions with high stringency lockdown measures, representing over 78% or USD10.3 billion of the total value for 2020, a growth of 30%. In 2020, investment-based models in jurisdictions with high stringency lockdown measures contributed nearly USD2.76 billion, a marginal decrease of 1% compared to 2019, while non-investment-based models observed a nearly 50% year-on-year growth, a total funding value of USD7.5 billion.

Firms in jurisdictions with medium stringency lockdown measures accounted for 12.6% (USD1.7 billion) of the total, a growth of 43%. Platforms in jurisdictions with low stringency lockdown measures, accounting for 9.4% of total value, a growth of 30%. It is worth noting that, except for high stringency lockdown markets, investment-based models experienced more than 30% growth in 2020 in jurisdictions with low and medium stringency lockdown levels.

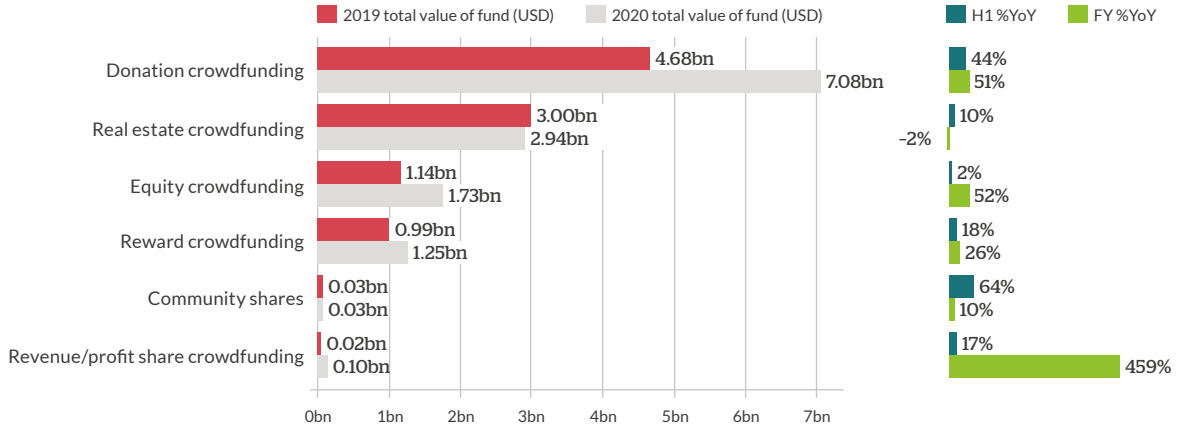
Table 5.4: 2019–2020 market share of digital capital raising by economic development and region (USD): digital capital raising

	2019				2020		
	Investment (USD)	Non-investment (USD)	2019 total (USD)	Market share (%)	Investment (USD)	Non-investment (USD)	2020 total (USD)
Income group							
Advanced economies	4,106,649,147	5,528,018,436	9,634,667,583	97.71	4,694,059,525	8,075,182,161	12,769,241,686
EMDEs	78,413,766	147,048,461	225,462,227	2.29	109,553,404	256,473,217	366,026,621
Region							
United Kingdom	636,311,800	4,165,777,667	4,802,089,467	48.70	792,449,291	5,839,407,119	6,631,856,409
North America (US and Canada)	1,924,290,250	708,011,841	2,632,302,091	26.70	1,858,744,081	1,171,397,154	3,030,141,235
Europe	1,098,321,461	394,996,446	1,493,317,907	15.15	1,310,527,206	558,259,014	1,868,786,221
APAC	452,427,646	320,463,630	772,891,276	7.84	780,076,990	638,081,843	1,418,158,833
LAC	33,785,207	50,655,663	84,440,870	0.86	37,673,053	90,580,588	128,253,641
SSA	18,095,522	16,587,899	34,683,421	0.35	7,978,104	18,522,975	26,501,079
MENA	21,758,620	8,579,452	30,338,072	0.31	16,127,964	7,031,561	23,159,525
China	72,407	9,994,298	10,066,706	0.10	36,241	8,375,124	8,411,365
Lockdown stringency level							
High stringency	2,808,060,674	5,087,854,287	7,895,914,961	80.09	2,781,492,929	7,520,290,844	10,301,783,773
Medium stringency	918,655,643	246,006,617	1,164,662,260	11.81	1,301,956,996	360,889,980	1,662,846,975
Low stringency	458,346,597	339,303,066	797,649,662	8.09	586,658,759	449,857,448	1,036,516,208

When looking at the volume share of digital capital raising platforms by region, the United Kingdom, North America, Europe, and APAC comprised almost 99%. In terms of investment-based models, platforms in North America, Europe, and the United Kingdom raised more than 80% of the total volume, equivalent to nearly USD3.93 billion in 2020. For non-investment-based models, the same regions contributed nearly 90% (USD7.57 billion) of the market share. The United Kingdom was the leading market, accounting for 70% of contributions. For all regions, non-investment-based verticals grew more than investment-based verticals.

For North America, 94% of the volume came from the United States. In APAC, Japan and Singapore contributed 58% of regional volumes, with the top markets in the region, such as Japan (75%), Singapore (177%), Australia (66%), India (129%), and Hong Kong (SAR) (115%), reporting a considerable rise in volumes for 2020 compared to 2019. In Europe, France (30%) and Germany (27%) reported the greatest share of transaction volumes, but lower volumes compared to other regions in AEs. In LAC, Brazil was the largest market, contributing 65% of funds raised in 2020, followed by Mexico (16%). For SSA and MENA, despite an overall decline in activities, the leading countries by market share reported a year-on-year increase in fundraising activities: South Africa contributed 79% of total regional volumes and Israel contributed 70%. A list of countries or jurisdictions with the respective value loan of origination for 2019 and 2020, lockdown stringency category, and annual rate of change can be found in Appendix 6.

Figure 5.4: 2019–2020 total value (excluding China) by model (USD): digital capital raising



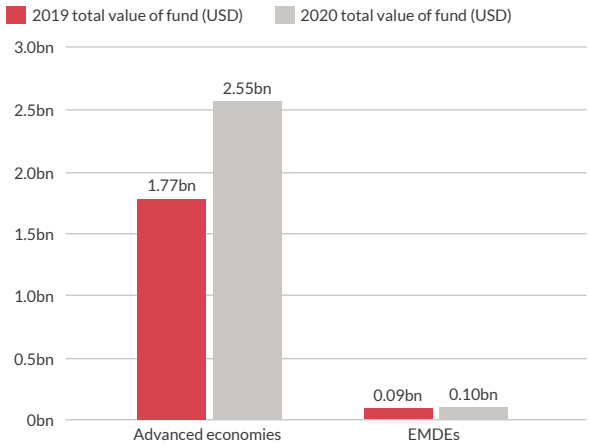
Market share (%)	2019 vs 2020 change in value (%)	2019 vs 2020 change in value (%): investment based	2019 vs 2020 change in value (%): non-investment based
97.21	↑ 33	↑ 14	↑ 46
2.79	↑ 62	↑ 40	↑ 74
50.49	↑ 38	↑ 25	↑ 40
23.07	↑ 15	↓ -3	↑ 65
14.23	↑ 25	↑ 19	↑ 41
10.80	↑ 83	↑ 72	↑ 99
0.98	↑ 52	↑ 12	↑ 79
0.20	↓ -24	↓ -56	↑ 12
0.18	↓ -24	↓ -26	↓ -18
0.06	↓ -16	↓ -50	↓ -16
79.24	↑ 30	↓ -1	↑ 48
12.79	↑ 43	↑ 42	↑ 47
7.97	↑ 30	↑ 28	↑ 33

When looking at models, non-investment-based models accounted for 65% of total volumes in 2020. This was largely driven by growth in donation-based crowdfunding (the largest model in 2020), accounting for 54% of the total volume and registering a 51% increase in fundraising in 2020 compared to 2019. This increase can be attributed to the surge in charitable, social, and health-related fundraising activities during the Covid-19 pandemic regionally and globally.

The second and third largest models by values were investment-based. Real estate crowdfunding was the second largest business model, contributing over 22% to total volumes. This was driven by markets in the United States, France, Germany, and Japan. However, the model saw a modest decrease in activities compared to 2019. This was followed by equity-based crowdfunding which, in contrast, reported an increase in over half the volumes for 2020, contributing more than 13% of the total volume, most of which was from the United Kingdom, the United States, and Singapore.

In terms of lockdown stringency measures, non-investment-based platforms in jurisdictions with high and low stringency lockdown measures experienced a greater increase in volumes compared to investment-based platforms. Specifically, donation-based crowdfunding platforms reported an increase of 51% (the highest increase in volumes) in jurisdictions with high stringency lockdown measures and 123% in jurisdictions with low stringency lockdown measures, despite low base volumes. In jurisdictions with medium stringency lockdown measures, it was equity crowdfunding firms that reported the highest increase in volumes (66%).

Figure 5.5: 2019–2020 SME value of funds by economic development (USD): digital capital raising



**Note: 2019 SME values for digital capital raising platforms sourced from The 2nd Benchmarking Report.*

Small and medium-sized businesses use online alternative finance channels and instruments for funding. Businesses raised a total of USD2.65 billion in 2020 compared to USD1.86 billion in 2019, a 42% increase in fundraising. For both 2019 and 2020, most SME business volumes came from platforms in AEs, which reported a growth rate of 44% year on year. In contrast, platforms in EMDEs reported a more modest increase of 9% for 2020, contributing around USD98.7 million.

In terms of models, SMEs raised a total of USD2.44 billion in 2020 from investment-based models, accounting for 96% of total volumes. Not surprisingly, the model that catered exclusively to SMEs, equity-based crowdfunding, contributed 65% (USD1.73 billion) to total SME funding in 2020, followed by real estate crowdfunding at 23%. Both models reported an increase in volumes compared to the previous year, with real estate crowdfunding reporting a higher increase (66%) compared to equity-based crowdfunding (52%). Further, investment models saw year-on-year growth of 60% in fundraising by SMEs, spurred mainly by equity-based crowdfunding platforms in AEs that noted a 53% increase, reaching a total value of USD1.67 billion in 2020.

In contrast, non-investment models reported an overall decrease of 39% in the funding provided to SMEs from 2019 to 2020: 40% in AEs and 20% in EMDEs. This was mainly driven by a contraction in SME fundraising through reward-based crowdfunding platforms (42%). Conversely, donation-based crowdfunding platforms, with 80% of the total value coming from EMDEs, doubled their volumes dedicated to businesses.

Adding lockdown stringency measures to this analysis, results indicated that platforms operating in jurisdictions with high stringency lockdown measures reported over half the SME volumes (USD1.37 billion) in 2020, an 18% increase compared to 2019, 90% of which stemmed from investment models. Additionally, platforms in medium stringency lockdown markets reported the second-largest SME fundraising volume, also from investment models (USD785 million), experiencing a 54% increase in volume compared to 2019. Finally, platforms in jurisdictions with low stringency lockdown measures reported an 89% growth in volume for SMEs (USD365.9 million) compared to 2019, despite low volumes compared to other lockdown stringency markets. Almost 50% came from reward-based crowdfunding.

Table 5.5: 2019–2020 value of fundraising to SMEs by key regions (USD): digital capital raising

	2019				2020		
	Investment (USD)	Non-investment (USD)	2019 total (USD)	Market share (%)	Investment (USD)	Non-investment (USD)	2020 total (USD)
Income group							
Advanced economies	1,463,653,072	302,784,524	1,766,437,596	95.14	2,373,064,228	181,190,292	2,554,254,520
EMDEs	78,354,577	11,914,656	90,269,233	4.86	88,855,550	9,843,222	98,698,773
Region							
Europe	505,060,230	62,501,105	567,561,336	30.57	723,389,305	18,984,432	742,373,737
United Kingdom	587,912,623	21,099,776	609,012,400	32.80	741,994,850		741,994,850
APAC	231,310,028	76,899,468	308,209,496	16.60	422,719,174	162,807,469	585,526,643
North America (US and Canada)	144,325,254	143,398,369	287,723,623	15.50	533,119,428		533,119,428
LAC	33,697,695	5,403,612	39,101,307	2.11	16,721,518	9,199,365	25,920,884
MENA	21,758,620	1,012,793	22,771,413	1.23	16,127,964	42,037	16,170,001
SSA	17,870,790	831,651	18,702,441	1.01	7,811,298	211	7,811,509
China	72,407	3,552,406	3,624,814	0.20	36,241		36,241
Lockdown stringency level							
High stringency	966,187,469	190,109,619	1,156,297,088	62.29	1,358,498,370	10,504,086	1,369,002,456
Medium stringency	457,365,341	49,212,325	506,577,665	27.29	766,894,581	18,152,076	785,046,657
Low stringency	118,454,840	74,983,677	193,438,516	10.42	203,022,581	162,377,353	365,399,934

**Note: 2019 SME values for digital capital raising platforms were sourced from The 2nd Benchmarking Report.*

When analyzing total SME funding through digital capital raising platforms by region, results showed that Europe and the United Kingdom contributed 51%. Notably, the United States, Europe (specifically France, Germany, and Italy), and the United Kingdom reported the largest volumes by investment-based models. In the United Kingdom, almost all volumes to SMEs stemmed from equity-based crowdfunding, while in Europe, real estate crowdfunding ranked first. In these regions, values from non-investment crowdfunding platforms were negligible. It is worth noting that, in APAC, equity-based crowdfunding platforms were the main channel used by SMEs for finance, with a volume of USD339 million in 2020, largely driven by Singapore.

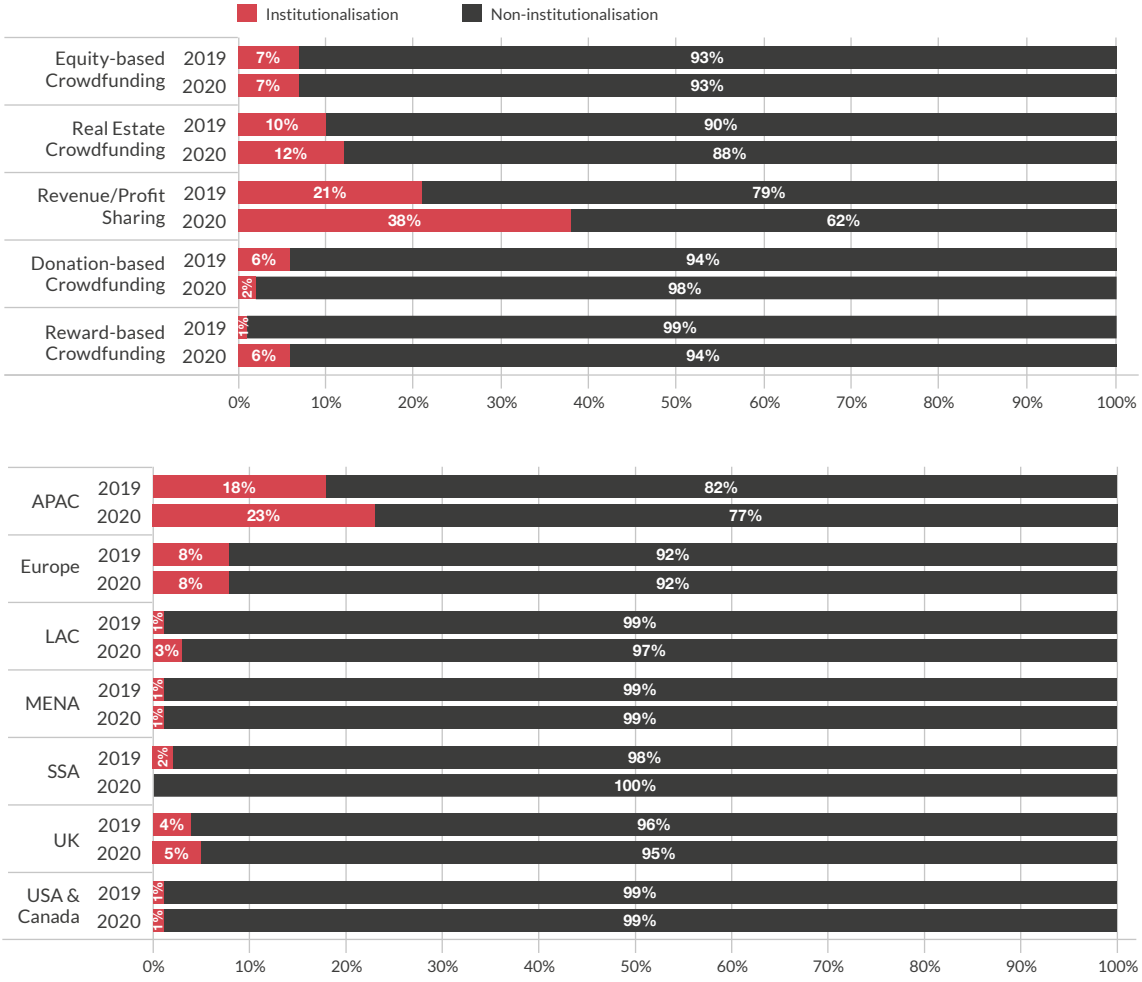
For non-investment models, APAC reported the largest volumes among the regions, with 98% of the SME values coming from reward-based crowdfunding platforms in South Korea. This was followed by Europe, mainly in Spain, France, and Portugal, which despite ranking second, saw a significant decrease of 70% in fundraising. Ranking third was LAC and, even with lower traction, the region still experienced a growth of 80% in volume through non-investment platforms. Brazil was the largest contributor, with 38% of its total SME values coming from donation-based platforms.

Market share (%)	2019 vs 2020 change in value (%)	2019 vs 2020 change in value (%): investment based	2019 vs 2020 change in value (%): non-investment based
96.28	↑ 45	↑ 62	↓ -40
3.72	↑ 9	↑ 13	↓ -17
27.98	↑ 31	↑ 43	↓ -70
27.97	↑ 22	↑ 26	↓ -100
22.07	↑ 90	↑ 83	↑ 112
20.10	↑ 85	↑ 169	↓ -100
0.98	↓ -34	↓ -50	↑ 70
0.61	↓ -29	↓ -26	↓ -96
0.29	↓ -58	↓ -56	↓ -100
0.00	↓ -99	↓ -50	↓ -100
54.34	↑ 18	↑ 41	↓ -94
31.16	↑ 55	↑ 68	↓ -63
14.50	↑ 89	↑ 71	↑ 117

5.4 Institutional investment

Unlike digital lending, the proportion of institutional investment was considerably lower for digital capital raising models, which still have a high concentration of individual investors.

Figure 5.6: 2019–2020 proportion of investment by (a) key model and (b) key region (percentage change): digital capital raising



As seen in Figure 5.6(a), investment-based models saw a relatively higher institutionalization rate compared to non-investment models. In 2020, both revenue/profit share crowdfunding and real estate crowdfunding firms experienced an increase in institutional investment compared to 2019. The institutionalization rate for non-investment models, such as donation-based and reward-based crowdfunding, was insignificant.

In terms of value, and despite a similar percentage contribution by institutional investors, the amount invested in equity-based crowdfunding by institutional investors increased to USD210 million in 2020, an increase of 66% from 2019. Similarly, institutional investment in real estate crowdfunding firms accounted for USD85 million in 2020, an increase of 70%. In contrast, institutional investment decreased for donation-based crowdfunding firms from USD18 million to USD9.8 million.

Institutional investment generally remained low across the regions. APAC reported the largest proportion of institutional investment, largely driven by an increase in investment for equity-based crowdfunding (50% in 2020 compared to 42% in 2019). In Europe, institutional investment remained the same in both years, with real estate and equity-based crowdfunding models noting some of the highest rates of institutionalization. In *The Rapid Assessment Study*, platforms in SSA

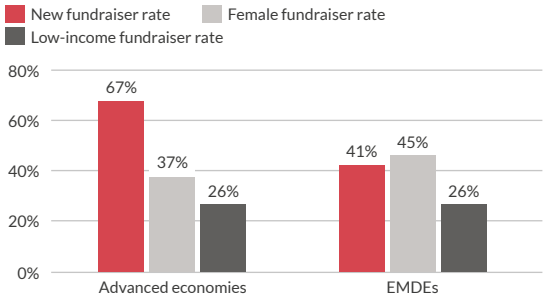
reported the largest decrease (37%) in institutional investment during the first half of 2020. This trend continued throughout the year. In contrast, the United Kingdom, which reported a 24% decrease in institutional funding in the first half of 2020, reported a modest increase in the second half. Similarly, platforms in LAC and APAC also saw a significant increase in institutionalization during the second half of 2020.

5.5 Client profile and potential contribution to financial inclusion

Like other verticals, our findings suggest that digital capital raising platforms are playing a role in providing access to finance for specific sets of customers that have traditionally faced challenges, such as female customers and customers from low-income households. However, these findings, which we discuss in more detail below, should be followed up to better understand the impact of digital capital raising fintechs in financial inclusion.

Globally, digital capital raising firms reported that out of the total number of fundraisers in 2020, 58% were new fundraisers, 40% were female fundraisers, and 26% were from low-income populations.

Figure 5.8: 2020 proportion of fundraisers by economic development: digital capital raising



Digital capital raising platforms in AEs reported a higher proportion of new fundraisers than those in EMDEs. However, platforms in EMDEs reported a higher proportion of female fundraisers than those in AEs. The proportion of low-income fundraisers was equal in both AEs and EMDEs.

By model, investment-based models saw a higher rate of new fundraisers (65%) compared to non-investment models (42%). In terms of female inclusion, non-investment models reported a higher proportion of female fundraisers (55%) compared to investment-focused models (24%). Both investment and non-investment-focused models reported similar proportions of low-income fundraisers (26% and 25%, respectively).

Specifically, in investment-based models, fundraisers were predominantly new, with real estate crowdfunding (69%) and equity crowdfunding (64%) reporting the highest proportions. In contrast, donation-based crowdfunding had the smallest proportion of new fundraisers (34%). By region, platforms operating in Europe reported the highest proportion of new fundraisers (73%) across the regions, followed by LAC and APAC.

In contrast, non-investment-based models, such as donation crowdfunding and reward crowdfunding, reported a higher proportion of female fundraisers in comparison to investment-based models, constituting almost 50% of their total in 2020. In contrast, less than one-quarter of fundraisers in investment-based models were female. These findings align with those in *The 2nd Benchmarking Report*, where non-investment models, on average, also reported a higher proportion of female fundraisers. Platforms in LAC (51%) and APAC (44%) indicated some of the highest proportions of female fundraisers across the regions.

Fundraisers from low-income populations constituted just over one-quarter of the total across platforms in both AEs and EMDEs, with the highest proportions being reported by platforms operating in APAC (32%). Notably, investment-based models, equity crowdfunding models especially, saw the highest proportion (30%) of low-income fundraisers.

In terms of lockdown stringency measures, fintech firms across high, medium, and low stringency lockdown markets reported that 50% of their fundraisers were new, with platforms in jurisdictions with low stringency lockdown measures indicating the highest proportions (63%). In contrast, the number of female and low-income fundraisers was higher in platforms in jurisdictions with high stringency lockdown measures.

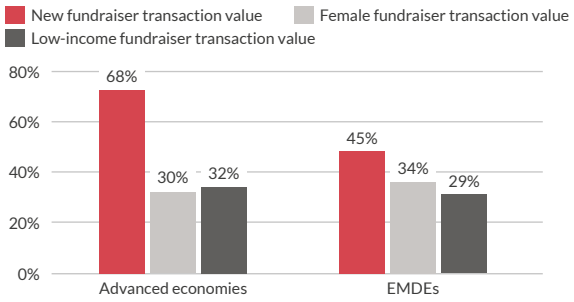
Figure 5.9: 2020 fundraiser values by economic development: digital capital raising

Overall, in digital capital raising firms, 61% of the total funds were raised by new fundraisers, while both female fundraisers and low-income fundraisers both registered an equal proportion of 31% of funds against the total funds raised in 2020. By model, the proportion of funds raised by new fundraisers was higher for investment-based platforms than for non-investment models. However, non-investment-based firms reported a higher proportion of funds from female and low-income populations compared to investment-based models.

Similar to new fundraiser proportions, the proportion of funds raised by new fundraisers was higher for platforms operating in AEs than those in EMDEs. Investment-based models, such as real estate crowdfunding and equity-based crowdfunding, reported 70% of total funds toward new fundraisers, on average. In contrast, donation-based crowdfunding models reported the smallest proportions (36%). Platforms in Europe reported the highest proportion of funds for new fundraisers (76%), followed by APAC and LAC. Of note are the significant proportions of new fundraisers in platforms operating in EMDEs of LAC and APAC, and the significant proportions of total funds toward new fundraisers.

When looking at the proportion of funds raised by females, reward-based crowdfunding models reported that almost one-half of their total funds were raised by women, followed by donation-based crowdfunding (37%). For investment-based models, the proportion of funds from women was less (around 20%) due to the low proportion of female fundraisers, as discussed above. Notably, across all models, the proportion of the value of funds raised by female fundraisers was less than the proportion of female fundraisers. Across the regions, the proportion of funds raised by females was less than 30%, except in APAC (44%). In LAC, despite reporting that one-half of their fundraisers were women, the average proportion of funds raised by them was approximately 29%.

Equity-based crowdfunding models (which reported the highest proportion of fundraisers for low-income populations) reported that, on average, only around 10% of funds went to those fundraisers. In contrast, the proportion of funds for low-income fundraisers was higher for non-investment-based models, such as donation-based crowdfunding (42%) and reward-based crowdfunding (30%), despite lower proportions of fundraisers (25% across both models). Among the regions, APAC reported the largest proportion of funds toward low-income fundraisers (46%), followed by Europe.



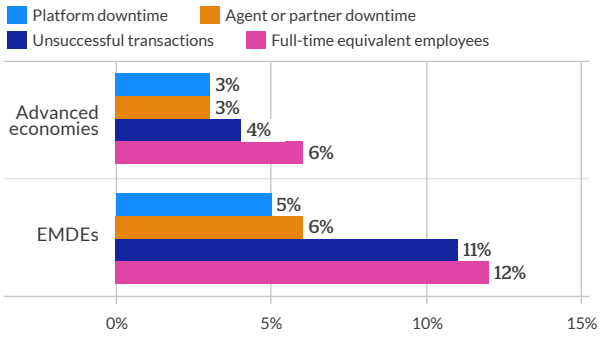
Similar to the proportion of fundraisers, the value of funds for new fundraisers was over 50% across different lockdown stringency jurisdictions, with platforms in low stringency lockdown markets reporting the greatest proportions (66%). The value of funds from female fundraisers was similar across all lockdown stringency jurisdictions, while platforms in jurisdictions with high stringency lockdown measures saw a slightly higher proportion of the value of funds for low-income customers.

5.6 Market resilience and financial health

Impact on operational indicators

From an operational perspective, the activities of digital capital raising firms were hampered by Covid-19 as the pandemic persisted through 2020. Overall, digital capital raising firms reported an increase of 4% in both platform and partner downtime, while the number of unsuccessful transactions increased by 8% in 2020 compared to 2019. Overall, the responses indicated that non-investment-based firms were more resilient than investment-focused firms.

Figure 5.10: 2019–2020 operational impact and employment type change by economic development (percentage change): digital capital raising



**Top markets by economic development: AEs: France, Italy, Germany, United Kingdom, and United States; EMDEs: Malaysia, Mexico, Brazil, Indonesia, Colombia, Ghana, Kenya, and Thailand*

In terms of income distribution, firms in EMDEs reported a higher increase in operational challenges than those in AEs. When analyzed by region, European firms were the most resilient, reporting the lowest increase in downtimes and unsuccessful transactions.

In contrast, firms in EMDEs reported a smaller increase in the number of full-time equivalent employees compared to those in AEs. Also, the increase in the number of FTEs was lower for non-investment-focused firms.

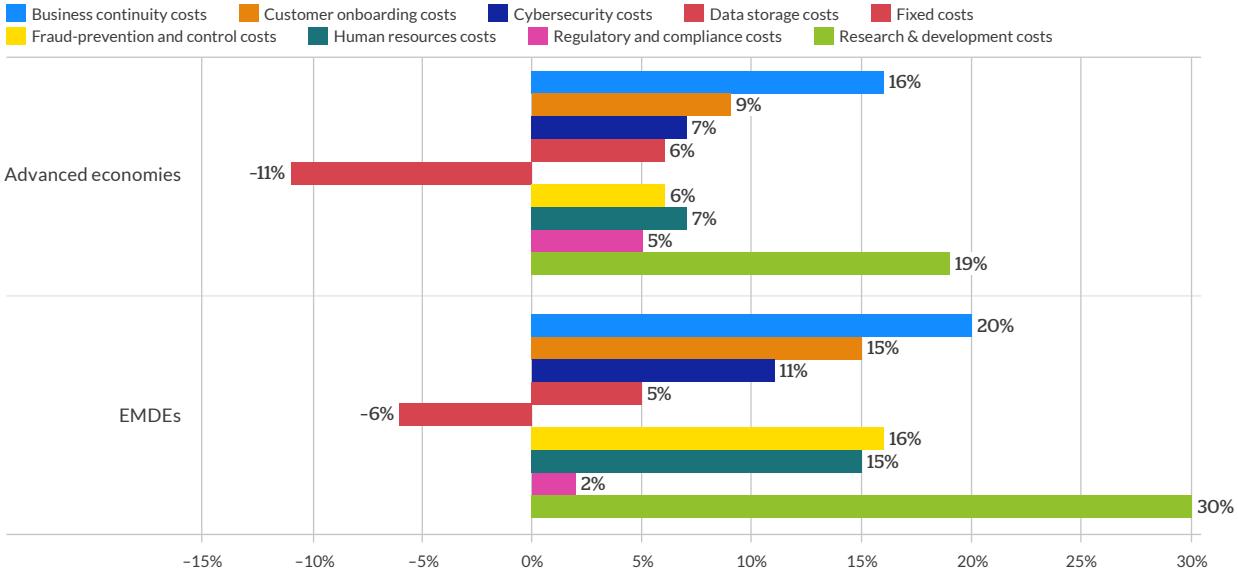
Analysis by lockdown stringency level showed that firms in jurisdictions with high stringency lockdown measures reported a greater increase in full-time equivalent employees compared to firms in jurisdictions with low lockdown stringency measures, while the opposite was seen for the other three parameters.

Expenditure changes observed in 2020

Digital capital raising firms reported increased expenditure in several areas. Overall, firms reported the highest increase in R&D costs in 2020 compared to 2019, followed by business continuity costs and customer onboarding costs. HR costs also increased, influenced by the increase in the number of full-time equivalent employees. In contrast, businesses reported a decrease in fixed costs.

From a model perspective, non-investment-based firms reported smaller increases in their costs than investment-based firms, except those related to fixed, business continuity and R&D costs. Specifically, the increase in R&D costs was 29% for non-investment-based firms and 14% for investment-based firms. There were no other reported differences in cost changes between investment-based firms and non-investment-based firms.

Figure 5.11: 2019–2020 cost structure changes by economic development (percentage change): digital capital raising



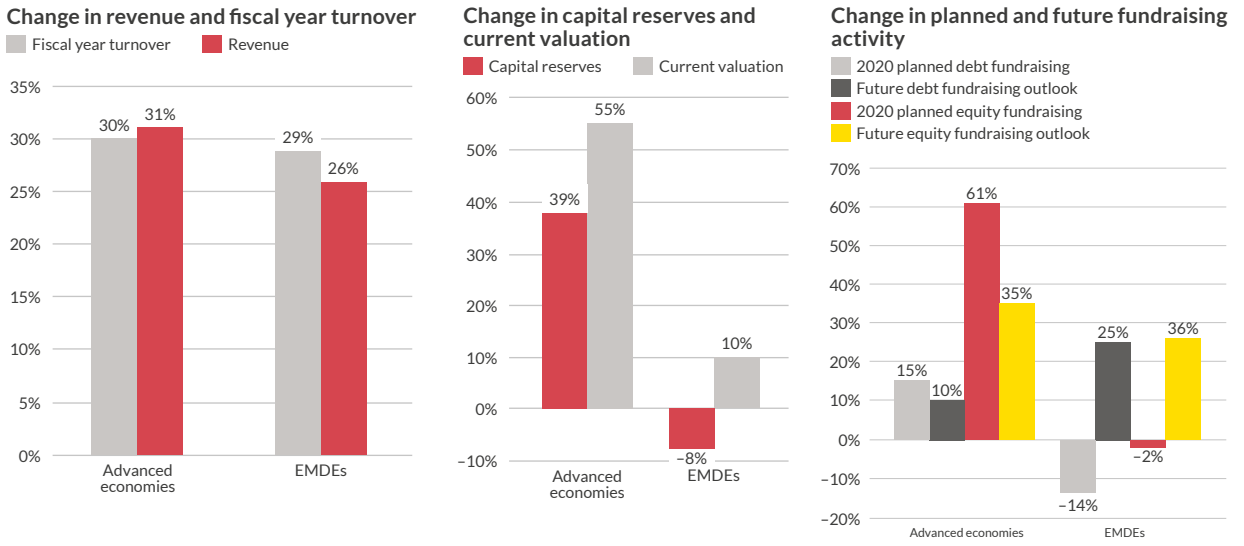
Overall, cost increases were more significant for platforms in EMDEs compared to those in AEs. Firms in EMDEs reported greater increases in costs associated with R&D, fraud prevention, and HR, while fixed costs decreased the most for firms in AEs.

When considering lockdown stringency measures, platforms in jurisdictions with high stringency lockdown measures reported greater decreases in fixed costs and smaller decreases in customer onboarding costs than platforms operating under low stringency lockdown measures. When analyzed at a regional level, firms in LAC reported the greatest increase in costs overall and firms in Europe, the smallest increases. Specifically, R&D costs increased the most for firms in LAC and SSA. In contrast, firms in SSA reported a sharp decrease in regulatory and compliance costs, and fixed costs.

Financial positioning changes in 2020

Globally, digital capital raising platforms reported an increase in both revenue and fiscal year turnover (29% and 30%, respectively) in 2020 compared to 2019, with non-investment-based firms reporting slightly less growth than investment-based firms.

Figure 5.12: 2019–2020 Covid-19 impact on (a) revenue and fiscal turnover, (b) capital reserves and current valuation, and (c) planned and future fundraising activity, AEs vs EMDEs (percentage change): digital capital raising



**Top markets by economic development: AEs: France, Italy, Germany, and United Kingdom; EMDEs: Malaysia, India, Mexico, Brazil, and Indonesia.*

When looking at differences based on economic development, platforms in AEs reported higher revenue growth rates than those in EMDEs. However, in terms of turnover growth rate, platforms in both AEs and EMDEs reported similar year-on-year changes. Regionally, the highest increases in both turnover and revenue were reported by platforms in LAC at 71% and 66%, respectively.

Changes in financial positioning varied between platforms in AEs and EMDEs. Platforms in AEs reported a substantial increase in their capital reserves and current valuation, while platforms in EMDEs registered only a small increase in their current valuation and a decrease in capital reserves. These results were reflected in firms' fundraising activities. Platforms in AEs reported improvements in planned and future fundraising activities related to both debt and equity. For platforms in AEs, the smallest improvement for 2020 was in future debt fundraising activities and the greatest was in planned equity fundraising. The opposite was true in EMDEs, where platforms reported decreases in both planned debt and equity fundraising activities in 2020 compared to 2019.

By business model, investment-based platforms reported an increase in both revenue and fiscal year turnover (28% and 30%, respectively). Real estate crowdfunding platforms reported the highest growth rates among investment-based platforms: 34% in revenue and 38% in fiscal turnover. About 60% of investment-based platforms that reported increases in revenue and fiscal turnover were operating in Europe. In terms of financial positioning,

investment-based firms experienced large growth in current valuation and capital reserves, with equity crowdfunding platforms reporting the greatest increases of 49% in capital reserves and 63% in current valuation. The fundraising outlook of investment-based models was also strong, with equity crowdfunding platforms reporting the highest increase in future equity crowdfunding and real estate crowdfunding platforms reporting the highest increase in planned equity crowdfunding.

Conversely, non-investment-based firms were not as financially resilient. They reported a slightly lower growth rate in revenue and fiscal turnover than investment-based platforms at 27% and 28%, respectively. However, there were important variations. Donation crowdfunding platforms reported the highest growth rates of 41% in fiscal turnover and 42% in revenue, whereas reward crowdfunding platforms experienced some of the lowest growth rates, reporting no change in revenue and a 5% increase in fiscal turnover.

From a regional perspective, non-investment-based platforms operating in SSA and APAC reported a substantial decrease in revenue and fiscal turnover. This was also reflected in the capital reserves and current valuation for non-investment-based firms, both of which decreased in contrast to investment-based firms. Reward crowdfunding firms drove this change, reporting a decrease of 36% in capital reserves and 22% in current valuation. The fundraising outlook was also affected, with non-investment-based platforms reporting a decrease in their 2020 planned fundraising outlook related to both debt and equity.

When considering lockdown stringency measures, firms in jurisdictions with high stringency lockdown measures reported greater turnover and revenue growth rates compared to their counterparts in jurisdictions with low stringency lockdown measures. In terms of fundraising outlook, platforms in jurisdictions with high stringency lockdown measures reported smaller growth rates in their 2020 planned and future equity fundraising outlook compared to those in jurisdictions with less strict lockdown measures.

Stage of business development

Regarding fundraising stages, firms from AEs were more mature than their peers in EMDEs. In AEs, most respondents were mid-stage and engaged in Series A fundraising, while in EMDEs, most firms were pre-seed or earlier. By region, the results were driven by Europe and LAC as most European firms were engaged in Series A fundraising, while most platforms in LAC were in pre-seed or earlier stages of fundraising.

Table 5.6: 2020 stage of business development by economic development level: digital capital raising

Recent fundraising activity	Advanced economies (%)	EMDEs (%)	Total (%)
Pre-seed or earlier	6	10	16
Seed/pre-series	10	4	14
Series A	48	5	53
Series B	5	3	8
Series C+	3	3	6
Pre-public offering	1	<1	2
Public offering	0	1	1
Total	73	27	100

**Top markets by economic development: AEs: Italy, United Kingdom, United States, France, and Spain; EMDEs: Colombia, Malaysia, Ghana, and Mexico*

When looking at business models, investment-based platforms were at more mature stages of business development than non-investment-based platforms. Seventy percent of investment-based platforms were in mid-stage growth and had mainly engaged in Series A and B fundraising. Equity crowdfunding platforms were the most mature as more than 80% were Series A and B, and they were primarily based in AEs.

Conversely, non-investment-based platforms were in earlier stages of development, their most recent fundraising stage being pre-seed or earlier. Most of these firms were based in EMDEs.

By lockdown stringency measures, most platforms in jurisdictions with low stringency lockdown measures were in Series A. Those from jurisdictions with high stringency lockdown measures were at different levels and spread between pre-seed, seed, and Series A.

5.7 Market dynamics

Changes in pricing, service agreements, and policies

Seventy percent of digital capital raising firms reported they had changed their pricing, service agreements, and policies. Overall, firms prioritized enhancing fraud-prevention measures and enhancing cybersecurity features. Other key changes were deploying additional payment channels, reducing fees or commissions, and easing onboarding processes.

Figure 5.13(a): 2020 top changes implemented to pricing, service agreements, and policies in EMDEs: digital capital raising

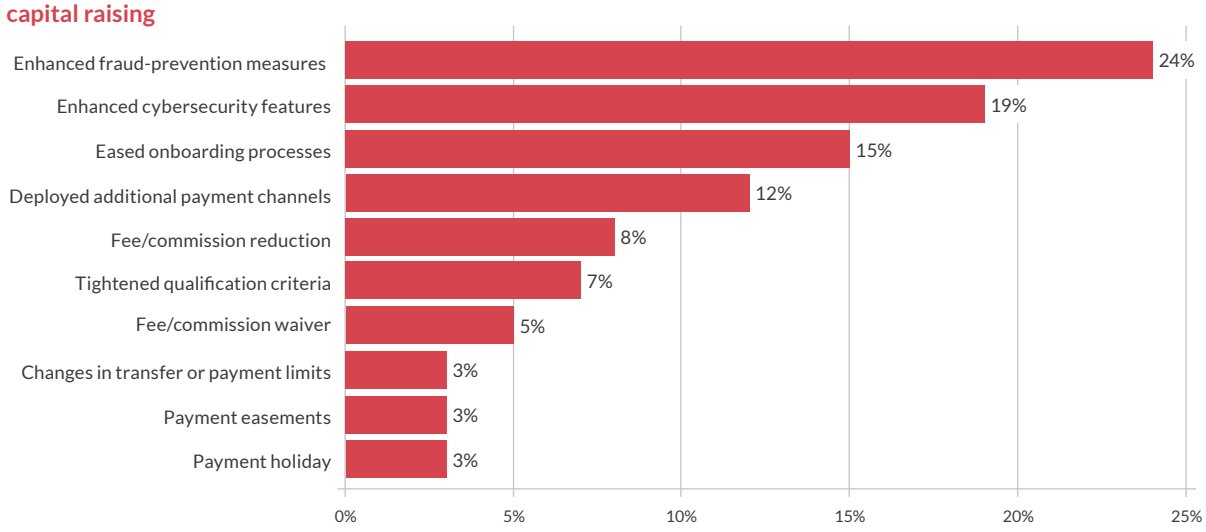


Figure 5.13(b): 2020 implementation status of changes in pricing, service agreements, and policies in EMDEs: digital capital raising

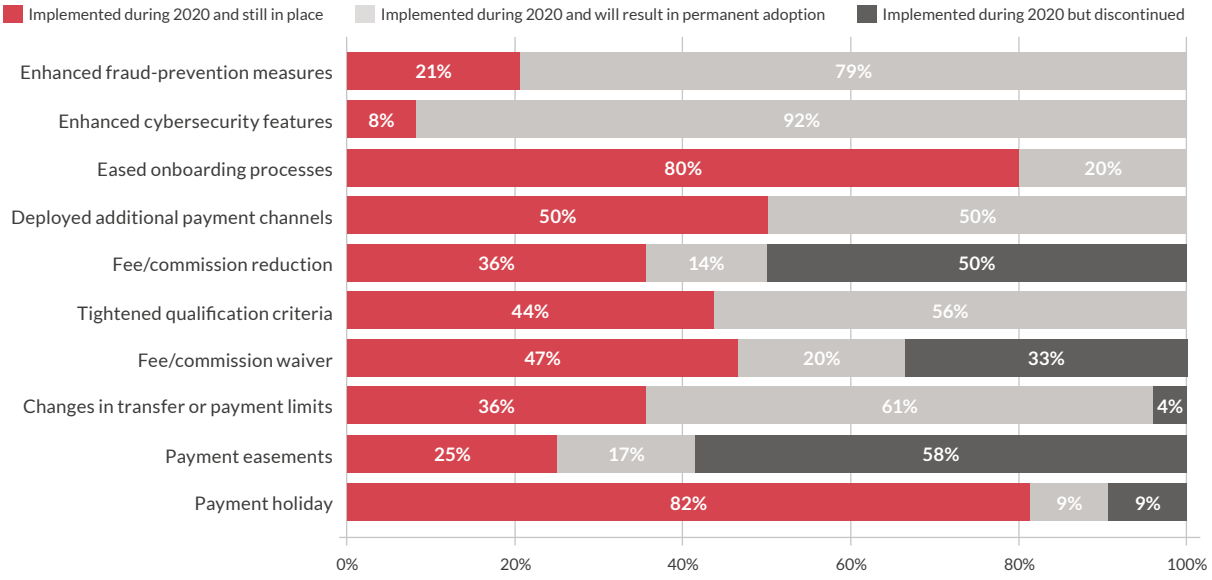


Figure 5.13(c): 2020 top changes implemented to pricing, service agreements, and policies in AEs: digital capital raising

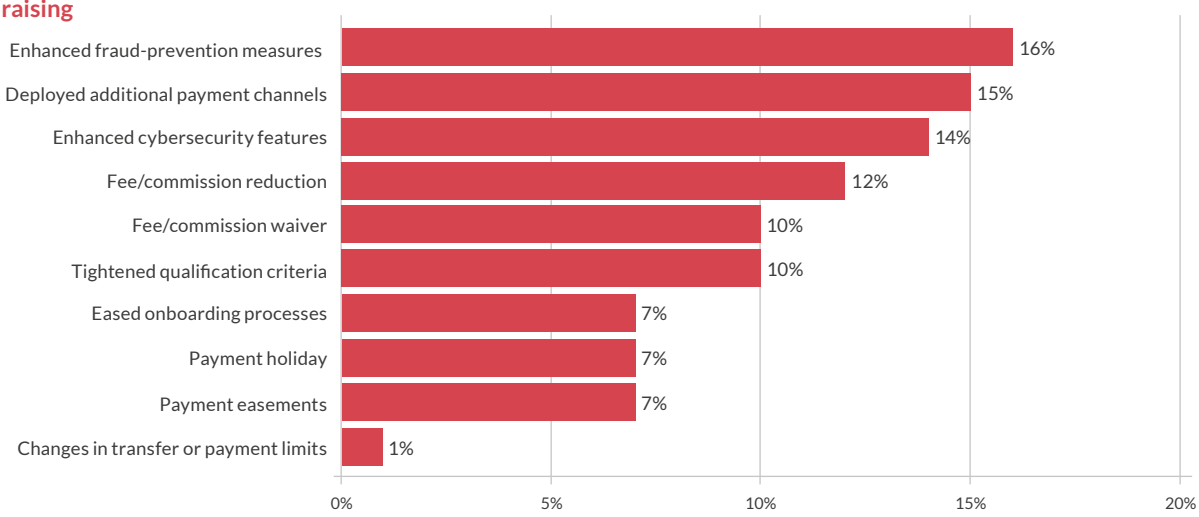
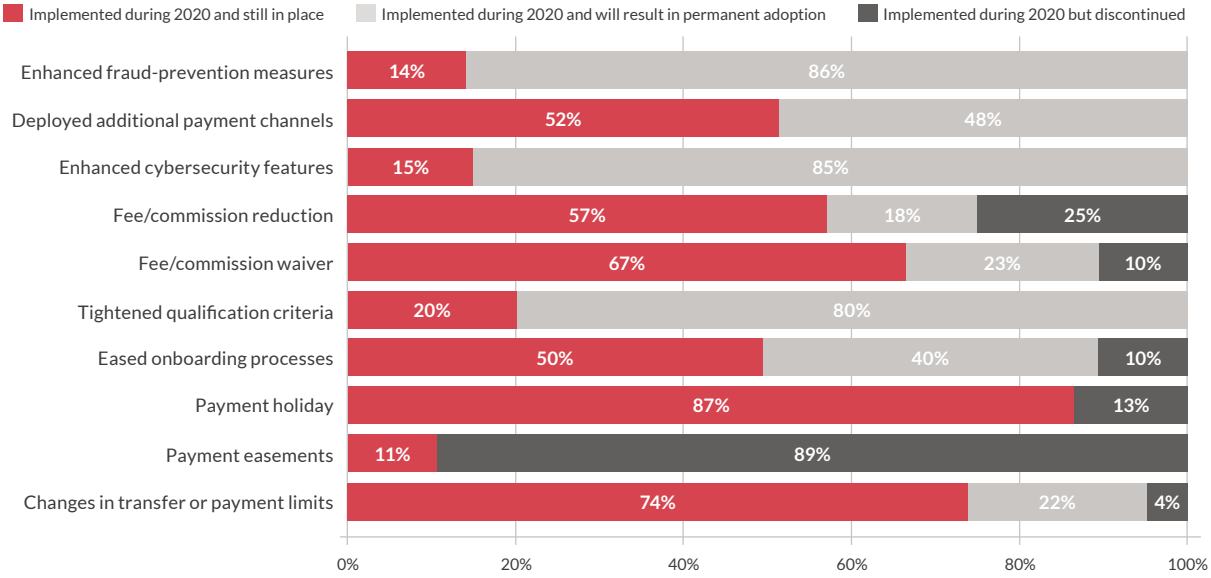


Figure 5.13(d): 2020 implementation status of changes in pricing, service agreements, and policies in AEs: digital capital raising



**Top markets by economic development: AEs: Italy, France, United Kingdom, United States, and Germany; EMDEs: India, Malaysia, Mexico, Brazil, and Thailand*

Overall, firms operating in both EMDEs and AEs prioritized enhancing fraud-prevention measures. Firms in EMDEs also prioritized enhancing cybersecurity features in their platforms and easing onboarding processes, while firms in AEs also prioritized deploying additional payment channels. All regions prioritized safety measures such as enhancing fraud-prevention measures and enhancing cybersecurity features. Additionally, firms in APAC, Europe, and the UK also prioritized deploying additional payment channels, and firms in LAC and SSA prioritized easing onboarding processes. Firms in MENA and North America implemented fee and commission waivers and reductions.

Investment-based platforms prioritized deploying additional payment channels and fee or commission waivers, which were also the top changes implemented by these platforms in EMDEs. However, in AE jurisdictions, firms prioritized easing onboarding criteria and reducing fees or commissions. By region, the top change implemented by investment-based platforms in APAC and MENA was fee or commission reduction, while in Europe and North America it was deploying additional payment channels. In LAC and the UK, firms prioritized enhancing cybersecurity features and in SSA, they enhanced fraud-prevention measures.

Non-investment-based platforms followed the overall trend of prioritizing safety by enhancing fraud-prevention measures and enhancing cybersecurity features. Enhancing cybersecurity features was also the top change implemented by these platforms in EMDEs, followed by easing onboarding processes. In AEs, non-investment-based platforms prioritized deploying additional payment channels. By region, non-investment-based platforms in LAC, APAC, and SSA prioritized enhancing fraud-prevention measures. In North America, Europe, and MENA, firms prioritized easing onboarding criteria, while in the United Kingdom, deploying additional payment channels was prioritized.

Overall, most changes were still in place at the time of the survey and firms reported that most would be permanently adopted. However, about one-third of firms that had reduced fees or commissions reported discontinuing these measures. This may be because these changes negatively impacted revenue.

Table 5.7: Example of a change to pricing, service agreements, or policy in response to Covid-19: digital capital raising

Model	Region or market	Change to pricing, service agreements and policies	Example from the field
Digital capital raising	LAC	Fee/commission waiver	A crowdfunding firm in Colombia waived fees to promoters of campaigns aimed at financially supporting victims of natural disasters, NGOs, and healthcare workers.

Changes in products and service offerings

Only 35% of digital capital raising firms changed their product and service offerings. Overall, the top change prioritized was introducing value-added non-financial services, which was also the top change for both investment-based and non-investment-based platforms. However, while investment-based platforms also prioritized launching voucher systems, non-investment-based platforms discontinued selling products or services. Other results are similar for both investment and non-investment models.

Figure 5.14(a): 2020 top changes implemented to product and service offerings in EMDEs: digital capital raising

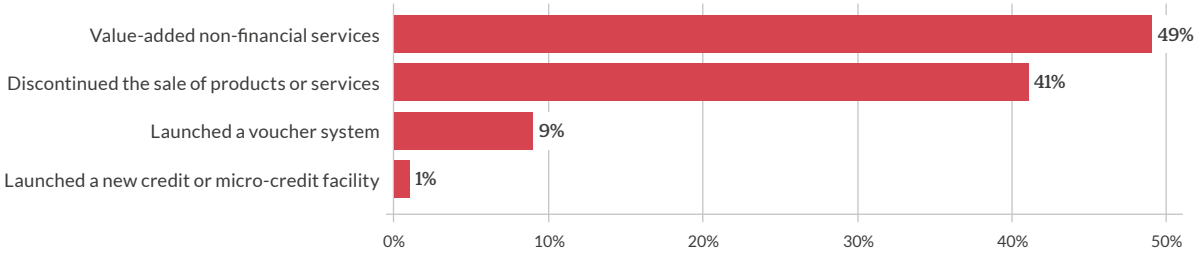


Figure 5.14(b): 2020 implementation status of changes in product and service offerings in EMDEs: digital capital raising

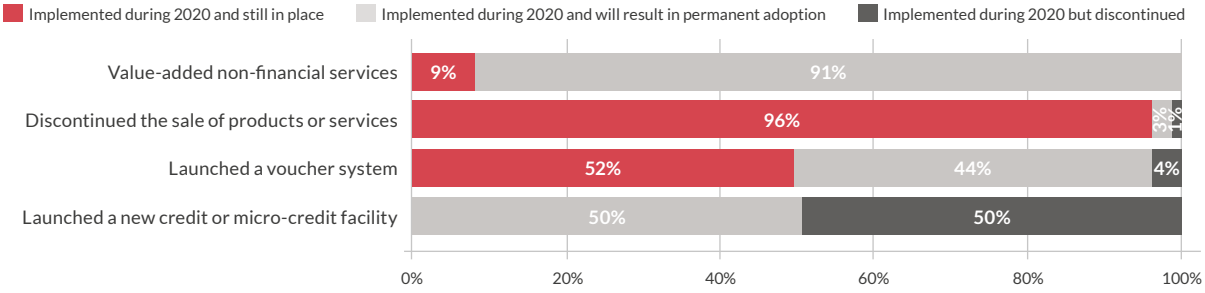


Figure 5.14(c): 2020 top changes implemented to product and service offerings in AEs: digital capital raising

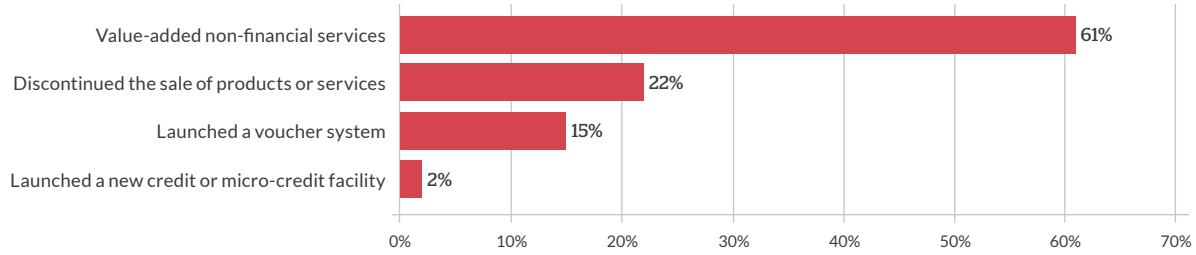
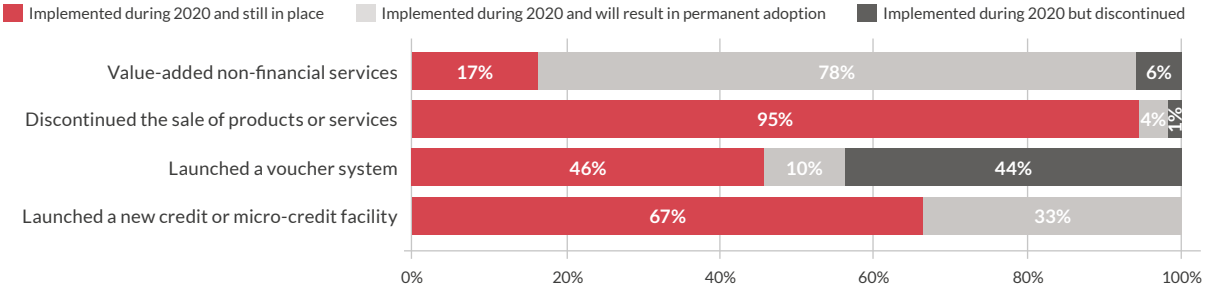


Figure 5.14(d): 2020 implementation status of changes in product and service offerings in AEs: digital capital raising



**Top markets by economic development: AEs: France, Italy, Germany, United Kingdom, and United States; EMDEs: Malaysia, India, Mexico, Brazil, and Indonesia*

Similar to the global trend, the top changes that digital capital raising firms operating in both EMDEs and AEs made to product and service offerings in 2020 were launching value-added non-financial services, discontinuing selling products and services, and launching voucher systems. There was a similar trend by region, lockdown stringency level, and model. However, for revenue/profit share crowdfunding models, launching voucher systems was the top change.

Overall, most changes to product and service offerings implemented in 2020 were still in place at the time of the survey or were to be permanently adopted. However, about one-quarter of firms that had implemented voucher systems in 2020 reported discontinuing this change.

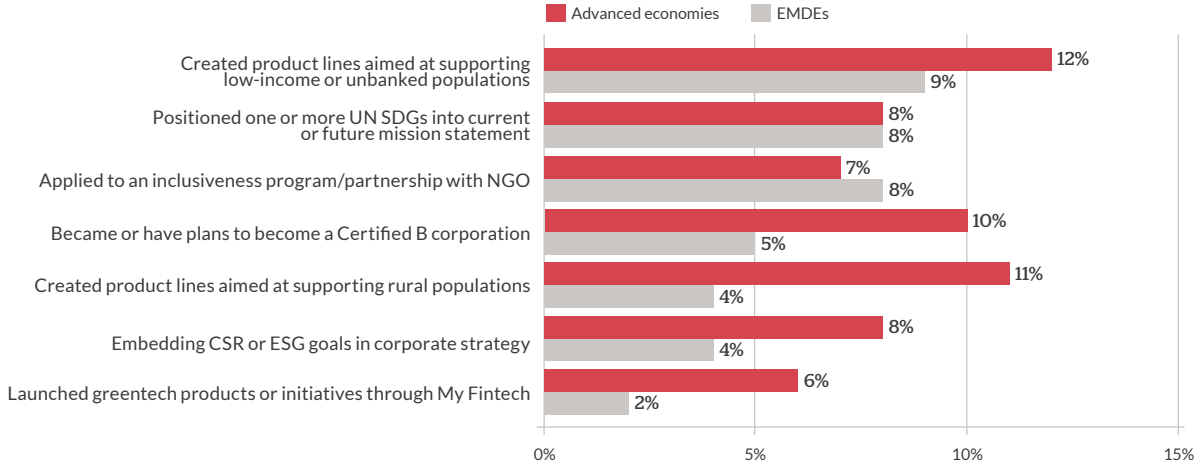
Table 5.8: Examples of new or updated fintech products launched in response to Covid-19: digital capital raising

Model	Region or market	Change to existing/new or updated	Example from the field
Digital capital raising	UK	Launched a Covid-19 relief and wellbeing network	A UK-based firm launched a Covid-19 relief and wellbeing network providing a digital outsourcing service to help companies register and validate customers applying for financial relief.
	SSA	Launched an e-commerce product/service	Due to the accelerated digitalization of the real estate industry as a result of Covid-19, a south African crowdfunding firm started offering the first-ever property crowdfunding services in the country.

Sustainability or inclusion initiatives

A total of 63 digital capital raising firms responded to the question on sustainability or inclusion initiatives, accounting for 19% of total unique digital capital raising firms in this study. Hence the analysis in this section represents that proportion of respondents.[33] The most pursued initiative by digital capital raising firms was creating product lines to support low-income and unbanked populations. This was followed by including one or more of the UN Sustainable Development Goals (SDGs) into their current or future mission statement and applying them to inclusiveness programs or partnerships with NGOs. A few firms reported launching greentech products or initiatives through their fintechs firms.

Figure 5.15: 2020 sustainability or inclusion initiatives by economic development: digital capital raising



**Top markets by economic development: AEs: Italy, France, United States, Germany, Austria, and Singapore; EMDEs: Malaysia, Mexico, Colombia, Thailand, Argentina, and China*

Sustainability initiatives were more prevalent in firms in AEs than those in EMDEs. However, the most pursued initiative in both EMDEs and AEs was creating product lines to support low-income or unbanked populations. Other notable initiatives in AEs included becoming or planning to become Certified B Corporations and creating product lines to support rural populations. In EMDEs, other common initiates included applying to inclusiveness programs or partnerships with NGOs, embedding corporate social responsibility (CSR) or environmental, social and corporate governance (ESG) goals into corporate strategy, and positioning one or more of the UN SDGs into current or future mission statements. SSA was the only region in which a considerable proportion of platforms had not reported a desire to become a Certified B Corporation. In LAC, a few firms embedded CSR or ESG goals into their corporate strategy and created product lines to support rural populations.

In terms of model, non-investment models focused more on initiatives for low-income populations, the top initiative being creating product lines to support low-income and unbanked populations. Conversely, investment models focused on initiatives to promote their brands, the top initiative being embedding CSR or ESG goals into their corporate strategy. Across all lockdown stringency levels, the top initiative was creating product lines to support low-income and unbanked populations.

Table 5.9: Examples of sustainability initiatives or strategies pursued in response to Covid-19: digital capital raising

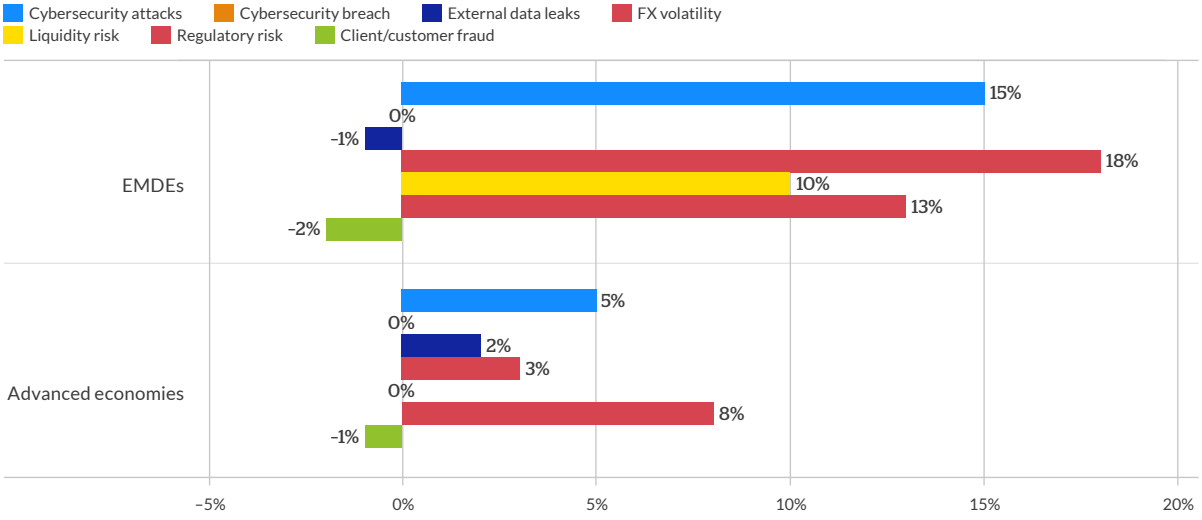
Model	Region or market	Sustainability initiative or strategy pursued	Example from the field
Digital capital raising	APAC	Launched greentech products or initiatives through their fintech firms	A firm in APAC developed an AI-driven platform enabling corporate and individual users to invest in renewable energy projects worldwide.
	SSA	Launched greentech products or initiatives through My FinTech	A Ghanaian real estate crowdfunding platform collaborated with an array of companies and bodies across the country to build mobile testing centers for Covid-19 using recycled shipping containers.

5.8 Potential business disruptors in a Covid-19 environment

Covid-19 disrupted the business operations of digital capital raising firms and, in general, they reported an increase in most risk categories. There was a 12% increase in crypto price volatility, followed by foreign currency volatility and regulatory risks at 10% each. Cybersecurity risk and foreign exchange volatility increased by 8% and 6% in 2020, respectively, which was half of what was reported in H1-2020 in *The Rapid Assessment Study*. In contrast, firms reported a 1% decrease in client/customer fraud in 2020 compared to 2019.

By business model, non-investment-based models (especially donation crowdfunding firms) were more resilient than investment-based models in terms of client/customer fraud, regulatory risk, and FX volatility (led by real estate crowdfunding firms).

Figure 5.16: 2019–2020 potential disruptors by economic development (percentage change): digital capital raising



Overall, firms in EMDEs reported higher potential business disruption than those in AEs, especially from cybersecurity attacks and FX volatility. However, firms in EMDEs did report a decrease in external data leaks and a greater decrease in client/customer fraud. Regionally, European companies reported the least potential business disruption. Conversely, firms in LAC reported the highest increase in foreign exchange volatility at 32% and in APAC, the greatest increase was in regulatory risk at 21%.

By lockdown stringency measures, firms in AEs reported a smaller increase in disruptions, regardless of whether they were in jurisdictions with low or high stringency lockdown measures. The firms that faced the greatest disruptions were from jurisdictions in EMDEs with low stringency lockdown measures, with FX volatility being the highest at 22%. In addition, cybersecurity attack risks doubled and regulatory risks tripled for these firms compared to those in jurisdictions with high stringency lockdown measures.

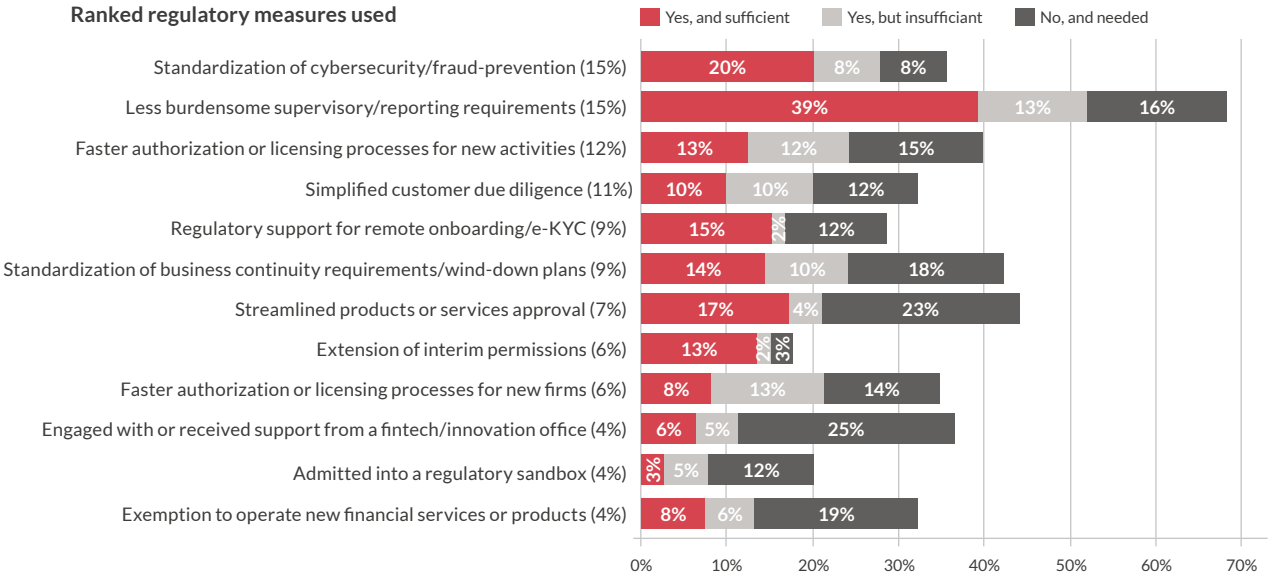
5.9 Regulation, policy, and government intervention

Traditionally, regulation only applies to investment-based platforms. Hence, as non-investment-based models fall outside the regulated sphere, our discussion on regulation that follows only applies to investment-based models.

Regulatory support use

The regulatory support mechanisms that digital capital raising firms most used during the pandemic were those related to core regulatory mechanisms that supported fintechs' operations as a business. Digital capital raising firms reported that cybersecurity/fraud prevention standardization was the regulatory support measure they used the most, followed by less burdensome supervisory/reporting requirements, and faster authorization or licensing processes for new activities.

Figure 5.17: 2020 regulatory support initiatives: digital capital raising use and needs



**Note that 'N/A' and 'No, and not needed' responses have been omitted from this chart.*
***Top markets by economic development that used regulatory measures: AEs: France, Italy, United Kingdom, United States, Australia, and Germany; EMDEs: Brazil, Indonesia, Malaysia, South Africa, Colombia, Cote d'Ivoire, Ghana, India, Nigeria, and Thailand*
****Top markets by economic development that did not use regulatory measures but needed support: AEs: United Kingdom, France, Italy, United States, Spain, and UAE; EMDEs: India, China, Malaysia, Cote d'Ivoire, Mexico, Ghana, Nigeria, Kenya, Senegal, and Thailand*

Overall, digital capital raising firms reported that regulatory support was sufficient across the top two used measures. However, just under half the firms that used support for faster authorization or licensing processes for new activities reported that the support received was insufficient. Additionally, 15% reported that increased support was needed. Fintech firms reported that the measures they most needed were increased support in engaging with an innovation office and standardizing business continuity requirements. The proportion of firms requesting improved support for these two measures exceeded those that thought existing support was sufficient.

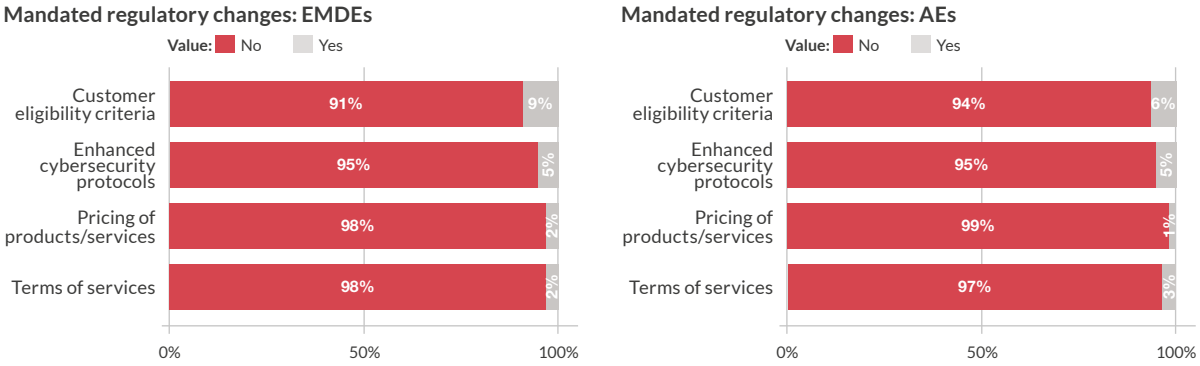
Table 5.10: Example of fintechs using regulatory mechanisms or interventions during the Covid-19 pandemic: digital capital raising

Model	Region or market	Regulatory support used	Example from the field
Digital capital raising	LAC	Regulatory support for remote onboarding	The Securities and Exchange Commission of Brazil implemented fundraising rules that allowed equity-based crowdfunding companies to relax onboarding criteria for MSMEs during the Covid-19 pandemic.

Mandated regulatory changes

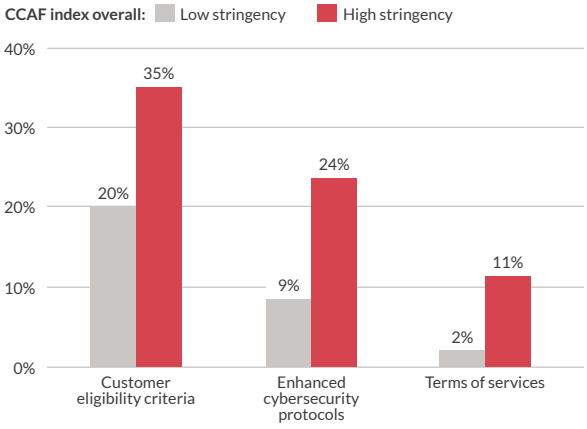
Overall, most digital capital raising firms reported they did not have to change any of their operations due to mandates from their regulatory authorities. Platforms that did have to make changes, reported that changes related to customer eligibility were the most mandated and hence applied. Overall, the key changes implemented were the same for firms operating in both EMDEs and AEs, per region and model.

Figure 5.18: 2020 mandated regulatory changes by economic development: digital capital raising



*Top markets by economic development: AEs: France, Italy, United Kingdom, Australia, Spain, and United States; EMDEs: Ghana, India, Thailand, Indonesia, Malaysia, Kenya, and Philippines

Figure 5.19: 2020 mandated regulatory changes by lockdown stringency: digital capital raising

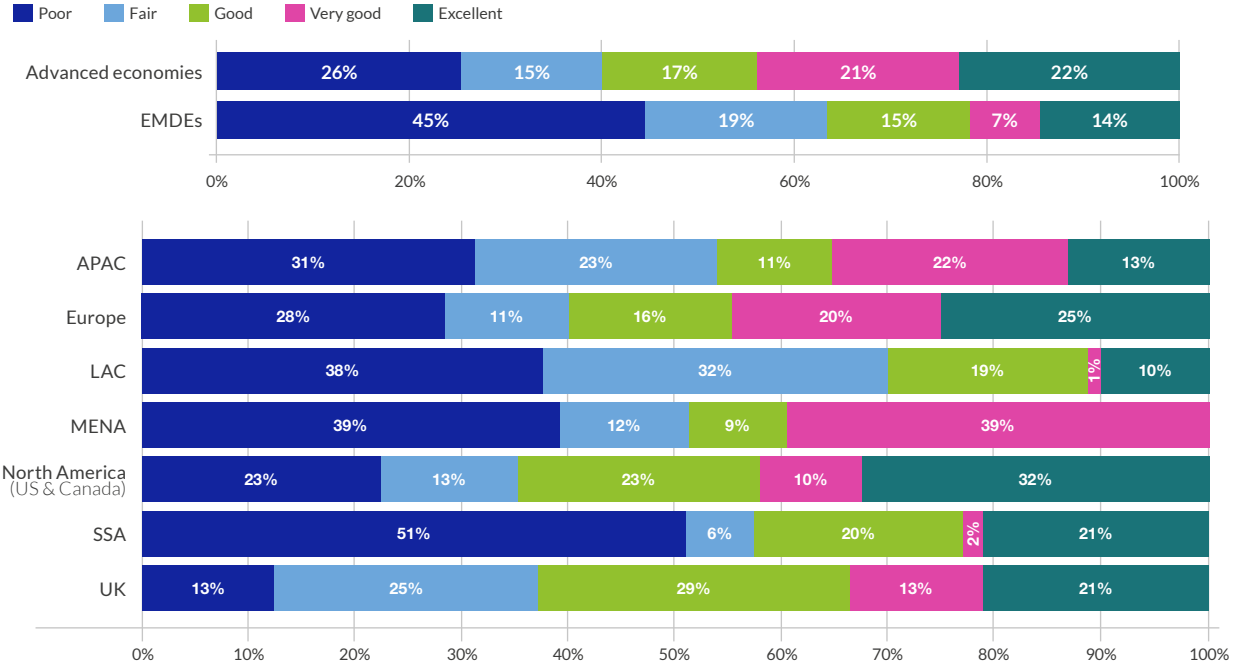


Generally, in jurisdictions with high stringency lockdown measures, a greater proportion of firms reported making mandatory regulatory changes to their pricing, service agreements, and operations compared to firms in jurisdictions with low stringency lockdown measures. This aligns with the lockdown stringency analysis seen across other verticals.

Regulatory response rating

Globally, digital capital raising platforms had a positive perception of regulatory responses, with 52% rating them as good, very good, or excellent.

Figure 5.20: 2020 regulatory response rating by (a) economic development and (b) region: digital capital raising



*Top markets by economic development:

- By negative rate – AEs: Italy, Germany, France, Spain, and United Kingdom; EMDEs: Thailand, Malaysia, Brazil, Ghana, and Mexico
- By positive rate – AEs: France, Italy, United Kingdom, United States, and Germany; EMDEs: India, Indonesia, Mexico, South Africa, Colombia, Kenya, and Malaysia

However, the level of satisfaction with regulatory responses to Covid-19 varied significantly between digital capital raising platforms in EMDEs and AEs, with platforms in AEs generally being more satisfied. Most firms (64%) in EMDEs were unsatisfied, whereas most firms (60%) in AEs were satisfied.

Analysis of regulatory response rating by region revealed that platforms in Europe reported the highest satisfaction levels among all regions, with more than 60% rating the responses as good, very good, or excellent. The lowest satisfaction levels were reported by firms in LAC, followed by those in APAC.

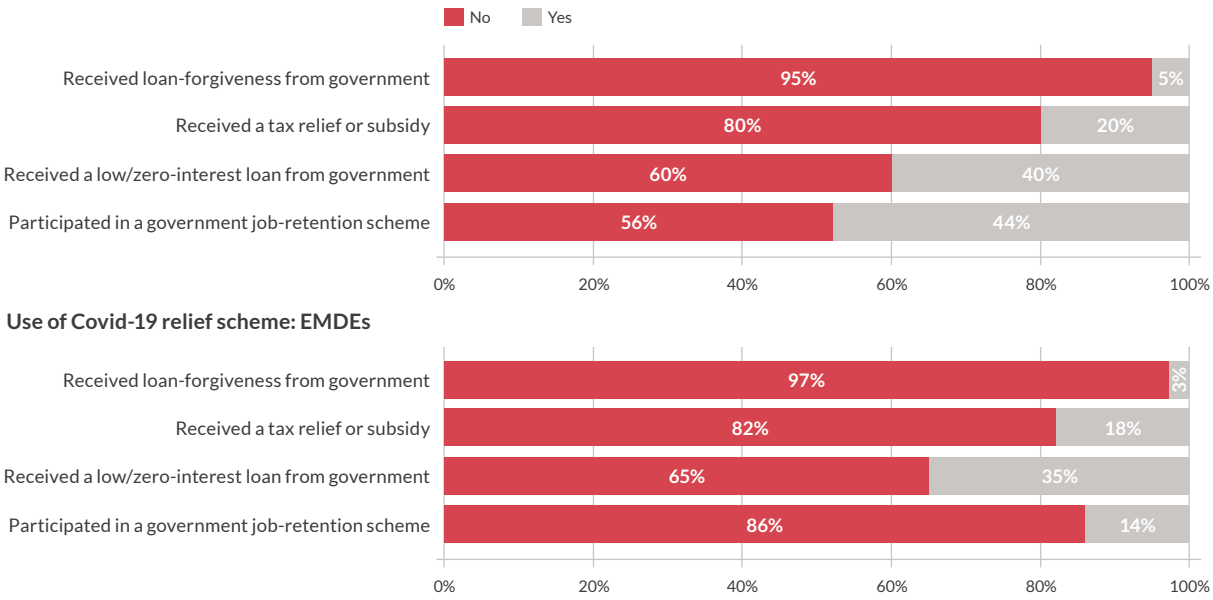
The views of regulatory responses to Covid-19 depended on the severity of lockdown measures. Satisfaction levels were higher among platforms in jurisdictions with low stringency lockdown measures, with 54% rating the responses as good, very good, or excellent. Conversely, platforms in jurisdictions with high stringency lockdown measures were less satisfied, with 53% rating the responses as fair or poor.

Use of Covid-19 relief schemes

Most digital capital raising platforms did not use any government relief schemes to mitigate the effects of Covid-19, with only 29% reported using them. For those that did access government support, most reported participating in a government job-retention scheme or receiving a low/zero-interest loan.

By model, investment-based platforms used Covid-19 relief schemes more than non-investment-based platforms. Equity-based crowdfunding platforms followed the general trend, with participating in a government job-retention scheme being the most used. In contrast, that scheme was the least used by donation-based crowdfunding platforms that, instead, chose to receive a government low/zero-interest loan.

Figure 5.21: 2020 use of Covid-19 relief schemes by (a) AEs and (b) EMDEs: digital capital raising



**Top markets by economic development: AEs: France, Italy, United Kingdom, Australia, Spain, and United States; EMDEs: Ghana, India, Thailand, Indonesia, Malaysia, Kenya, and Philippines*

Platforms in AEs reported higher access to relief than those in EMDEs. When relief was available, platforms in AEs and EMDEs generally used the schemes in the same way. However, participation in government job-retention schemes was much more accessible in AEs than in EMDEs. In EMDEs, most platforms that took advantage of government relief schemes received a low/zero-interest loan.

By region, the greatest proportion of firms that used a government support scheme was in Europe (58%), with participation in a government job-retention scheme being the most popular. In APAC, the most used scheme was a tax relief or subsidy, which was different to the most popular schemes used in other regions.

Participation in a government-backed Covid-19 relief measure or stimulus scheme

Only ten digital capital raising platforms responded to this question, all of which had participated as a delivery partner of Covid-19 measures, mostly distributing funds and offering government match-funding schemes to MSMEs. For investment-based models, the top scheme participated in was offering government match-funding schemes, while for non-investment-based models, it was distributing funds to SMEs.

Figure 5.22: 2020 participation in a government-backed Covid-19 relief measure: digital capital raising

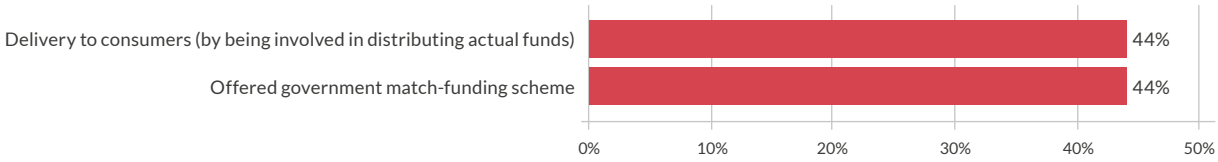


Table 5.11: Example of fintechs' participation in Covid-19 relief measures: digital capital raising

Model	Region or market	Covid-19 relief scheme	Example from the field
Digital capital raising	UK	Delivering government-based stimulus funding	Several UK equity crowdfunding sites delivered government match funding via their sites as part of the UK Future Fund, offering start-ups with earlier equity-based crowdfunding a convertible loan at reduced interest rates.

6. Insurtech

Chapter 6. Insurtech

6.1 Selected vertical highlights

- Insurtech firms reported a 29% growth of premiums collected from USD190 million in 2019 to USD245 million in 2020. Firms in AEs had higher gross premium values than those in EMDEs but, in terms of the number of premiums collected, firms in EMDEs reported higher values in both 2019 and 2020. Overall, market performance indicators suggest that insurtechs were resilient against the impact of Covid-19. Although the number of insurance policy lapses and the value of claims increased slightly, firms reported an overall year-on-year decrease in the number of claims and contractual disputes.
- Insurtech firms reported that 53% of their customers were new, 42% were women, and 62% were from low-income populations. Firms in AEs reported a higher proportion of new and female clients than those in EMDEs, while firms in EMDEs reported a higher proportion of low-income customers compared to those in AEs.
- Looking at the changes to pricing, service agreements, and policies made by insurtech firms due to Covid-19, the key priority for firms was safety, with the top changes being enhancing fraud-prevention measures and cybersecurity features. The most prioritized product that insurtech platforms introduced was enhanced benefits or additional coverage. This was followed by introducing insurance products related to Covid-19.
- The regulatory support measures insurtech firms used the most were those related to core regulatory measures, in particular standardizing business continuity requirements, followed by cybersecurity/fraud-prevention standardization. Firms considered regulatory support for those two measures sufficient. In other areas, however, firms considered that support was insufficient, with insurtechs regarding streamlining product and service approval and faster authorization or licensing processes for new activities as the regulatory support areas most in need of improvement. Overall, fintech firms had a negative perception of the regulatory support received.
- Forty percent of firms reported receiving government relief, with firms in AEs using the schemes more than those in EMDEs. The most used program was job retention.
- Only 25% of firms participated in distributing government relief programs, mainly government match-funding schemes, heavily driven by platforms in Europe.

6.2 Introduction

The activities of insurtechs involve innovatively using technology to enable and digitalize products and services related to the insurance industry.

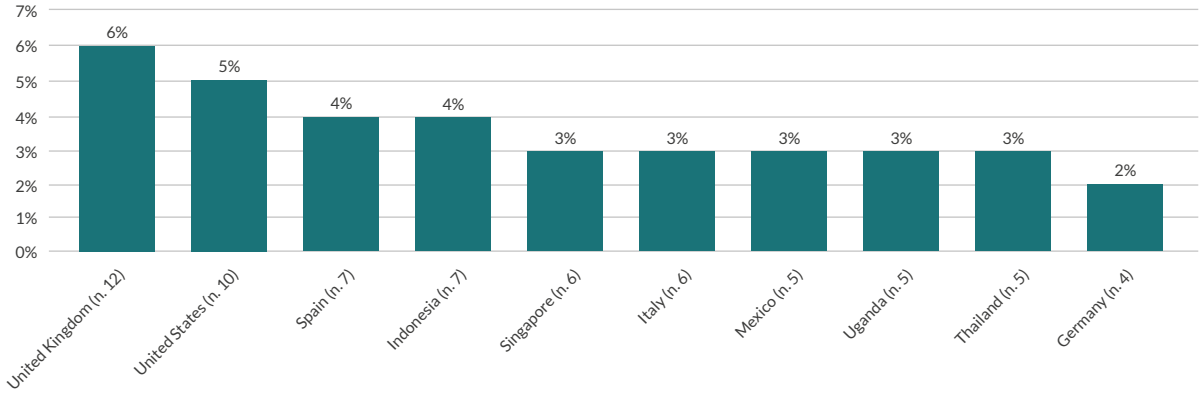
Based on CCAF taxonomy, insurtech is divided into two broad categories: those that cater to retail clients and those providing technology to other insurers.

There are inherent differences between the two categories (essentially retail models issue premiums and generate volumes), hence, wherever findings differ, we state where the analysis is focused (for example, that the qualitative analysis is based only on the retail category).

Overview of respondents

Insurtech platforms represented over 3% of the dataset, with 52 platforms reporting activities under this primary vertical, resulting in 186 observations by country or jurisdiction. Notably, we received fewer responses from this vertical compared to other verticals analyzed in this report. Measured in terms of gross premiums, this panel of insurtechs represented about 4% of the insurtech universe.[34] We ensured that a robust panel of insurtech firms participated in this study, including those firms that had also participated in *The Rapid Assessment Study*. Nevertheless, while this study provides an overview of market trends, continued research is necessary to determine the future robustness of this vertical.

Figure 6.1: 2020 top ten countries by highest observation: insurtechs



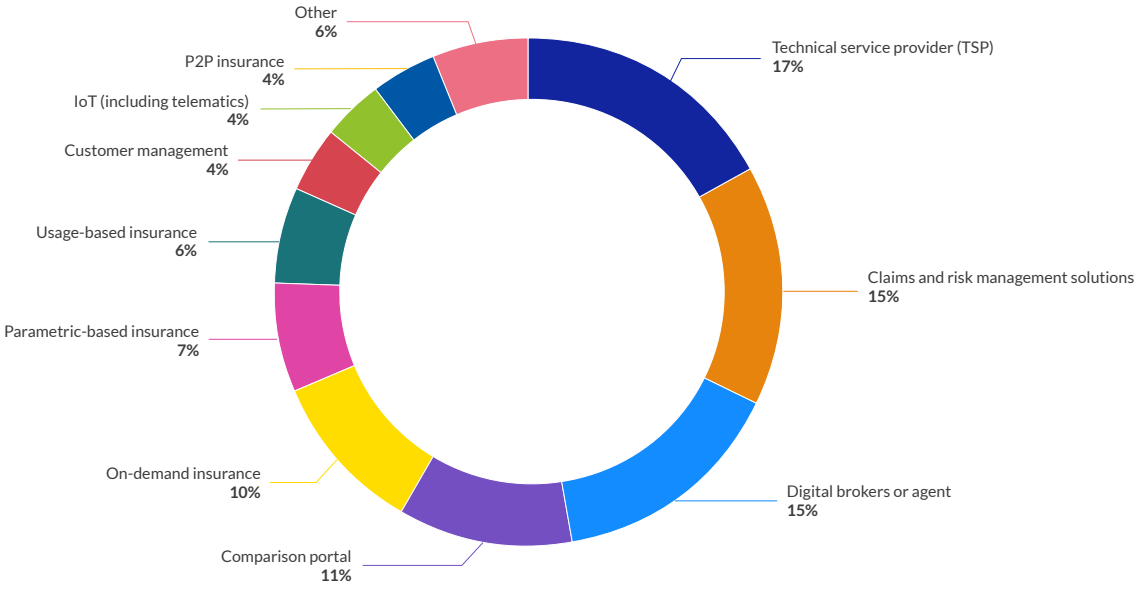
The total number of respondents for the insurtech vertical resulted in 186 observations against countries of operation. Platforms reported operating across 85 countries, with 50% operating in two or more countries during 2020. The countries with the highest number of responses by country of operation were the United Kingdom (12), the United States (10), Spain (7), and Indonesia (7).

Table 6.1: 2020 share of respondents and observations by region: insurtechs

Region	Number of respondents by region	Number of observations by region	Market share of observations (%)
Europe	13	53	29
APAC	12	47	25
United Kingdom	9	12	6
SSA	7	37	20
LAC	5	17	9
North America (US and Canada)	4	13	7
MENA	2	7	4
Total	**52**	**186**	

When looking at the share of observations by region, Europe and APAC accounted for more than half the total observations, followed by SSA which accounted for 20%. Spain and Italy reported the highest number of responses for Europe. In APAC, Indonesia, Singapore, and Thailand were the largest contributors. Europe, followed by APAC and SSA, also reported a high proportion of foreign-based platforms (those with headquarters outside the region). A list of the top countries by number of observations for each region can be found in Appendix 12.

Figure 6.2: 2020 distribution of respondents by model: insurtechs



Insurtech working taxonomy

There are ten business models within the insurtech vertical and 22% of the unique firms reported being active in more than one model. More than half the insurtech firm-level observations belonged to technical service providers (17%), digital brokers or agents (15%), claims and risk management solutions (15%), and comparison portals (11%). By region, Europe, APAC, and the United Kingdom were the most diverse markets in terms of model representation.

Table 6.2: Insurtech working taxonomy

Business model	Stakeholders
Usage-based insurance	Premiums or levels of cover are determined by usage behavior.
Parametric-based insurance	Compensates policyholders automatically based on pre-defined triggers associated with losses.
On-demand insurance	Insurance is extended in real-time for a specific risk event and duration.
P2P insurance	A risk-sharing network where a group of individuals pools premiums.
Technical service provider (TSP)	Enables distribution partnerships with mobile network operators (MNOs), virtual marketplaces, and other consumer aggregation points.
Digital broker or agent	Allows users to buy insurance cover, underwritten by one or multiple insurers.
Comparison portal	Compares insurers and insurance options to facilitate policy selection.
Customer management	Supports insurers in managing customer acquisition.
Claims and risk management solutions	Support insurers in risk management and processing digital claims.
IoT (including telematics)	Remote devices connected to insurance services.

6.3 Market performance

Total value of gross premiums

Globally, in terms of gross premiums collected, insurtechs collected USD245 million in 2020, 29% higher than in 2019 (USD190 million). The analysis showed a higher gross premium and year-on-year growth for firms in AEs (32%) than those in EMDEs (25%). Firms in AEs had higher volumes of gross premiums than those in EMDEs but, in terms of the number of premiums collected, firms in EMDEs reported higher values in both 2019 and 2020. However, in AEs, firms experienced significant growth of 151% in the number of collections, while EMDEs grew by only 7% between 2019 and 2020.

Figure 6.3: 2019–2020 total value of gross premiums by economic development (USD): insurtechs

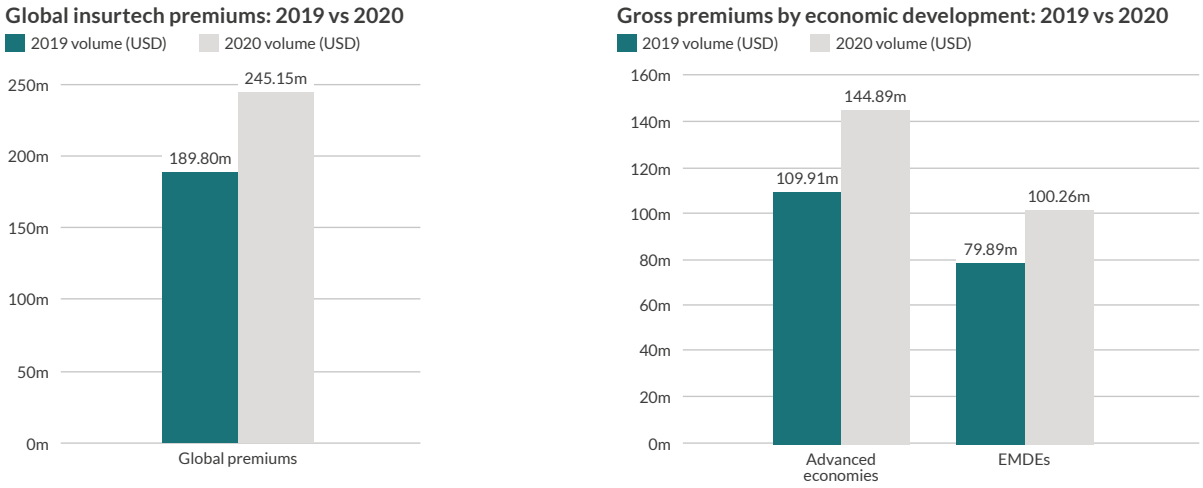
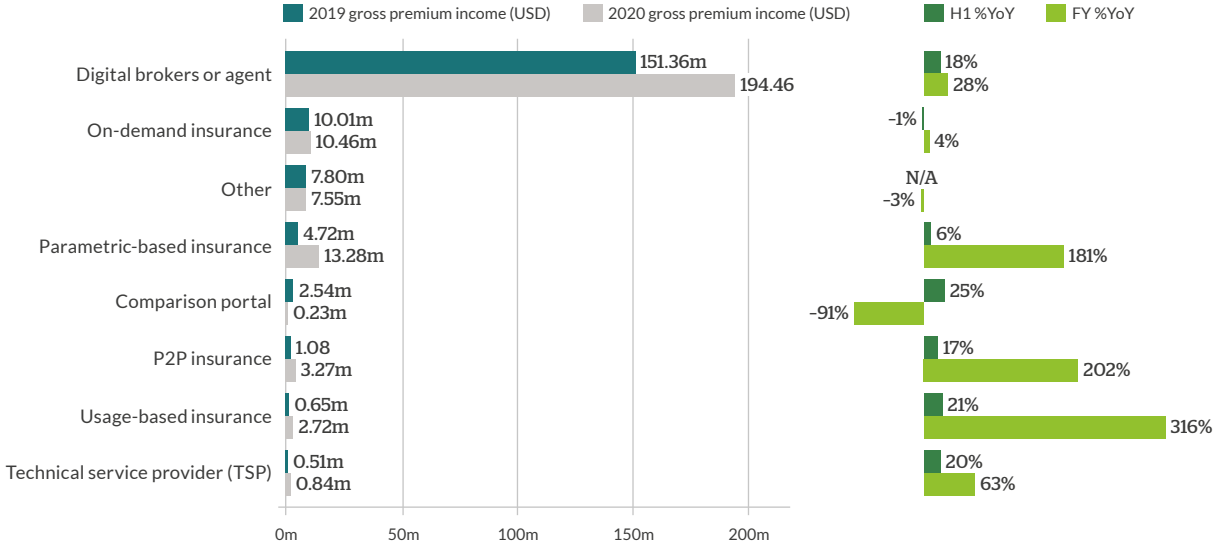


Table 6.3: 2019–2020 total value of gross premiums by region (USD): insurtechs

Region	2019		2020		2019 vs 2020 change in value (%)
	Total value (USD)	Market share (%)	Total value (USD)	Market share (%)	
APAC	48,113,885	25	58,387,187	24	↑ 21
Europe	99,656,702	53	118,409,181	48	↑ 19
LAC	14,864,572	8	13,715,861	6	↓ -8
North America (US & Canada)	2,423,694	1	2,280,941	1	↓ -6
SSA	19,561,527	10	32,043,743	13	↑ 64
United Kingdom	5,181,976	3	20,313,452	8	↑ 292
Total	**189,802,357**	**100**	**245,150,364**	**100**	

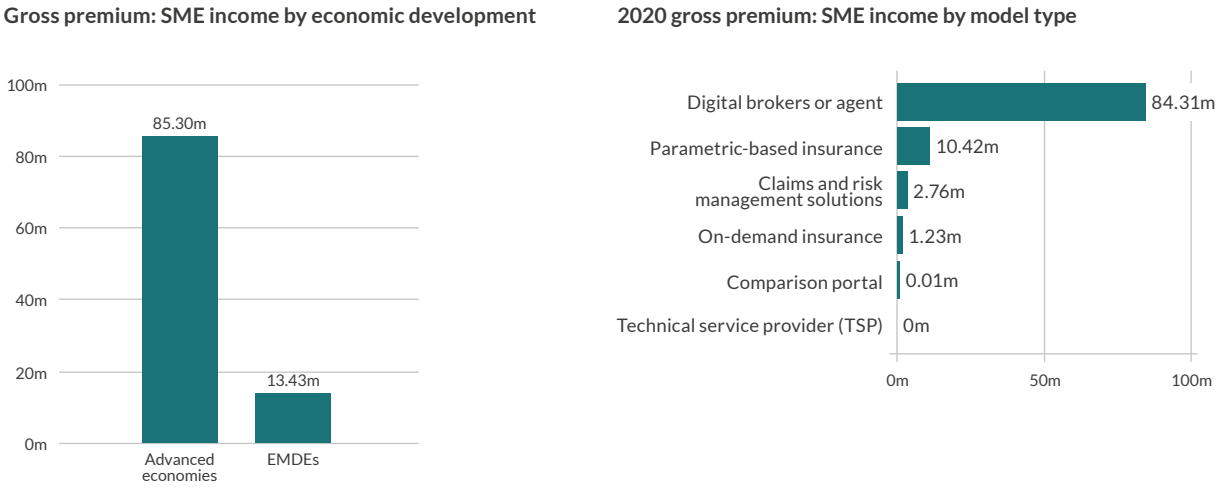
Regarding regional market share of gross premiums collected, insurtech firms in Europe led in terms of volumes, followed by firms in APAC which had the greatest collections among the regions. Similarly, firms in SSA reported a significant growth in gross premium collection. Notably, the increase in gross premium collections for firms in the United Kingdom was significant, quadrupling in 2020 compared to 2019. A list of countries or jurisdictions with their respective value loan of origination for 2019 and 2020, lockdown stringency category, and annual rate of change can be found in Appendix 8.

Figure 6.4: 2019–2020 total value of gross premium income by model (USD): insurtechs



Globally, nearly 80% of gross premiums in both 2019 and 2020 originated from the digital brokers business model. This was true for firms in both AEs and EMDEs, although at a greater level for firms in AEs where it represented 90% of the total value compared to 60% in EMDES.

Figure 6.5: 2020 total value of gross premiums from SME clients by economic development (USD): insurtechs

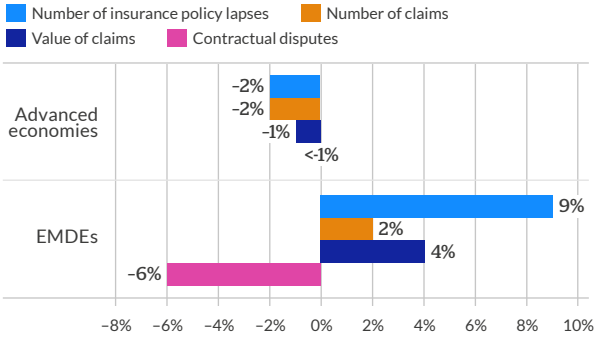


Insurtech firms collected USD98.75 million from 17,302 SME customers in 2020. Nearly 90% of those customers were in AEs. Additionally, in AEs, the digital brokers business model contributed more than 96% (USD82 million) of the premium values in 2020, most of which came from Europe and the United Kingdom. In EMDEs, the parametric-based insurance model registered more than 75% of business values, all of which came from SSA. The remaining values were contributed by digital brokers in APAC.

Market performance indicators

Overall, market performance indicators suggest that insurtechs were resilient against the impact of Covid-19. While the number of insurance policy lapses and the value of claims increased slightly, firms reported an overall year-on-year decrease in the number of claims and contractual disputes.

Figure 6.6: 2019–2020 market performance indicators by economic development (percentage change): insurtechs



**Top markets by economic development: AEs: United Kingdom, Italy, Ireland, Spain, Germany, and Switzerland; EMDEs: Thailand, Indonesia, Nigeria, Kenya, Malawi, and Mali*

However, the situation was different for firms in AEs compared to those in EMDEs. Platforms in AEs reported a slight decrease across all indicators compared to 2019. In contrast, platforms in EMDEs reported an increase across all indicators, except contractual disputes which decreased by 6%.

In terms of impact by region, platforms operating in Europe and LAC improved their performance compared to their position reported in The Rapid Assessment Study. Although there was a slight increase, platforms in Europe reported fewer claims than expected, while in LAC, platforms experienced a significant decrease in the number of insurance policy lapses compared to the increase they were expecting. In contrast, most firms in APAC reported a decrease in the first half of 2020 but experienced an increase in the number of insurance policy lapses after a full year.

Platforms operating in SSA reported an average increase in the number of insurance policy lapses (18%), number of claims (12%), and value of claims (18%).

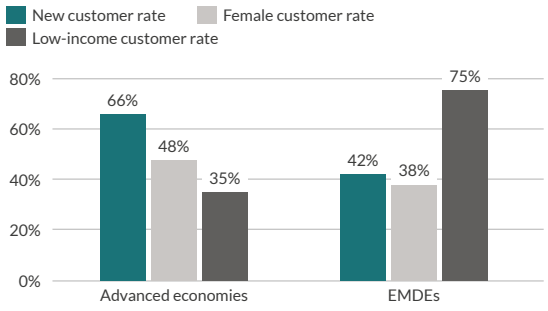
When looking at key models, parametric-based insurance providers reported an increase in the number of insurance policy lapses, and the number and value of claims. On-demand insurance providers also reported slight increases in the number and value of claims but reported a slight decrease in the number of insurance policy lapses.

Platforms operating in jurisdictions with high stringency lockdown measures reported large increases across all indicators, especially those in EMDEs. The only exception was the number of insurance lapses in both AEs and EMDEs, which decreased by 15%. In contrast, the number of insurance policy lapses in jurisdictions with medium stringency lockdown measures grew by 41%, much higher than the global average.

6.4 Client profile and potential contribution to financial inclusion

Analysis of insurtech clients in 2020 indicated that insurtechs played an important role in enabling specific groups to access financial services that have traditionally faced challenges, such as women and low-income customers, which we discuss in more detail below. In this regard, low-income customers were a significant focus for insurtech firms, accounting for 62% of the customers served in 2020. Additionally, first-time customers and female customers accounted for 53% and 42% of insurtech customers, respectively. However, these findings should be followed up and compared with similar information from traditional firms to better understand the full impact that insurtech firms are having on financial inclusion.

Figure 6.7: 2020 proportion of customers by economic development: insurtechs



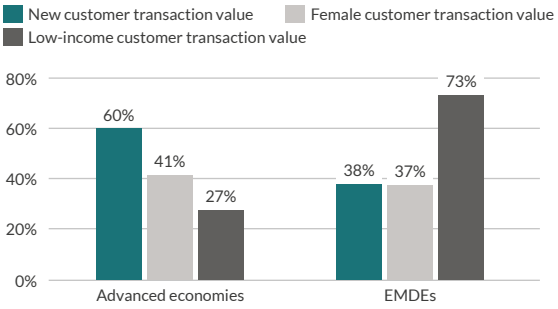
In terms of customers by economic development, firms in AEs reported a greater proportion of new and female clients than those in EMDEs. However, firms in EMDEs had a greater proportion of low-income customers than those in AEs.

The regional breakdown showed that the United Kingdom had the greatest increase in first-time customers (80%), followed by APAC. In terms of female clients, insurtech firms in Europe reported the highest proportion at 50%. In terms of low-income groups, platforms in LAC reported that more than 80% of their clients were from that demographic.

When analyzing by key model, we found that retail-facing models in general, such as on-demand, digital brokers, and parametric-based platforms, reported more (over 50%) new clients than market provisioning models. On-demand and digital brokers also catered to a higher proportion of clients from low-income groups, while market provisioning firms, such as technical service providers, had slightly higher numbers of female customers.

When considering lockdown stringency levels, firms in jurisdictions with high stringency lockdown measures reported greater proportions of new customers, female customers, and low-income customers compared to firms in jurisdictions with low stringency lockdown measures.

Figure 6.8: 2020 customer values by economic development: insurtechs



Premium values showed a similar trend as that observed for customer acquisition. Globally, the three customer bases explored (low-income customers, new clients, and female customers) represented a significant proportion of premium values. The premium values from low-income customers was 58%, 49% from new customers, and 39% from female customers.

However, there were significant differences between firms in AEs and those in EMDEs.

Insurtech firms in AEs reported a higher proportion of new customer and female customer premium values compared to those in EMDEs. However, low-income customer premium values were higher among insurtechs in EMDEs.

A regional breakdown indicated that the United Kingdom had the highest proportion of new customer premium values at 68%. This was followed by Europe with 63%. Female customer premium values were the highest in APAC, while firms in LAC reported the highest premium values from low-income customers.

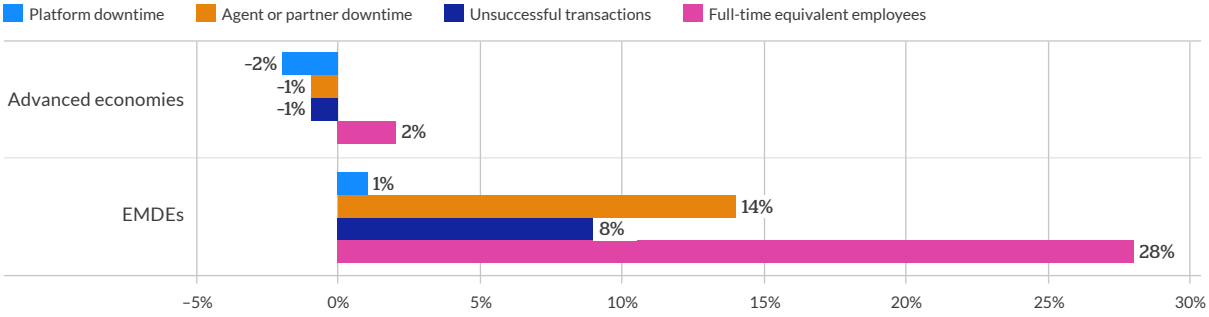
In terms of key models, retail-facing models, such as on-demand and parametric models, reported that more than half their premium values came from new customers. However, digital brokers, with nearly 60% of new customers, reported that only one-quarter of their values came from new customers. Further, the values from low-income customers were higher for retail-facing models compared to market provisioning firms, with key models such as on-demand and digital brokers reporting nearly 80% of values from this customer group.

6.5 Market resilience and financial health

Impact on operational indicators

Like other verticals, the growth in activities came with operational challenges. Insurtech firms experienced increases in the number of unsuccessful transactions and agent or partner downtime (1% and 3%, respectively), although the increase was not as high as firms had anticipated in *The Rapid Assessment Survey*. In contrast, firms reported decreases in platform downtime.

Figure 6.9: 2019–2020 operational impact and employment type change by economic development (percentage change): insurtechs



**Top markets by economic development: AEs: United Kingdom, United States, Italy, Spain, France, Germany, Singapore, and Switzerland; EMDEs: Indonesia, Mexico, Thailand, Uganda, Cambodia, Dominican Republic, Kenya, Malaysia, Nigeria, and Philippines*

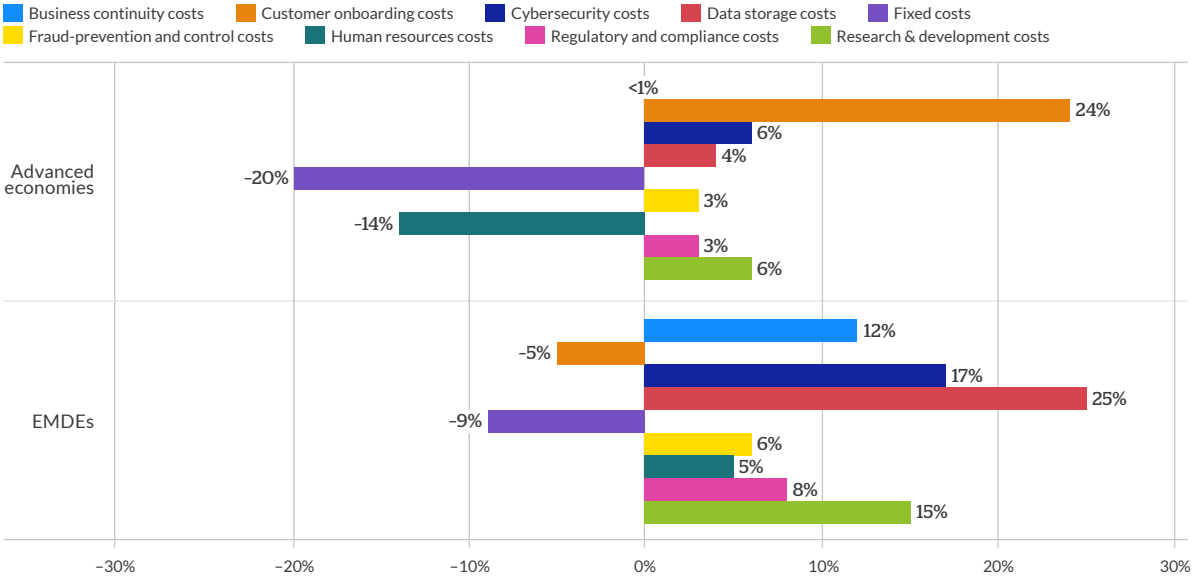
By economic development, firms in AEs were more resilient than those in EMDEs for all operational indicators. At the regional level, trends were not uniform. The number of unsuccessful transactions increased the most in firms in SSA and LAC (14% each). Partner downtime increased the most in firms in LAC and APAC (33% and 22%, respectively). Across all regions, European firms were more resilient, reporting decreases in all indicators. In terms of lockdown stringency measures, firms in AE jurisdictions with low stringency lockdown measures reported lower platform downtime and agent or partner downtime.

Globally, insurtechs reported a 10% increase in the number of full-time equivalent employees from 2019 to 2020, which was much higher than the 1% increase reported for H1-2020. As shown in Figure 6.9, the increase in employee number was mainly due to firms in EMDEs. By region, firms in SSA and LAC reported a large increase in the number of full-time equivalent employees (34% and 50%, respectively). By lockdown stringency measures, firms in jurisdictions with low stringency lockdown measures reported smaller increases in the number of FTEs compared to those in jurisdictions under high stringency lockdown measures.

Expenditure changes in 2020

Globally, firms reported an increase in all costs, except fixed costs, which decreased by 17%. However, there were important differences between firms in AEs and those in EMDEs. In particular, firms operating in AEs reported high increases in customer onboarding costs (led by European firms), while for firms in EMDEs, this cost decreased. Firms in EMDEs experienced increased human resources costs, while firms in AEs reported a significant decrease. All other costs, except fixed costs, increased for firms in both AEs and EMDEs, albeit by different proportions. Finally, fixed costs decreased in firms in both AEs and EMDEs, but the decreases were more significant in AEs.

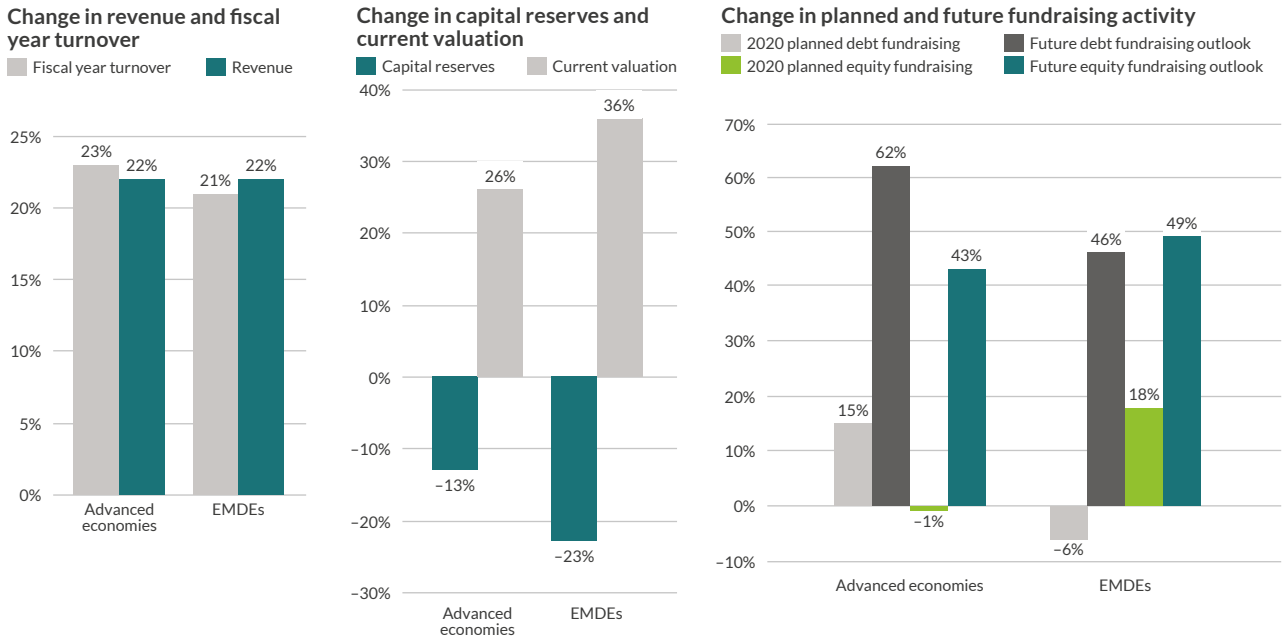
Figure 6.10: 2019–2020 cost structure changes by economic development (percentage change): insurtechs



Financial positioning changes in 2020

Globally, insurtech firms reported an increase of 22% in both fiscal year revenue and turnover in 2020 compared to 2019.

Figure 6.11: 2019–2020 Covid-19 impact on (a) revenue and fiscal turnover, (b) capital reserves and current valuation, and (c) planned and future fundraising activity, AEs vs EMDEs (percentage change): insurtechs



**Top markets by economic development: AEs: United Kingdom, United States, Spain, Italy, and Singapore; EMDEs: Indonesia, Mexico, Thailand, Uganda, India, and Malaysia*

No significant differences were observed between firms in AEs and those in EMDEs. Globally, all regions reported increases in revenue and turnover. However, firms in APAC had the largest increases in both fiscal year revenue (31%) and turnover (26%).

All regions also reported a decrease in capital reserves but a large increase in current valuation. This trend applied to firms in both AEs and EMDEs. In terms of financing activities, future debt and equity financing prospects for platforms in AEs increased by 62% and 43%, whereas in EMDEs, they increased by 46% and 49%, respectively. Additionally, platforms in EMDEs reported a slight increase in 2020 planned equity fundraising, while in AEs, there was a slight increase in platforms' planned debt fundraising for 2020. This indicates that Covid-19 did not affect firms' appetite for long-term financing.

Analysis by lockdown restrictions in terms of capital reserves, current valuation, and planned and future fundraising activity, suggested that firms in jurisdictions with high stringency lockdown measures were more resilient and had a more positive outlook of the market than those in jurisdictions with low stringency lockdown measures.

Stage of business development

When insurtech firms were asked what their most recent fundraising activities were, most firms in both AEs and EMDEs reported being in mid-stage growth, identifying as Series A firms. However, one-quarter of insurtechs reported being at seed or earlier, reflecting that the market is young, but growing.

Table 6.4: 2020 stage of business development by economic development level: insurtechs

Recent fundraising activity	Advanced economies (%)	EMDEs (%)	Total (%)
Pre-seed or earlier	2	0	3
Seed or pre-series	18	4	22
Series A	40	16	46
Series B	12	3	15
Series C+		4	4
Total	72	28	100

**Top markets by economic development: AEs: United Kingdom, United States, Italy, Spain, and France; EMDEs: Indonesia, Cambodia, Malaysia, Mexico, Philippines, and Thailand*

6.6 Market dynamics

Changes in pricing, service agreements, and policies

Fifty-two percent of insurtechs reported changing their pricing, service agreements, and policies. Firms prioritized safety, with the main changes being enhancing fraud-prevention measures and cybersecurity features. Firms gave less priority to changing pricing structures such as payment holidays and easing payments. These trends applied equally to firms operating in AEs and EMDEs.

Figure 6.12(a): 2020 top changes implemented to pricing, service agreements, and policies in EMDEs: insurtechs

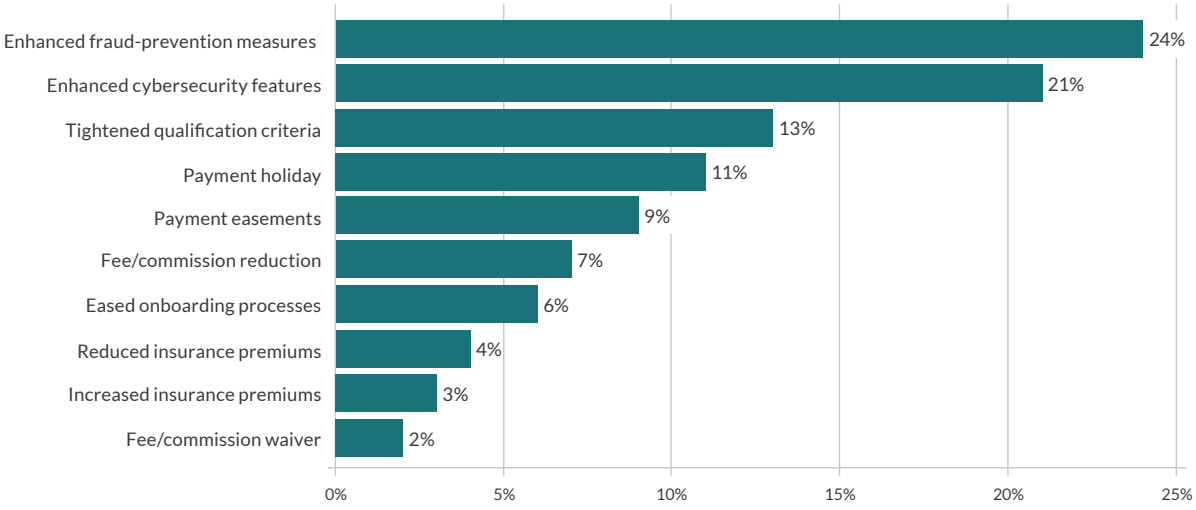


Figure 6.12(b): 2020 implementation status of changes in pricing, service agreements, and policies in EMDEs: insurtechs

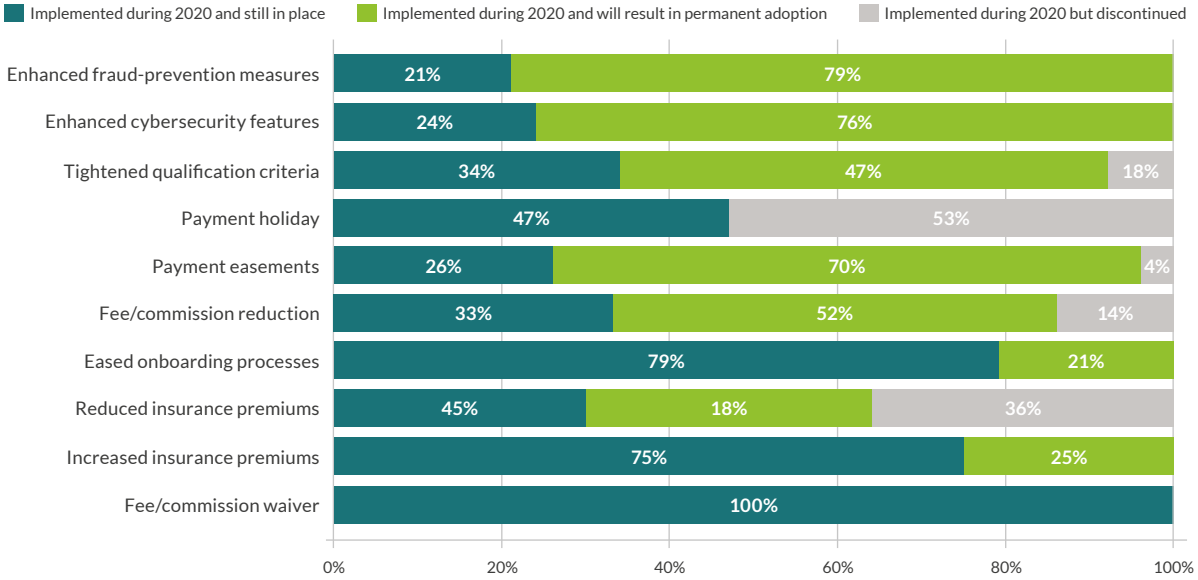


Figure 6.12(c): 2020 top changes implemented to pricing, service agreements, and policies in AEs: insurtechs

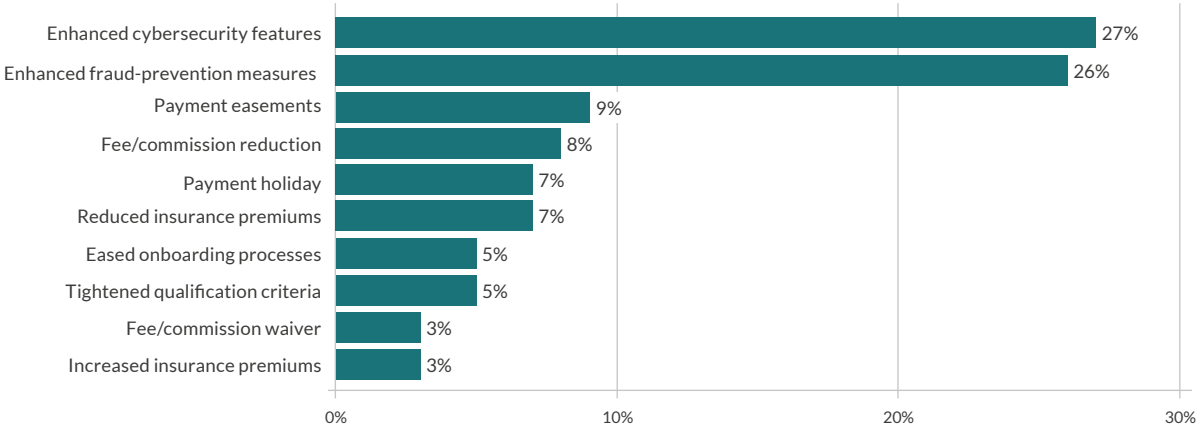
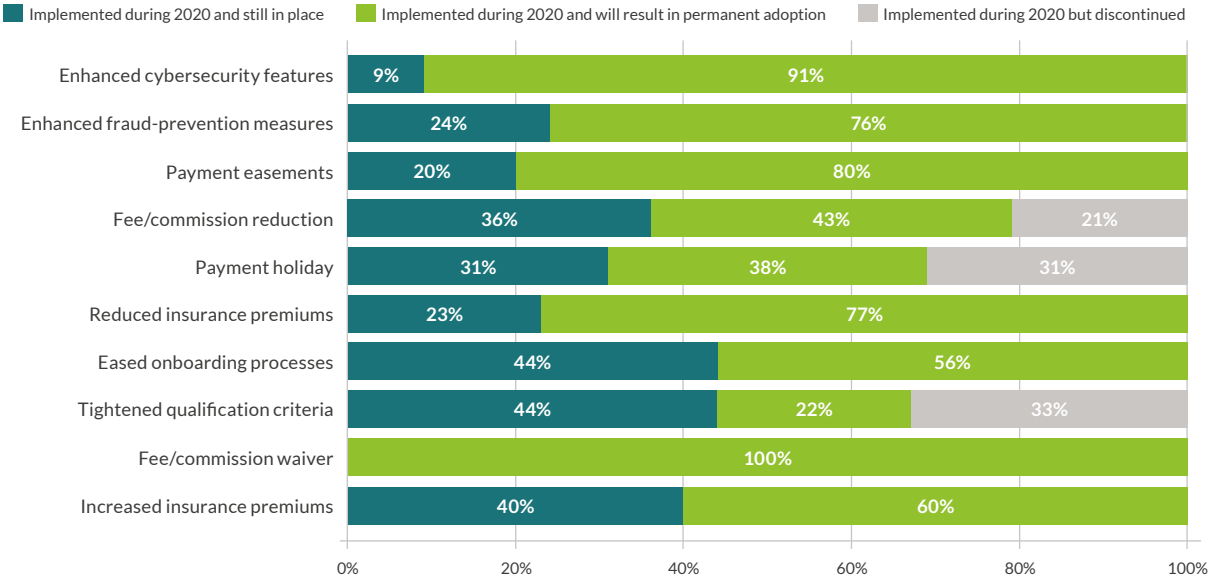


Figure 6.12(d): 2020 implementation status of changes in pricing, service agreements, and policies in AEs: insurtechs



**Top markets by economic development: AEs: United Kingdom, United States, Italy, Spain, Japan, and Singapore; EMDEs: Indonesia, Kenya, Mexico, Malawi, Thailand, South Africa, and Uganda*

In terms of lockdown stringency, firms in jurisdictions with high stringency lockdown measures followed the global trend where fraud-prevention measures and cybersecurity features were the key priorities. In contrast, firms in jurisdictions with low and medium stringency lockdown measures prioritized tightening qualification criteria.

When considering implementation status, all firms reported that changes related to enhancing fraud prevention and cybersecurity were still in place and may be permanently adopted. Tightening qualification criteria and payment holiday changes, however, were discontinued by most firms and did not become permanent business practices.

Table 6.5: Example of changes to pricing, service agreements, and policies in response to Covid-19: insurtechs

Model	Region or market	Change to pricing, service agreements and policies	Example from the field
Insurtech	North America	Fee/commission waiver	A Canadian insurtech firm offered a free three-month trial of its Health Benefits Experience platform to help alleviate the healthcare and administrative overload that human resources teams were experiencing during the Covid-19 pandemic.

Changes in product and service offerings

Sixty-two percent of insurtechs changed their product and service offerings. In 2020, the most popular product that insurtech platforms introduced was enhanced benefits or additional coverage, followed by introducing insurance products related to Covid-19 and value-added non-financial services.

Figure 6.13(a): 2020 top changes implemented to product and service offerings in EMDEs: insurtechs

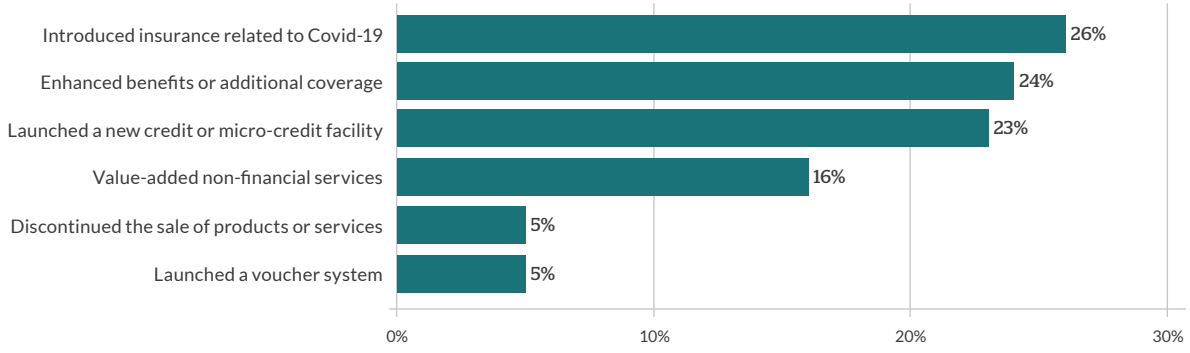


Figure 6.13(b): 2020 implementation status of changes in product and service offerings in EMDEs: insurtechs

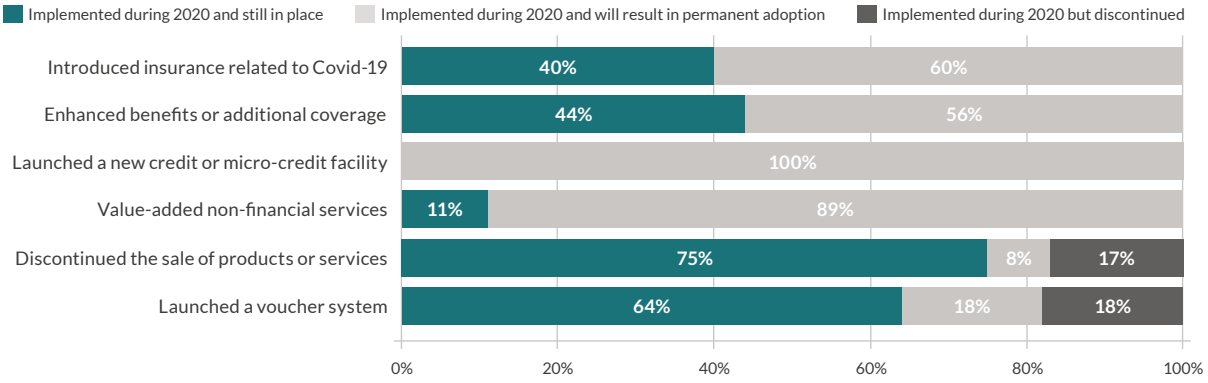


Figure 6.13(c): 2020 top changes implemented to product and service offerings in AEs: insurtechs

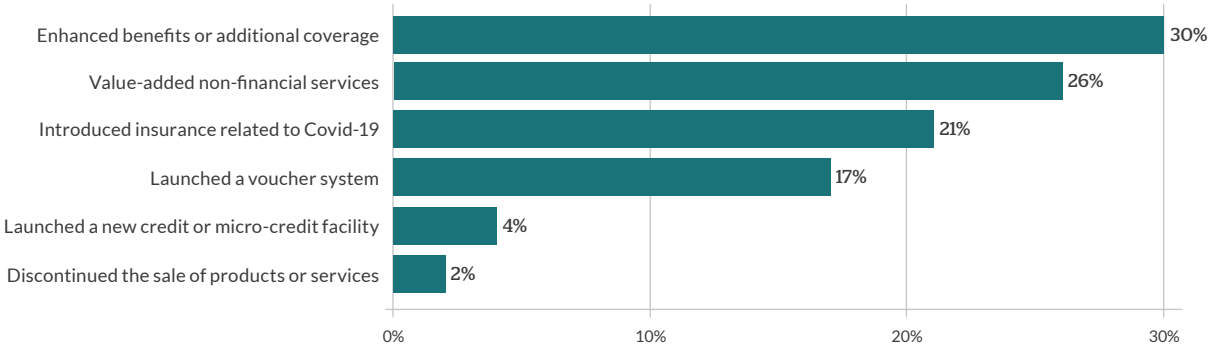
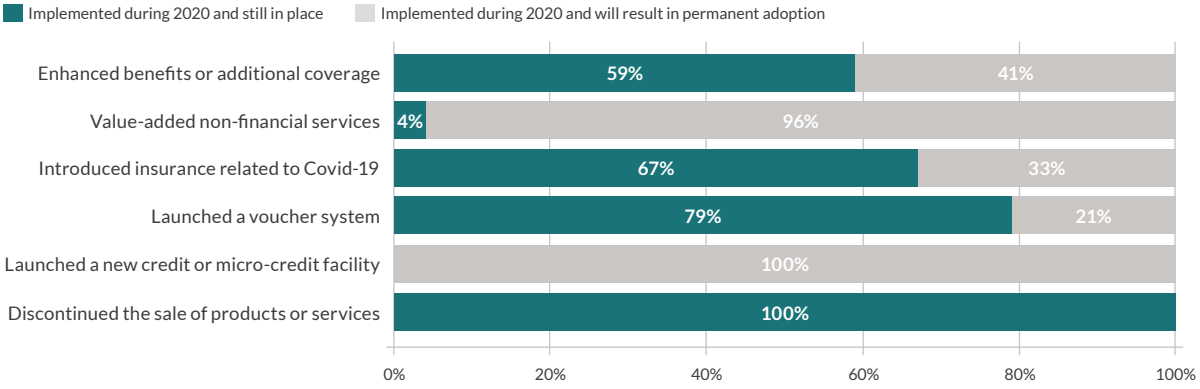


Figure 6.13(d): 2020 implementation status of changes in product and service offerings in AEs: insurtechs



**Top markets by economic development: AEs: United Kingdom, United States, Spain, Italy, and Singapore; EMDEs: Indonesia, Mexico, Thailand, Uganda, India, Kenya, and Malaysia*

Introducing insurance products related to Covid-19 was the main change implemented by firms in EMDEs. This was followed by enhancing benefits or additional coverage and launching new credit or micro-credit facilities. For firms in AEs, the most popular changes to product offerings were enhancing benefits or additional coverage, and value-added non-financial services.

By region, enhancing benefits or additional coverage and introducing insurance related to Covid-19 were among the top three changes across most regions. Firms in SSA also prioritized launching new credit or micro-credit facilities, and for European firms, it was launching voucher systems. Firms in APAC also prioritized introducing value-added non-financial services. Across all lockdown stringency levels, the top change was enhancing benefits or additional coverage, followed by introducing insurance related to Covid-19 and value-added non-financial services.

In terms of implementation status, most changes were still in place at the time of the survey or had been permanently adopted. Only a few firms reported discontinuing voucher systems and selling products or services.

Table 6.6: Examples of new or updated fintech products launched in response to Covid-19: insurtechs

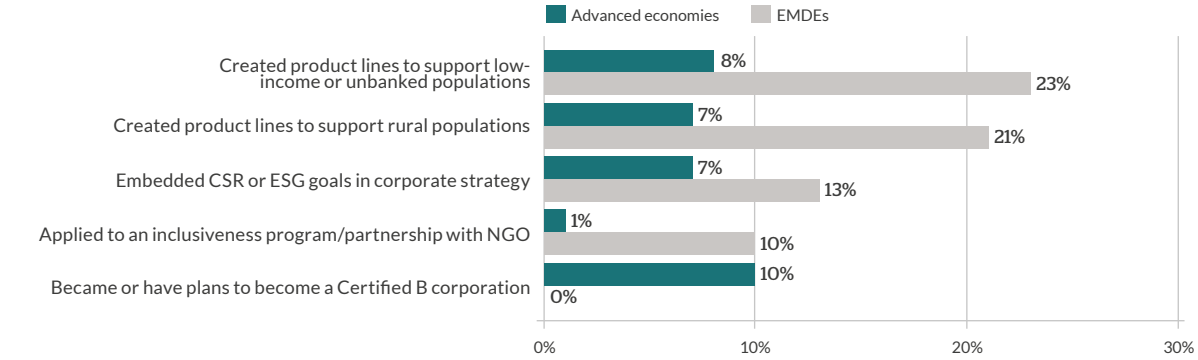
Model	Region or market	Change to existing/new or updated	Example from the field
Insurtech	APAC	Launched Corona Care	An Indian-based company launched Corona Care, an insurance product dedicated to the Covid-19 pandemic.
	APAC	Launched an insurtech service	An Indian-based firm introduced a Coronavirus term service offering a life insurance policy that would take care of the policyholder and their family in case of any negative eventuality caused by Covid-19.

Sustainability or inclusion initiatives

A total of 17 insurtech firms responded to the question on sustainability or inclusion initiatives, accounting for 33% of total unique insurtech firms in this study. Hence, the analysis in this section relates to that proportion of respondents.

The most pursued sustainability initiatives by insurtechs globally were those aimed at financial inclusivity, for example, creating product lines to support low-income (29%) and rural (27%) populations.[35]

Figure 6.14: 2020 sustainability or inclusion initiatives by economic development: insurtechs



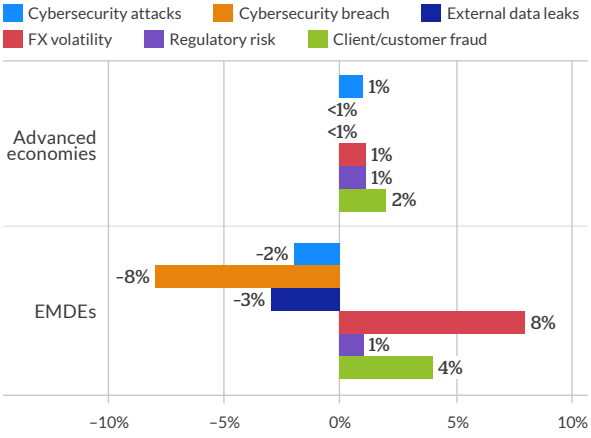
**Top markets by economic development: AEs: United Kingdom, United States, Italy, and Switzerland; EMDEs: Mexico, Uganda, Brazil, Kenya, Cambodia, Nigeria, Indonesia, and Philippines*

The top initiatives pursued by firms in EMDEs were creating product lines to support low-income or unbanked populations and rural populations. An initiative that firms in EMDEs did not pursue, but was the most popular for those in AEs, was becoming or planning to become a Certified B Corporation. Certified B Corporation status was given to for-profit organizations that achieved a certain score or higher against a set of social and environmental standards.

6.7 Potential business disruptors in a Covid-19 environment

Globally, firms reported an increase in all key risks, except cybersecurity. Overall, the greatest increase was in foreign currency volatility risks, followed by client/customer fraud. Notably, as with cybersecurity risks, breach risks decreased in 2020 compared to 2019. By business model, technical service providers reported the highest increase in foreign currency volatility.

Figure 6.15: 2019–2020 potential disruptor changes by economic development (percentage change): insurtechs



Analysis by income level revealed significant differences between firms operating in AEs and those in EMDEs. Firms in AEs reported smaller increases in potential disruptors than firms operating in EMDEs. Firms in EMDEs reported greater levels of disruption, with significant decreases in cybersecurity breaches and increases in foreign exchange volatility. For firms in AEs, risks stayed the same between 2019 and 2020, although there were slight increases in client/customer fraud risks and foreign currency volatility.

By region, companies in LAC reported decreases in all disruptors in 2020 compared to 2019. In Europe, firms generally reported no changes in risks.

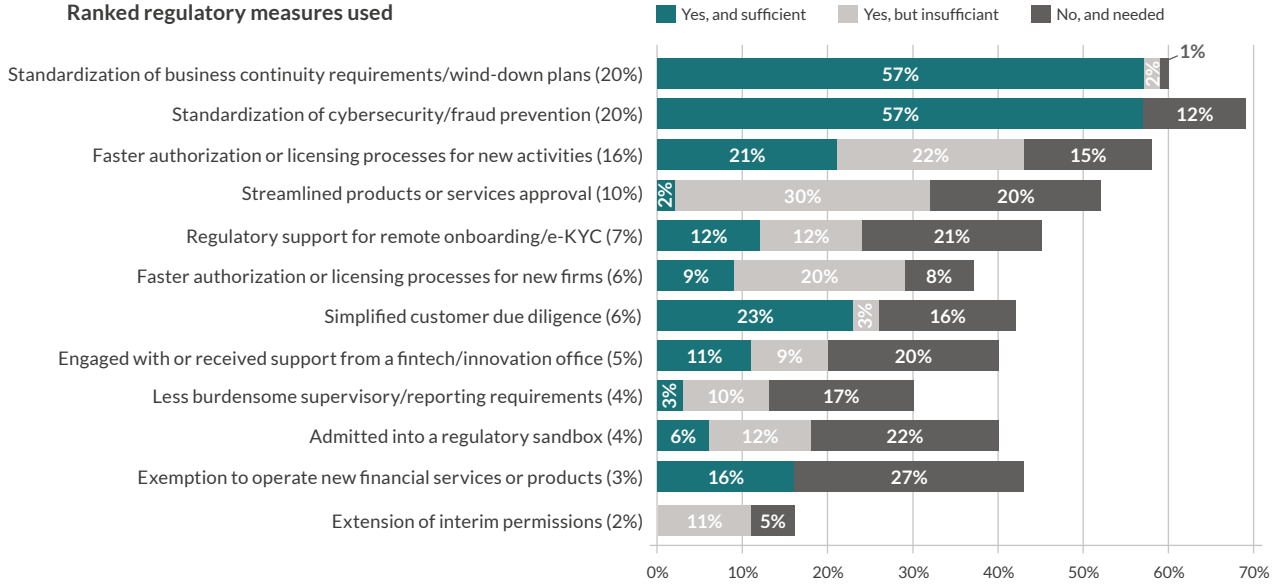
6.8 Regulation, policy, and government intervention

Use of regulatory support

When asked about regulatory measures used to support their fintech business in 2020, 66% of insurtechs reported using at least one regulatory support mechanism. Of those that did, the most used measures were those related to core regulatory measures. Standardizing business continuity requirements was the most used regulatory mechanism, followed by cybersecurity/fraud-prevention standardization, faster authorization or licensing processes of new activities, and streamlined product or service approval.

When looking at whether platforms regarded these measures to be sufficient, the results varied depending on the area of regulatory support. Across the top two measures, most firms regarded the support as sufficient. In contrast, most firms reported insufficient support or required support for faster authorization or licensing processes of new activities and streamlined product or service approval. Overall, insurtechs regarded these areas as the ones most in need of improved regulatory attention.

Figure 6.16: 2020 regulatory support initiatives: insurtechs use and needs



**Note that 'N/A' and 'No, and not needed' responses have been omitted from this chart.*
***Top markets by economic development that used regulatory measures: AEs: United Kingdom, Singapore, Spain, United States, Ireland, and Italy; EMDEs: Indonesia, Mexico, Thailand, Brazil, Malawi, Nigeria, Dominican Republic, India, and Kenya*
****Top markets by economic development that did not use regulatory measures but needed support: AEs: Singapore, and United States; EMDEs: Indonesia, and Mexico*

Lockdown stringency analysis revealed that while platforms in jurisdictions with high stringency lockdown measures followed the general trend, those in jurisdictions with low stringency lockdown measures prioritized faster authorization or licensing processes of new activities and did not use support for standardizing business continuity requirements.

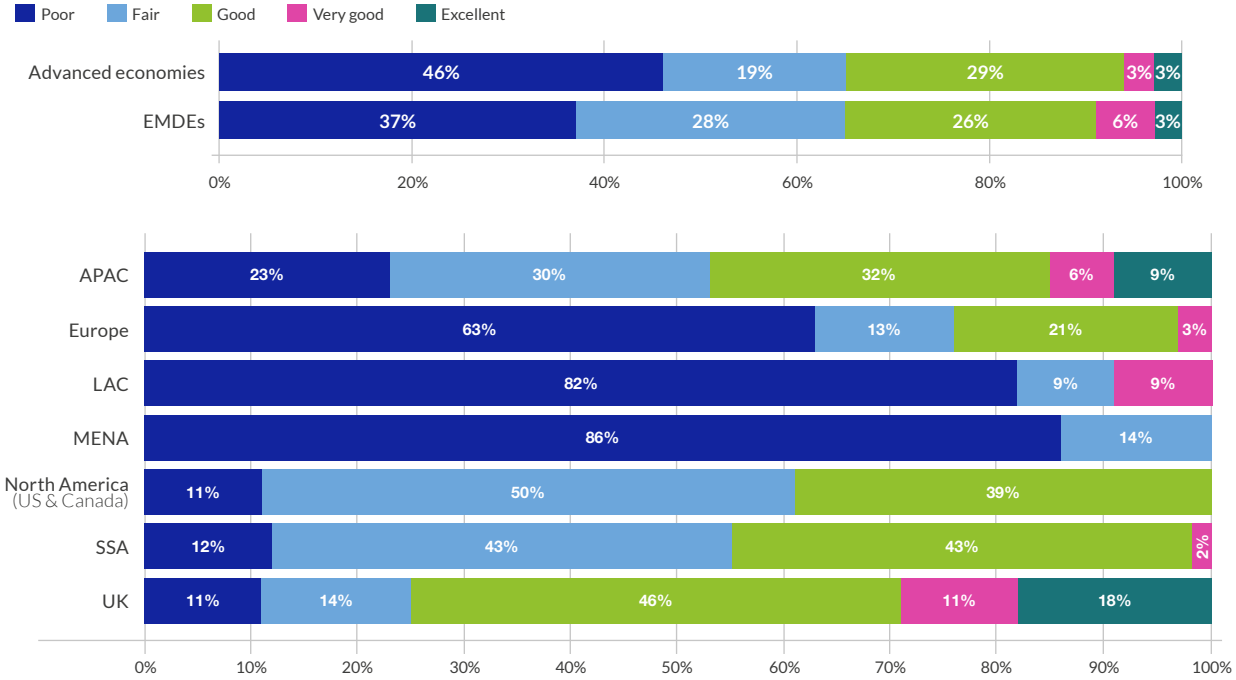
Table 6.7: Example of fintechs using regulatory mechanisms or interventions during the Covid-19 pandemic: insurtechs

Model	Region or market	Regulatory support used	Example from the field
Insurtech	LAC	Admitted into a regulatory sandbox (for example, a digital sandbox)	Brazilian insurtech firms participated in a sandbox to promote the creation of innovative products and services in the insurtech market.

Regulatory response rating

Globally, insurtech firms had a negative perception of regulatory responses, with 37% rating them as poor and 23% as fair.

Figure 6.17: 2020 regulatory response rating by (a) economic development and (b) region: insurtechs



**Top markets by economic development:*
By negative rate – AEs: United States, Spain, Singapore, Switzerland, and United Kingdom; EMDEs: Mexico, Uganda, Cambodia, South Africa, Indonesia, Thailand, and Philippines
By positive rate – AEs: United Kingdom, Italy, Singapore, Spain, Canada, Hong Kong, Ireland, and United States; EMDEs: India, Indonesia, Kenya, Malawi, Malaysia, and Thailand

Satisfaction levels with regulatory responses were the same for firms in AEs and EMDEs, with 65% expressing dissatisfaction and rating them as either fair or poor.

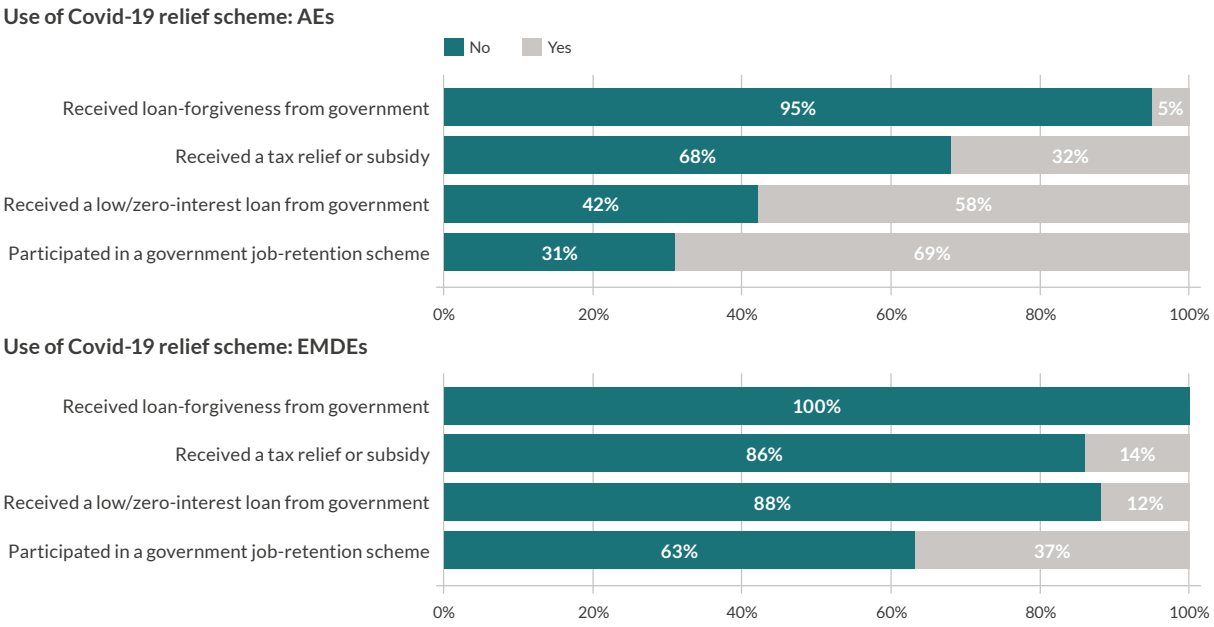
Regional breakdown analysis indicated that platforms in LAC (91%) and Europe (76%) were the most dissatisfied with regulatory responses. While also expressing negative views overall, platforms in APAC and SSA reported slightly lower levels of dissatisfaction.

Lockdown stringency analysis revealed significant differences in firms' views of regulatory responses based on the severity of lockdown measures. While still mainly negative (the majority indicating fair and poor), firms in jurisdictions with high stringency lockdown measures were more satisfied with regulatory responses compared to those in jurisdictions with low stringency lockdown measures.

Use of Covid-19 relief schemes

Globally, most insurtech firms reported not using any Covid-19 relief schemes, with only 40% using them. More firms operating in AEs used these schemes (49%) compared to those in EMDEs (18%), which is as expected because AEs were able to provide access to relief schemes at a larger scale than EMDEs. For firms in both EMDEs and AEs, the most used Covid-19 relief scheme was participation in a government job-retention scheme. However, firms in AEs also took advantage of other measures including receiving a government low- or zero-interest loan.

Figure 6.18: 2020 use of Covid-19 relief schemes by (a) AEs and (b) EMDEs: insurtechs



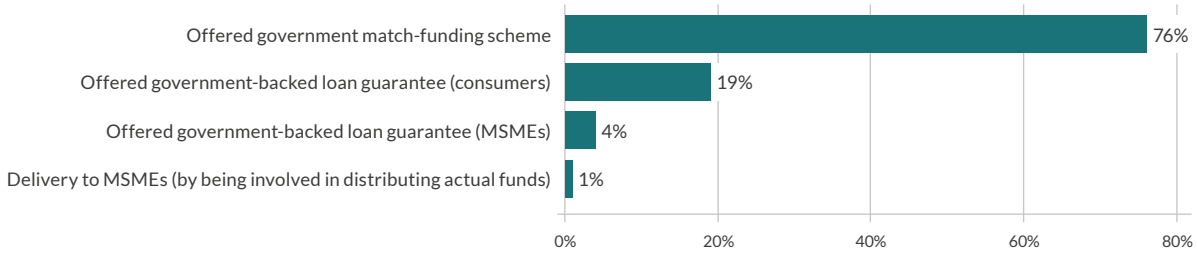
**Top markets by economic development: AEs: United Kingdom, United States, Canada, Ireland, and Italy*

In terms of region, the highest proportion of platforms using Covid-19 relief schemes were those operating in Europe, where they participated in government job-retention schemes or received a government low/zero-interest loan. By lockdown stringency, more insurtech platforms in jurisdictions with high stringency lockdown measures reported using all government relief schemes, except receiving government low/zero-interest loans This scheme, however, was the most used by platforms in jurisdictions with low stringency lockdown measures.

Participation in a government-backed Covid-19 relief measure or stimulus scheme

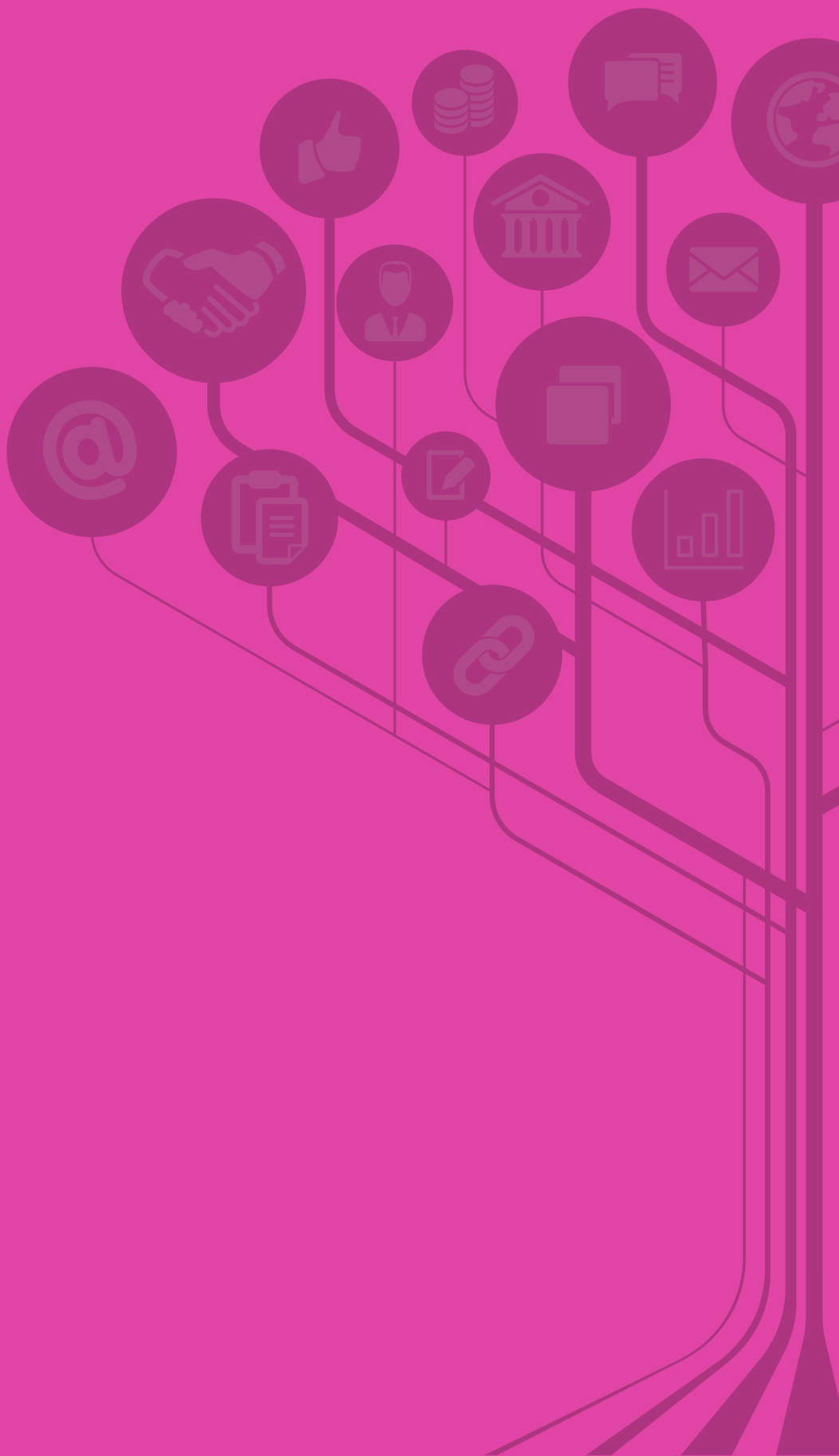
Of the insurtech platforms that responded to this question, 75% answered 'not applicable', suggesting that most did not participate in a government-backed Covid-19 relief measure or stimulus scheme as a delivery or implementation partner.

Figure 6.19: 2020 participation in a government-backed Covid-19 relief measure: insurtechs



Of those platforms that did participate, 76% took part in a government match-funding scheme, which was heavily driven by platforms in Europe (93%). In terms of impact on revenue, only 17% of those that had participated in a scheme reported that doing so had positively impacted their revenue. Conversely, 46% of those firms that had not participated reported that this had negatively impacted their business.

7. Market provisioning



Chapter 7. Market provisioning

7.1 Selected vertical highlights

- Market provisioning firms reported an increase in the number of unique corporate clients from 338 000 in 2019 to 473 000 in 2020. Firms in EMDEs reported the highest number of clients in 2019 and 2020, accounting for 99% and 94% of unique corporate clients, respectively. Firms in AEs did experience a higher rate of growth, albeit from a very low base.
- In terms of pricing, service agreements, and policy changes, firms prioritized safety and pricing structure changes such as cybersecurity, fraud prevention and introducing payment plans. The most common change to product and service offerings was introducing value-added non-financial services such as information services.
- The most used regulatory support mechanism was regulatory support for remote onboarding, followed by simplified customer due diligence and engagement with an innovation office. In terms of satisfaction levels, most firms reported that current measures were insufficient, especially for core support measures related to pricing and supporting a fintech as a business. Despite dissatisfaction with support for specific measures, most firms positively rated the overall regulatory responses.
- Globally, only 15% of market provisioning platforms reported using Covid-19 relief schemes. Of those, most (43%) received a tax relief or subsidy.

7.2 Introduction

The term 'market provisioning' refers to those fintech models that help provide financial services by offering services, infrastructure, and support mechanisms to the fintech ecosystem. These mechanisms include regtech, alternative credit and data analytics, digital identity, and enterprise technology provisioning.

Overview of respondents

Market provisioning firms accounted for nearly 13% of our dataset with 182 unique respondents. By headquarter country, enterprise technology provisioning respondents accounted for 47%, followed by regtech at 27%. Alternative credit and/or data analytics firms were third, accounting for 14%, followed by digital identity at 12%.

Figure 7.1: 2020 proportion of models (percentage of respondents): market provisioning

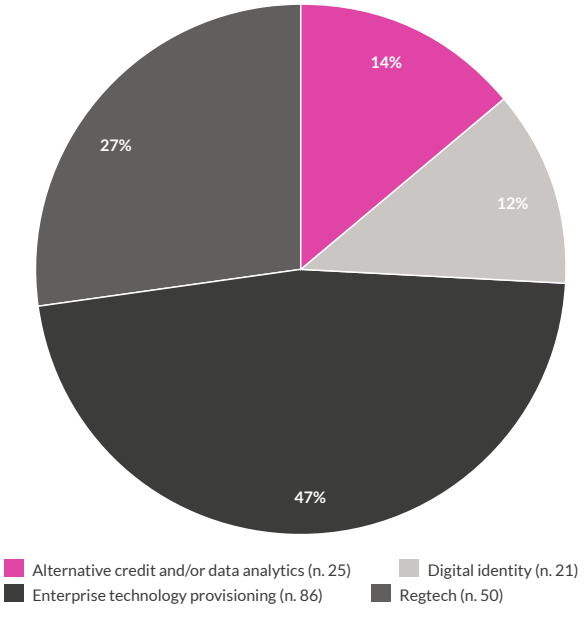
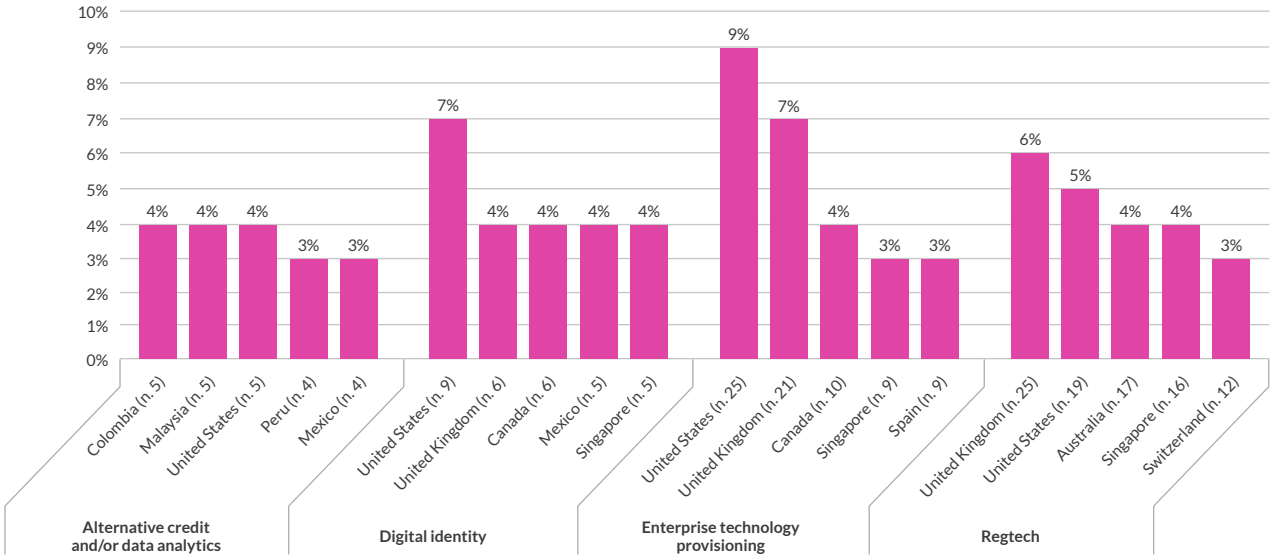


Figure 7.2: 2020 top five countries by firm-level observations: market provisioning



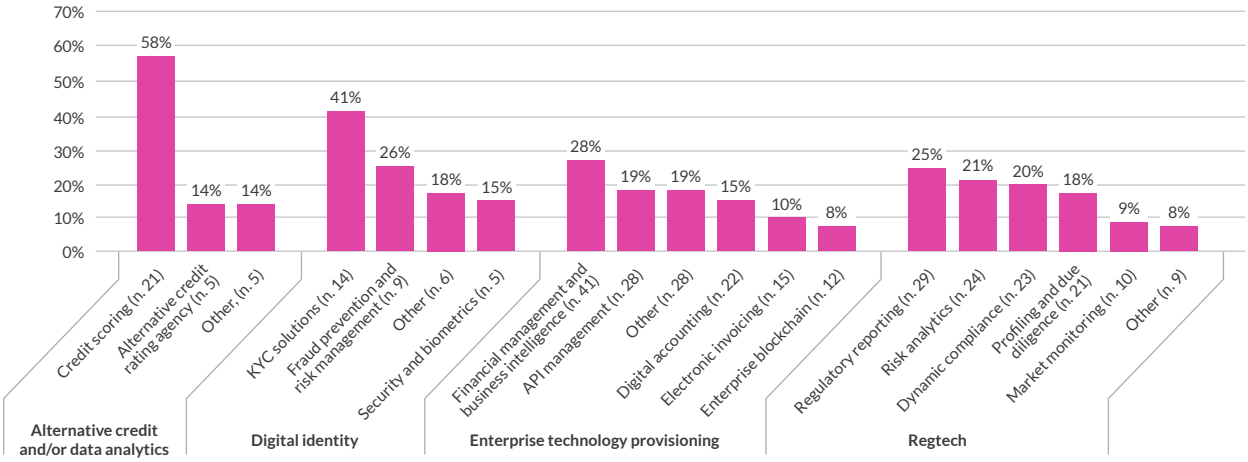
Our analysis of market provisioning firms was based on 949 country-level observations across all four models. Regtech accounted for the highest number of country-level observations (403), followed by enterprise technology provisioning (283), digital identity (134), and alternative credit and/or data analytics (129). Although most respondents, across all models, came from firms operating in AEs (as seen in Figure 7.2), a substantial number operated in a few large EMDEs, including Colombia, Peru, Malaysia, and Mexico. For instance, firms operating in enterprise technology provisioning (other than those just mentioned), also reported greater activities in Japan, Italy, Germany, Mexico, Chile, and Israel. Similarly, for regtech, Hong Kong (SAR), Germany, Luxembourg, Denmark, and France were also well represented.

Table 7.1: 2020 share of respondents and observations by region: market provisioning

	Alternative credit and/or data analytics			Digital identity		
Region	Number of respondents by region	Number of observations by region	Market share of observations (%)	Number of respondents by region	Number of observations by region	Market share of observations (%)
APAC	11	37	29	4	28	21
China	-	1	1	-	2	1
Europe	4	27	21	4	53	40
LAC	7	34	26	4	12	9
MENA	-	9	7	1	7	5
North America (US and Canada)	3	8	6	3	15	11
SSA	-	10	8	3	9	7
United Kingdom	-	3	2	2	8	6
Total	25	129		21	134	

When looking at the regional distribution of responses, APAC and LAC registered the highest number of responses for alternative credit and data analytics verticals. Europe recorded the highest concentration of observations for the remaining three models.

Figure 7.3: 2020 distribution by model: market provisioning



Market provisioning working taxonomy

Table 7.2 summarizes the market provisioning category and associated business models. Each vertical includes several models, each of which performs different activities within the market provisioning category. For alternative credit and/or data analytics, we identified five models in the sample, with 58% of firms performing activities in credit scoring. APAC and LAC had the highest proportion (70%) of credit scoring firms. Notably, 41% of digital identity firms were providing KYC solutions, followed by fraud prevention and risk management. Enterprise technology provisioning platforms represented five models, with financial management and business intelligence, API management, and digital accounting representing 60% of responses. Platforms in APAC, Europe, and LAC reported the highest number of responses for this primary vertical. Finally, regtech included five models and had the highest concentration of responses in regulatory reporting, risk analytics, and dynamic compliance.

Enterprise technology provisioning			Regtech		
Number of respondents by region	Number of observations by region	Market share of observations (%)	Number of respondents by region	Number of observations by region	Market share of observations (%)
15	40	14	17	88	22
1	3	1	-	5	1
17	90	32	14	184	46
17	55	19	7	50	12
5	18	6	-	15	4
12	35	12	6	28	7
6	19	7	1	7	2
13	23	8	5	26	6
86	283		50	403	

Table 7.2: Market provisioning working taxonomy

Category	Business model	Sub-verticals/business models included in each vertical
Market provisioning	Regtech	Profiling and due diligence, blockchain forensics, risk analytics, dynamic compliance, regulatory reporting, and market monitoring
	Alternative credit and data analytics	Alternative credit rating agency, credit scoring, psychometric analytics, sociometric analytics, and biometric analytics
	Digital identity	Security and biometrics, KYC solutions, and fraud prevention and risk management
	Enterprise technology provisioning	API management, enterprise blockchain, financial management and business intelligence, digital accounting, and electronic invoicing

7.3 Market performance

Total number of unique clients

We asked market provisioning firms about the number of unique corporate clients they served in 2020 compared to 2019. Overall, the number increased from 338 000 in 2019 to 473 000 in 2020, a growth of 40%. Firms in EMDEs reported the highest number of clients in 2019 and 2020, accounting for 99% and 94% of unique corporate clients, respectively. However, firms in AEs experienced the highest growth in the number of unique corporate clients in 2020 (over 1,000%) compared to 32% recorded by firms in EMDEs, albeit from a very low base.

Figure 7.4: 2019–2020 total number of unique clients by economic development (USD): market provisioning

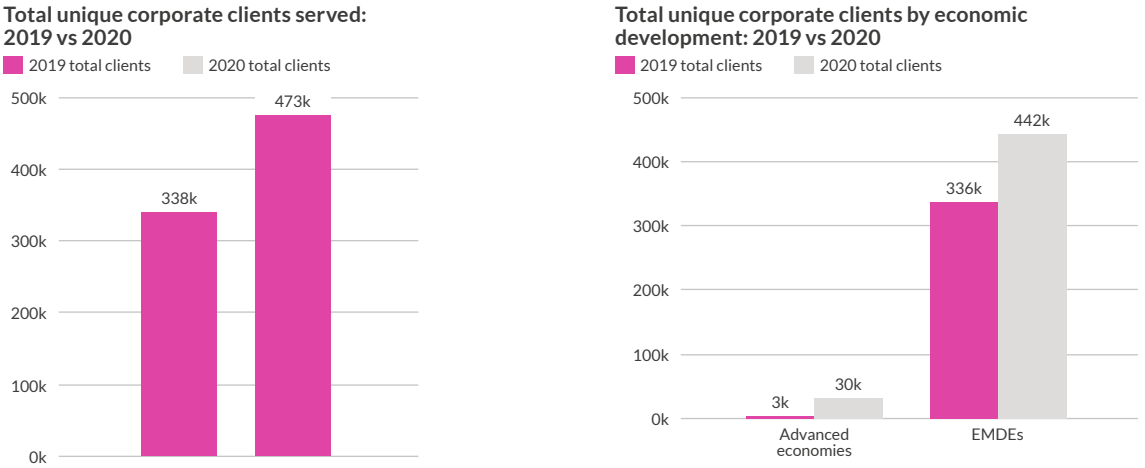


Table 7.3: 2019–2020 total number of unique corporate clients by model: market provisioning

Income group	Total unique corporate clients							
	Enterprise technology provisioning		Alternative credit and/or data analytics		Regtech		Digital identity	
	2019	2020	2019	2020	2019	2020	2019	2020
Advanced economies	1,679	28,990	118	230	544	763	268	497
EMDEs	326,308	429,851	9,146	11,534	291	389	112	545
Total	**327,987**	**458,841**	**9,264**	**11,764**	**835**	**1,152**	**380**	**1,042**

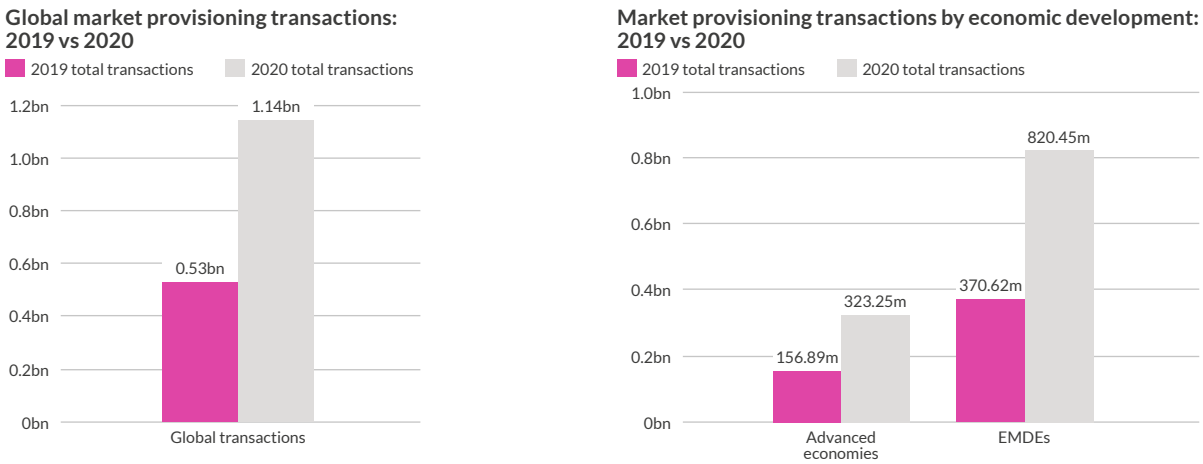
In terms of market provisioning models, enterprise technology provisioning firms had the highest number of unique corporate clients in both AEs and EMDEs in 2019 and 2020. Firms in AEs also reported the highest proportional growth in the number of unique corporate clients (1,726%).

Table 7.4: 2019–2020 total number of unique corporate clients by region: market provisioning

Region	Total unique corporate clients							
	Enterprise technology provisioning		Alternative credit and/or data analytics		Regtech		Digital identity	
	2019	2020	2019	2020	2019	2020	2019	2020
LAC	203,943	259,941	9,072	11,400	234	302	5	68
Europe	117,338	154,541	17	75	255	321	42	105
APAC	5,032	15,755	142	212	201	251	73	105
United Kingdom	783	26,134	6	8	47	67	23	59
North America (US & Canada)	484	2,190	13	40	51	147	171	268
SSA	377	247	10	20	3	16	56	405
MENA	29	32	4	9	9	10	9	31
China	1	1	0	0	35	38	1	1
Total	**327,987**	**458,841**	**9,264**	**11,764**	**835**	**1,152**	**380**	**1,042**

Analysis of the regional distribution of unique corporate clients revealed that LAC and Europe accounted for 98% and 90%, respectively, of the total number of corporate clients served across market provisioning firms in 2019 and 2020. Firms in LAC reported a 28% increase in the number of corporate clients served in 2020 compared to 2019, while for those in Europe, it was 31%. Firms in both the United Kingdom and APAC reported a significant increase in the number of clients served in 2020 compared to 2019.

Figure 7.5: 2019–2020 total number of transactions by economic development: market provisioning



In terms of the number of queries or transactions processed on behalf of their clients, market provisioning firms reported 1.14 billion transactions in 2020, a 117% increase from 527 million reported in 2019. The number of transactions in both years was primarily driven by firms in EMDEs, which also reported the highest number of customers (as previously mentioned). In 2020, market provisioning firms in EMDEs accounted for 72% of total global transactions, a slight growth from 70% reported in 2019. Firms in EMDEs recorded a higher growth rate in the number of transactions (122%) compared to those in AEs (107%).

Table 7.5: 2019–2020 total number of transactions processed by model: market provisioning

Income group	Total number of transactions processed							
	Enterprise technology provisioning		Alternative credit and/or data analytics		Regtech		Digital identity	
	2019	2020	2019	2020	2019	2020	2019	2020
Advanced economies	82,780,054	142,900,858	20097	75247	62,412,303	160,643,634	11,677,167	19,633,895
EMDEs	230,610,029	629,432,989	43240447	42476424	74,165,754	128,436,749	22,602,101	20,098,960
Total	313,390,083	772,333,847	43,260,544	42,551,671	136,578,057	289,080,383	34,279,268	39,732,855

Although the number of transactions processed for other market provisioning firms more than doubled in 2020 compared to 2019, alternative credit and/or data analytics firms reported a modest decrease of 2%. This decrease was reported even though these firms experienced a 27% increase in the number of unique corporate clients. Enterprise technology provisioning firms in EMDEs mainly drove the growth in the total number of transactions. However, in terms of percentage change from 2019, firms operating in AEs performed better than those in EMDEs for the remaining models.

Table 7.6: 2019–2020 total number of transactions processed by region: market provisioning

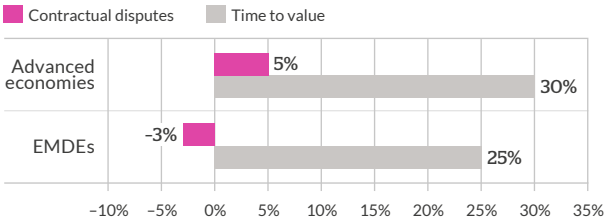
Region	Total number of transactions processed							
	Enterprise technology provisioning		Alternative credit and/or data analytics		Regtech		Digital identity	
	2019	2020	2019	2020	2019	2020	2019	2020
LAC	15,012,664	125,680,718	42,485,400	41,016,350	91,281,504	153,000,000	51,650	46,300
Europe	249,537,015	556,365,647	36	100	32,590,776	109,000,000	90,560	454,930
APAC	40,908,463	76,685,494	135,063	275,104	4,084,358	8,857,696	22,602,474	19,214,700
United Kingdom	1,543,203	4,881,587	13	17	8,283,507	14,416,644	80,500	110,800
North America (US & Canada)	3,154,066	7,989,702	10,028	15,091	51,808	3,075,308	11,350,020	18,709,050
SSA	3,234,641	727,077	630,000	1,245,000	111,298	241,574	49,034	968,045
MENA	30	22	4	9	4,804	6,107	55,000	229,000
Total	313,390,082	772,330,247	43,260,544	42,551,671	136,408,055	288,597,329	34,279,238	39,732,825

Analysis by regional distribution revealed that most transactions or queries processed were reported by firms in LAC, accounting for about 28% of total market provisioning transactions. However, firms in MENA reported the highest growth rate (290%) in the number of transactions in 2020 compared to 2019, followed by those in Europe at 136%. Other regions in which the number of transactions more than doubled were LAC and North America. Firms in SSA reported a 21% decrease in the number of transactions, despite their number of unique corporate clients growing by more than half in 2020.

Market performance indicators

On average, in 2020, market provisioning platforms reported increases in contractual disputes (3%) and time to value (28%), which is the time lag between client introduction and onboarding, compared to 2019.

Figure 7.6: 2019–2020 market performance indicators by economic development (percentage change): market provisioning



**Top markets by economic development: AEs: United States, United Kingdom, Singapore, Canada, and Switzerland; EMDEs: Mexico, Brazil, India, Malaysia, and Vietnam*

The average increase in contractual disputes was driven by platforms in AEs, as platforms in EMDEs reported a decrease of 3%. Looking at key verticals, enterprise technology provisioning platforms reported the highest increase in contractual disputes. Moreover, regtech, digital identity, and alternative credit and/or data analytics platforms recorded a positive change, with a decrease in the number of contractual disputes.

At a regional level, there was no uniform pattern for contractual disputes. Firms in APAC experienced a decrease of 9% in contractual disputes, while for those in Europe and LAC contractual disputes increased by 6% and 3%, respectively. Time to value increased for firms in all regions, with those in Europe recording the highest increase of 35%, followed by APAC and LAC. By key models, enterprise technology provisioning firms recorded a 40% increase in time to value, followed by digital identity firms (39%) and regtech firms (23%).

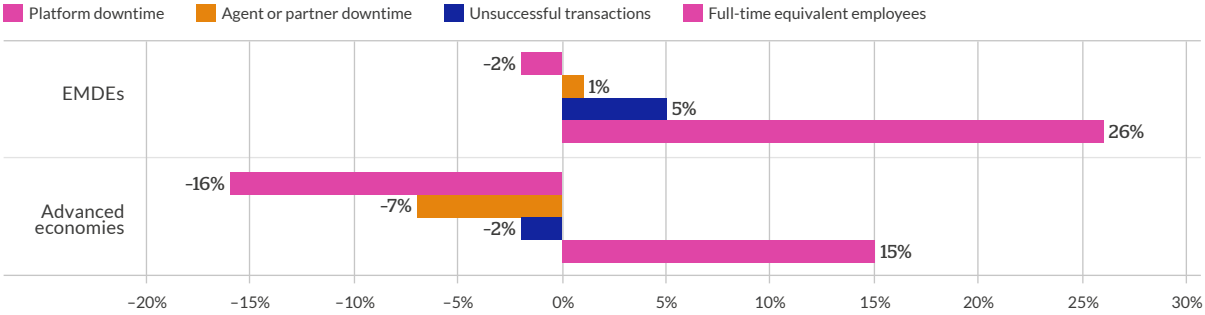
In terms of lockdown stringency, firms in countries with medium stringency lockdown measures experienced the highest increase in both contractual disputes and time to value compared to those in jurisdictions with high and low stringency lockdown measures.

7.4 Market resilience and financial health

Impact on operational indicators

Globally, market provisioning firms reported different changes to their operational performance indicators. However, the patterns were significantly different between firms in AEs and those in EMDEs, with firms in EMDEs reporting more operational challenges in terms of agent or partner downtime and unsuccessful transactions compared to firms in AEs.

Figure 7.7: 2019–2020 operational impact and employment type change by economic development (percentage change): market provisioning



**Top markets by economic development: AEs: United States, United Kingdom, Singapore, Canada, and Switzerland; EMDEs: Mexico, India, Brazil, Colombia, and Peru*

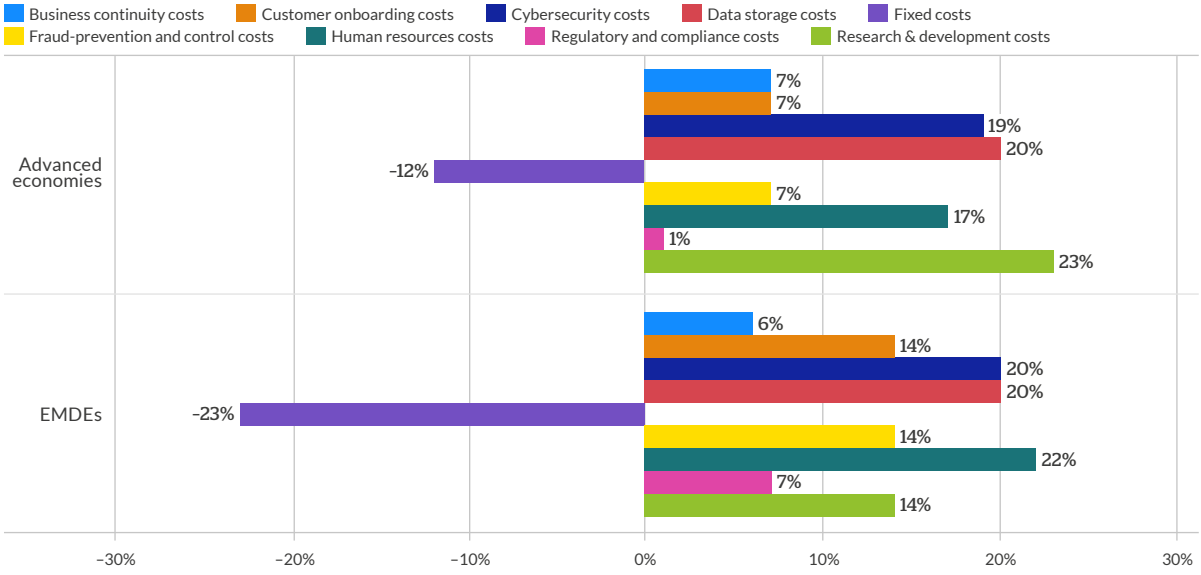
Globally, enterprise technology provisioning platforms were the most resilient, reporting decreases across all metrics of platform and partner downtime, and unsuccessful transactions. Breakdown by region revealed that firms in Europe reported the greatest decreases in platform downtime, partner downtime, and unsuccessful transactions. In terms of lockdown stringency, firms in jurisdictions with high stringency lockdown measures reported a greater increase in the number of unsuccessful transactions, but a smaller decrease in platform and partner downtime compared to those in jurisdictions with low stringency lockdown measures.

Regarding the number of full-time equivalent employees, platforms reported an increase of 18%, with alternative credit and/or data analytics and regtech firms experiencing the highest increases. Notably, platforms in EMDEs reported greater increases than those in AEs, most of which were in LAC (44%). Firms in jurisdictions with high stringency lockdown measures reported a greater increase in the number of full-time employees.

Expenditure changes in 2020

Globally, marketing provisioning firms reported increases across all costs, except fixed costs. The largest increases were in R&D costs (22%), followed by data storage costs (20%), cybersecurity costs (19%), and HR costs (18%).[36] Cybersecurity and data storage costs increased the most in H2-2020 from those reported in *The Rapid Assessment Study*, where only a slight increase in H1-2020 was noted. In contrast, firms reported a considerable decrease in fixed costs (14%), mainly by those operating in alternative credit and/or data analytics (27%) and regtech (22%). Digital identity and enterprise technology firms reported the largest increases in cybersecurity costs.

Figure 7.8: 2019–2020 cost structure changes by economic development (percentage change): market provisioning

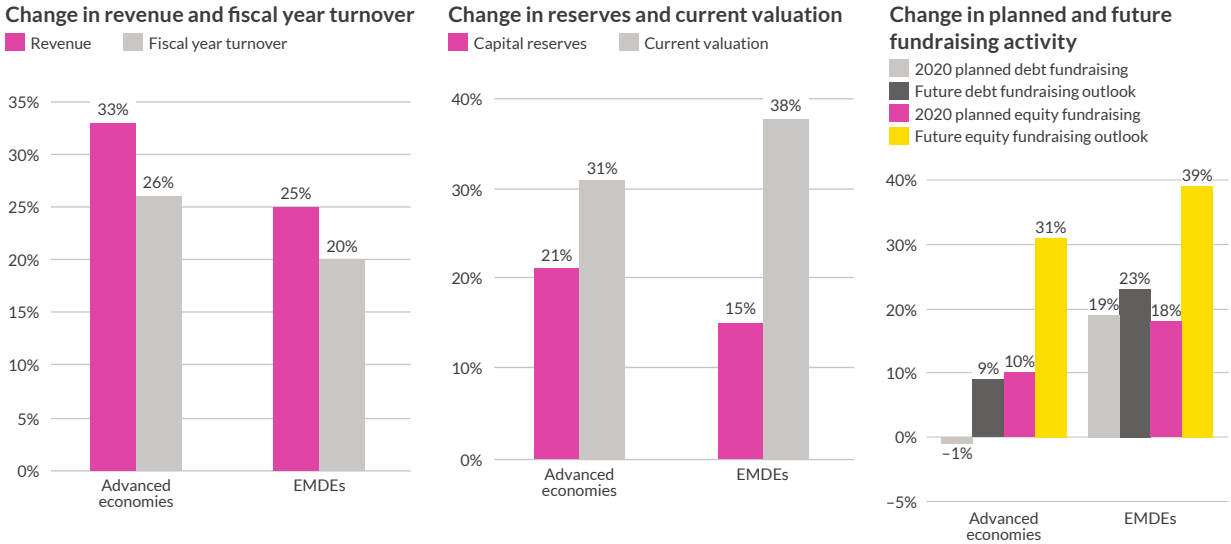


This global trend applied equally to firms operating in AEs and EMDEs. However, firms operating in EMDEs reported the greatest increase in HR costs, while those in AEs recorded the highest increase in R&D costs. By region, firms in SSA reported the greatest increases in fraud-prevention and control costs, and R&D costs, while for firms in LAC, the greatest increases were in HR costs. Notably, European firms reported decreases in regulatory and compliance costs. By lockdown stringency, firms in jurisdictions with high stringency lockdown measures reported a greater decrease in fixed costs than those in jurisdictions with low stringency lockdown measures. They also reported slight increases in R&D, and regulatory and compliance costs.

Financial positioning changes in 2020

In *The Rapid Assessment Study*, market provisioning firms had estimated a decrease in their fiscal year turnover for 2020. However, our analysis of the 2020 fiscal year turnover and revenue compared with 2019 revealed that firms reported being in a strong financial position. On average, firms' revenue increased by 30%, while fiscal year turnover increased by 25%. There was a similar trend when we analyzed turnover and revenue by economic development.

Figure 7.9: 2019–2020 Covid-19 impact on (a) revenue and fiscal turnover, (b) capital reserves and current valuation, and (c) planned and future fundraising activity (percentage change): market provisioning



**Top markets by economic development: AEs: United States, United Kingdom, Singapore, Canada, Australia; EMDEs: India, Mexico, Brazil, Colombia, and Peru*

Using global averages as the benchmark by region, platforms in LAC reported above-average increases in revenue (36%) and fiscal turnover (30%), followed by those in Europe. Across all verticals, enterprise technology provisioning firms reported the highest increases in revenue (49%). In contrast, regtech firms reported the lowest growth rate in fiscal turnover and revenue. Firms in high stringency lockdown jurisdictions reported, on average, greater changes in revenue (33%) compared to those in jurisdictions with low and medium stringency lockdown measures.

Market provisioning firms also reported substantial improvements in their capital reserves and current valuation. Platforms in AEs reported higher increases in capital reserves, while those in EMDEs reported higher improvements in current valuation.

When it came to fundraising activities, market provisioning platforms reported improvements in their 2020 planned and future fundraising plans in terms of debt and equity. This trend applied to firms in both AEs and EMDEs, except for planned debt fundraising where platforms in AEs reported a minor decrease. Of significance was the improvement in future equity fundraising activity reported by platforms in both AEs and EMDEs, reflecting firms' intention of raising more long-term finance. By region, platforms in LAC reported the highest improvement in current valuation (41%) and future equity fundraising outlook (44%). Conversely, platforms in Europe reported a slight decrease in their 2020 planned debt fundraising.

By key model, regtech firms reported above-average improvements in their current valuation, increasing by 36%, on average. They also registered substantial improvements in their future equity fundraising outlook, increasing by 55%, on average. In contrast, enterprise technology provisioning firms registered below-average increases in 2020 planned and future fundraising activities in terms of both debt and equity.

When considering lockdown stringency, firms in jurisdictions with low stringency lockdown measures reported an average decrease of 2% in their 2020 planned debt fundraising, whereas those in jurisdictions with medium and high stringency lockdown measures reported, on average, improvements of 9% and 7%, respectively. Moreover, platforms in jurisdictions under high stringency lockdown measures reported the highest improvements in future equity fundraising outlook.

Stage of business development

Most market provisioning firms were in the early stages of business development, reporting that their most recent fundraising activities were in the seed/pre-series stage (30%), followed by pre-seed or earlier (23%). A significant proportion (40%) reported being Series A or Series B firms, putting them the in mid-stages of business development. Interestingly, most market provisioning platforms in AEs were in earlier stages of development, whereas in EMDEs, platforms were more varied in terms of their stage of development. More specifically, by region, most firms in Europe were in seed/pre-series and pre-seed or earlier stages, whereas most firms in APAC were engaged in Series B fundraising.

Table 7.7: 2020 stage of business development by economic development: market provisioning

Recent fundraising activity	Advanced economies (%)	EMDEs (%)	Total (%)
Pre-seed or earlier	18	5	23
Seed/pre-series	24	7	31
Series A	13	6	19
Series B	14	7	21
Series C+	6	0	6
Total	75	25	100

**Top markets by economic development: AEs: United States, United Kingdom, Singapore, Canada, and Switzerland; EMDEs: India, Brazil, Mexico, China, Colombia, Indonesia, Malaysia, and Vietnam*

By model, most of the engagement in fundraising activity came from regtech and enterprise technology provisioning firms. Regtech firms reported mixed results with engagements across different fundraising stages. Results from enterprise technology provisioning firms were clearer, most reporting being in the seed/pre-series stage of fundraising.

7.5 Market dynamics

Changes in pricing, service agreements, and policies

Sixty-eight percent of market provisioning firms changed their pricing, service agreements, and policies. Overall, market provisioning firms prioritized safety and pricing structure changes due to Covid-19. The main safety changes were related to cybersecurity and fraud prevention, while in terms of pricing, the main change was introducing payment plans. These were the main changes made by firms in both AEs and EMDEs.

Figure 7.10(a): 2020 top changes implemented to pricing, service agreements, and policies in EMDEs: market provisioning

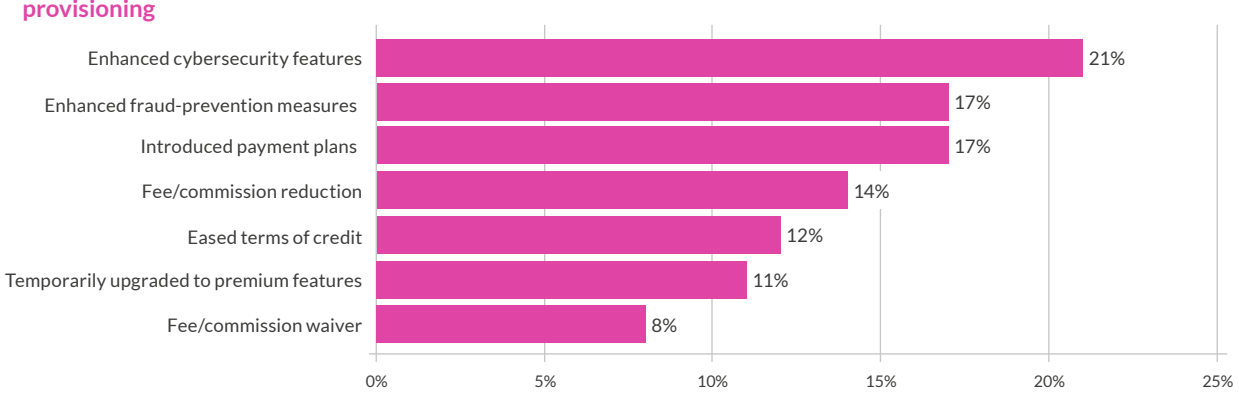


Figure 7.10(b): 2020 implementation status of changes in pricing, service agreements, and policies in EMDEs: market provisioning

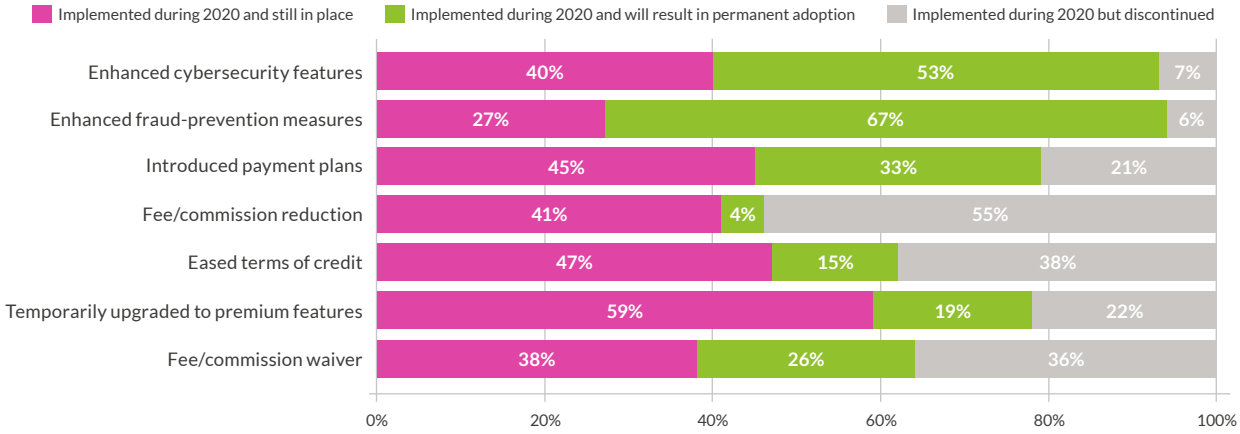


Figure 7.10(c): 2020 top changes implemented to pricing, service agreements, and policies in AEs: market provisioning

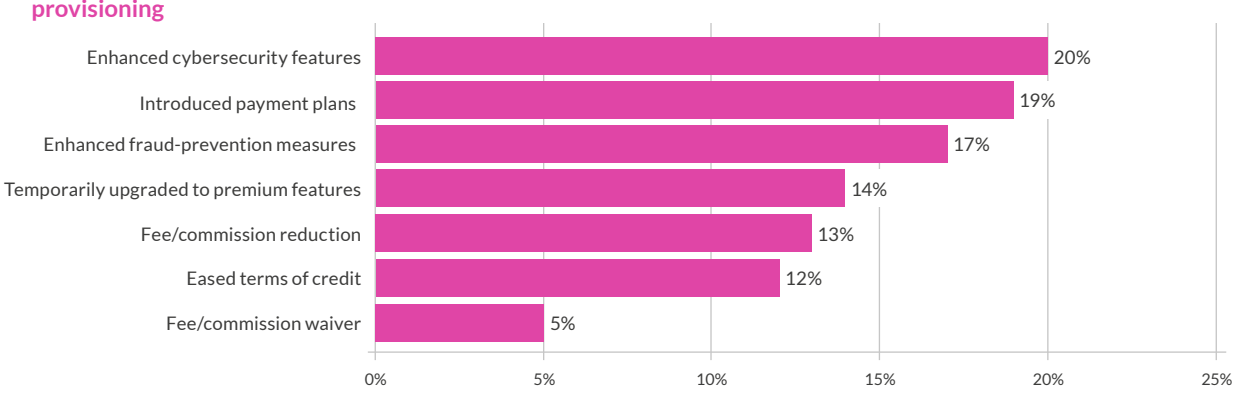
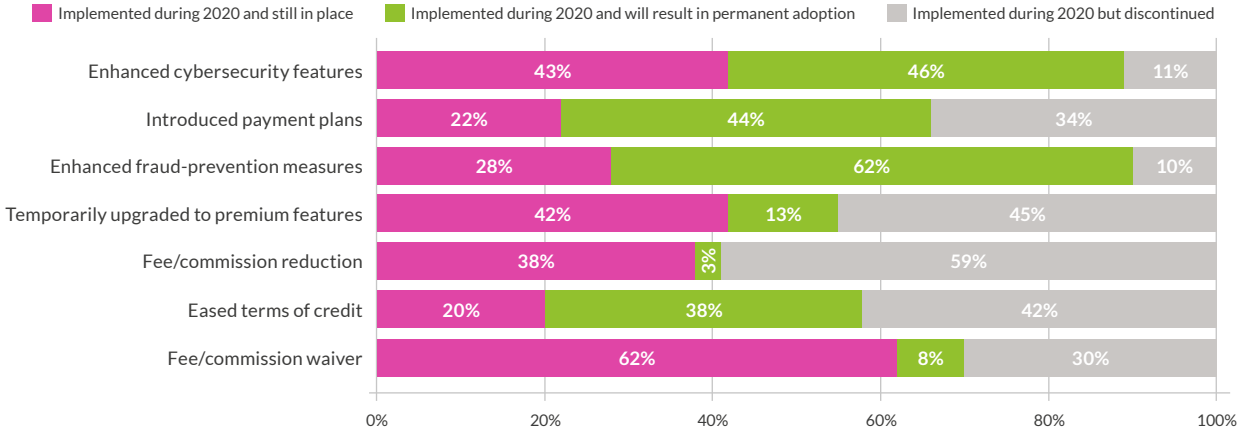


Figure 7.10(d): 2020 implementation status of changes in pricing, service agreements, and policies in AEs: market provisioning



**Top markets by economic development: AEs: United States, United Kingdom, Singapore, Canada, and Switzerland; EMDEs: India, Mexico, Brazil, Colombia, and Indonesia*

By region, firms in Europe prioritized changing pricing structure, whereas those in APAC prioritized enhancing cybersecurity features and fraud-prevention measures.

In terms of key verticals, while all primary models prioritized different changes in similar proportions, there was an emphasis on enhancing cybersecurity and fraud prevention. Regtech platforms mainly focused on enhancing cybersecurity and fraud-prevention measures, with almost half making changes to those features.

Firms reported that cybersecurity features and fraud-prevention measures were still in place and may be permanently adopted. However, firms discontinued most changes that would negatively impact revenue, such as fees and commission waivers and reduction, and easing terms of credit.

Table 7.8: Examples of changes to pricing, service agreements, and policies in response to Covid-19: market provisioning

Model	Region or market	Change to pricing, service agreements and policies	Example from the field
Enterprise technology provisioning	North America	Fee/commission waiver	An American-based enterprise provisioning firm waived software subscription fees for its payroll customers.
Regtech	UK	Fee/commission waiver	A regtech start-up launched a new service to provide Covid-19 regulation updates for free.

Changes in product and service offerings

Forty-seven percent of market provisioning firms reported changing their product and service offerings due to Covid-19. Overall, the most common change was introducing value-added non-financial services, such as information services, although an important number of firms took other measures such as discontinuing selling products or services and launching voucher systems. These were the most common changes across firms in both AEs and EMDEs.

Figure 7.11(a): 2020 top changes implemented to product and service offerings in EMDEs: market provisioning

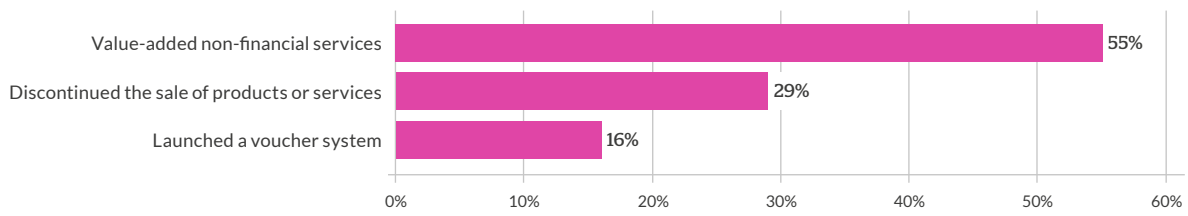


Figure 7.11(b): 2020 implementation status of changes in product and service offerings in EMDEs: market provisioning

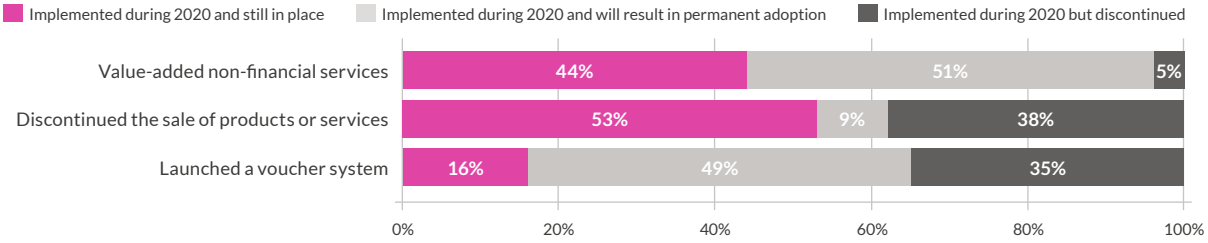


Figure 7.11(c): 2020 top changes implemented to product and service offerings in AEs: market provisioning

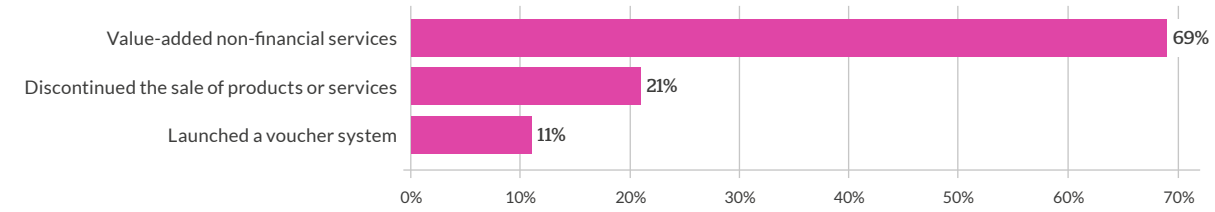
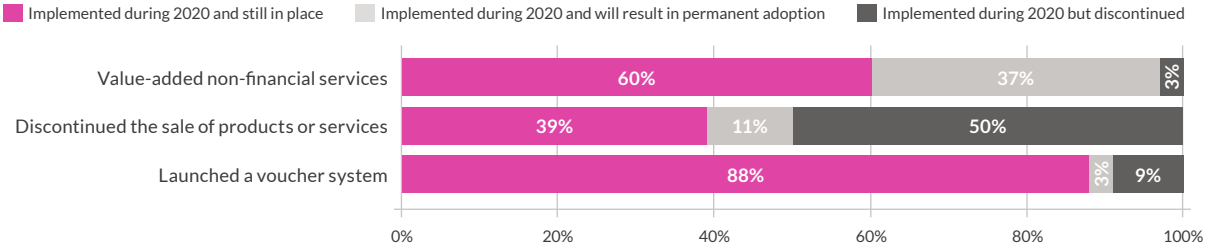


Figure 7.11(d): 2020 implementation status of changes in product and service offerings in AEs: market provisioning



**Top markets by economic development: AEs: United States, United Kingdom, Singapore, Canada, and Australia; EMDEs: India, Mexico, Brazil, Colombia, and Peru*

By region, most respondents who had introduced or discontinued products were operating in Europe, APAC, and LAC, and they all followed the general trend in terms of product changes.

Analyzing by key vertical, a greater percentage of regtech platforms reported introducing or discontinuing products, followed by enterprise technology provisioning platforms. Digital identity firms diverged from the trend, with launching a voucher system being their main change.

In terms of implementation status, most firms reported that the changes they implemented during 2020 were still in place and may be permanently adopted. Overall, firms reported they would not bring back the products or services they had discontinued and would probably discontinue voucher systems.

Firms in both AEs and EMDEs reported that introducing non-financial services had been beneficial and positively impacted their revenue. Conversely, firms reported that discontinuing services had negatively impacted their revenue.

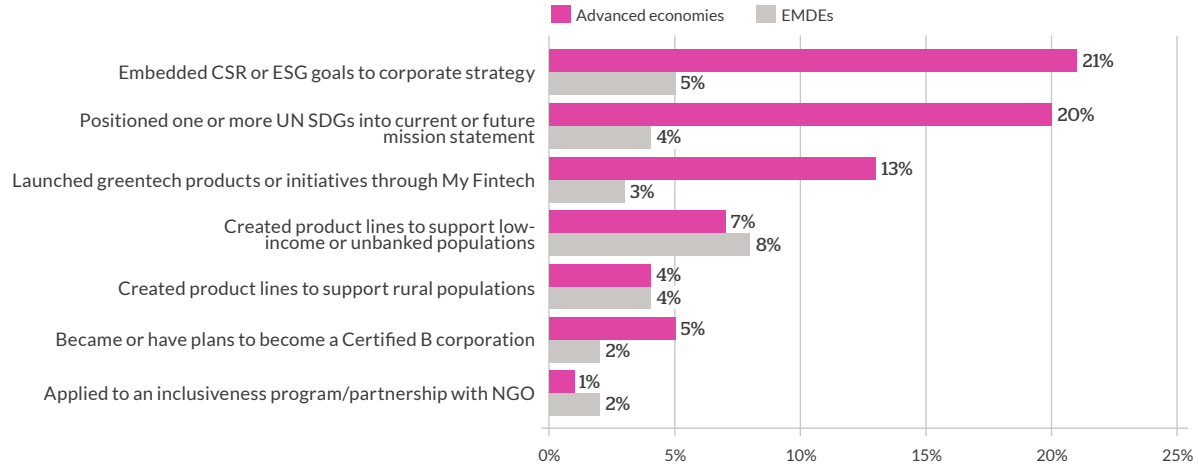
Table 7.9: Examples of new or updated fintech products launched in response to Covid-19: market provisioning

Model	Region or market	Change to existing/new or updated	Example from the field
Enterprise technology provisioning	North America	Launched lending services	An American-based supplier of payment processing hardware and cloud-based software for restaurants launched the Rally for Restaurants initiative in 2021 to help the floundering sector stay afloat amid mandated closures and stay-at-home orders.
Wealthtech	UK	Launched new robo-advisor services	An investment company that launched a robo-advisory service in the UK took a minority stake in a UK-based fintech firm.
	North America	Implemented direct cash payments to consumers	An American-based firm started providing services to improve the financial health of low-income communities. It launched a project for direct payments to families impacted by Covid-19.

Sustainability or inclusion initiatives

A total of 77 market provisioning firms responded to the question on sustainability or inclusion initiatives, accounting for 42% of total unique market provisioning firms in this study. Hence, the analysis in this section relates to that proportion of respondents. Overall, the most common sustainability initiative that market provisioning firms introduced was introducing CSR or ESG goals into their corporate strategy.[37] This was followed by introducing some UN SDGs into their current or future mission statements.

Figure 7.12: 2020 sustainability or inclusion initiatives by economic development: market provisioning



**Top markets by economic development: AEs: United States, United Kingdom, Singapore, Canada, and Italy; EMDEs: Brazil, Mexico, Colombia, India, Malaysia, Nigeria, and Peru*

While firms in AEs followed the general trend, the most pursued initiative was creating product lines to support low-income or unbanked populations. This was followed by embedding CSR or ESG goals into corporate strategies.

This was observed across all regions, except in Europe and MENA, where firms focused more on introducing UN SDGs into their current or future mission statements.

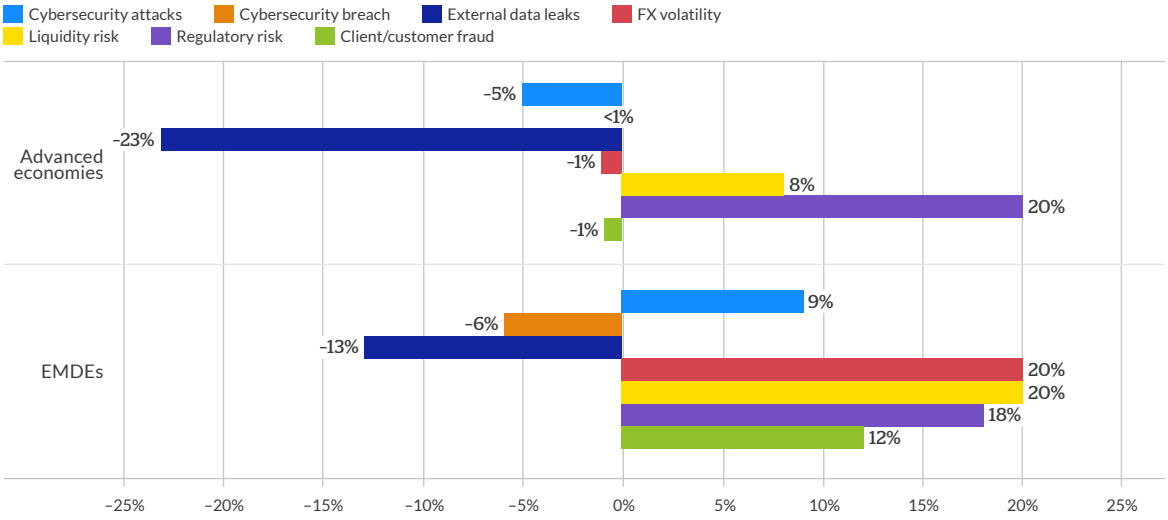
Table 7.10: Examples of sustainability initiatives or strategies pursued in response to Covid-19: market provisioning

Model	Region or market	Sustainability initiative or strategy pursued	Example from the field
Enterprise technology provisioning	APAC	Promoted new ESG initiatives in fintech	A fintech firm in Singapore collaborated with the Monetary Authority of Singapore to build a blockchain-based ESG registry.
	LAC	Applied to join an inclusiveness program/ partnership with an NGO	A company decided to provide, free of charge, 10,000 electronic invoicing and payroll plans for one year to companies affected by Covid-19.

7.6 Potential business disruptors in a Covid-19 environment

Overall, market provisioning firms reported an increase in exposure to key risks, including regulatory risks and liquidity risks. Of note, however, is the significant 20% decrease in data leaks. Also, cybersecurity risks decreased slightly in 2020 compared to 2019, despite firms reporting an increase in H1-2020.

Figure 7.13: 2019–2020 potential disruptor changes by economic development (percentage change): market provisioning



However, firms in AEs and EMDEs had very different views on the risks and how they were disrupting their business. The main differences related to liquidity risk, FX risk, and customer fraud risk, with firms in EMDEs reporting greater increases in these risks. Also, while firms in both AEs and EMDEs reported decreases in external data leaks, the decrease was more significant for firms in AEs.

There was also no uniform pattern by business model. Regtech firms reported the greatest increases in regulatory risks (27%), while alternative credit and/or data analytics firms reported the highest increases in FX volatility disruptions (31%) and client or customer fraud (23%). However, enterprise technology provisioning firms significantly reduced their number of cybersecurity attacks, while digital identity firms reported the greatest decrease in cybersecurity breaches.

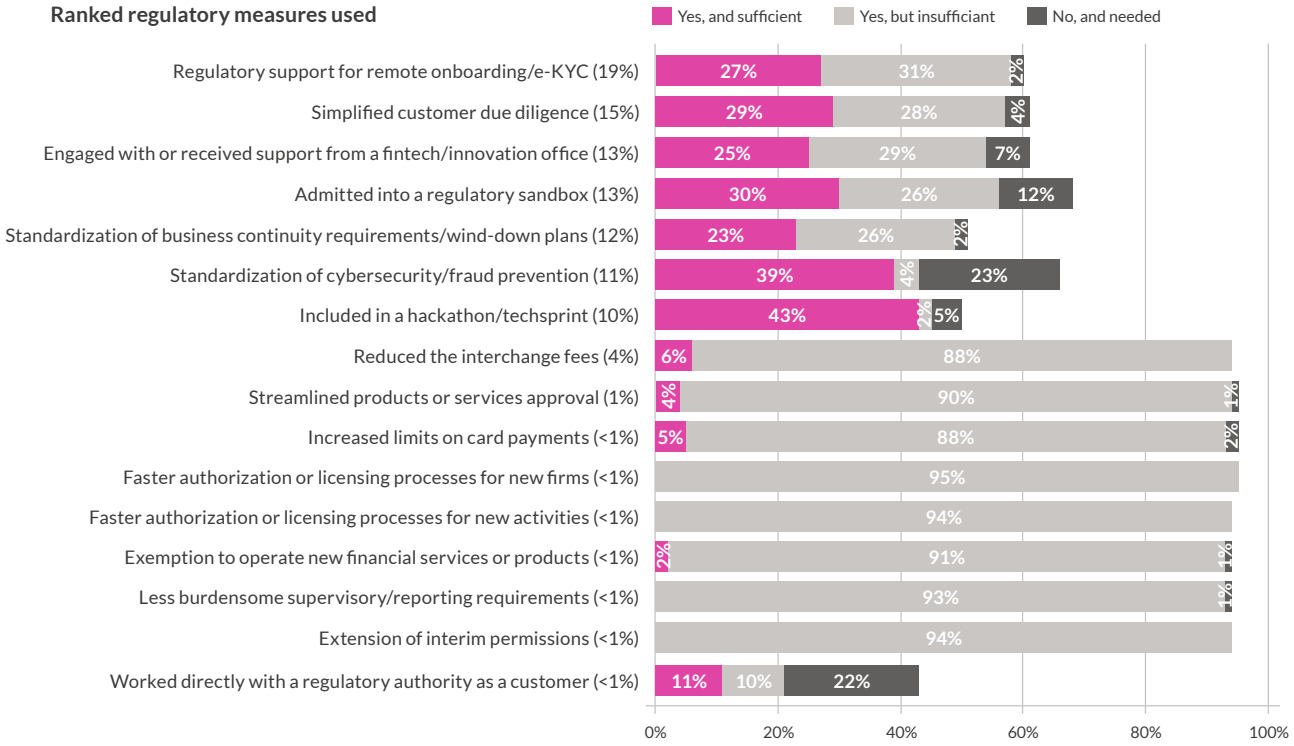
The perception of risk also varied significantly by region. Platforms in APAC experienced the greatest decrease in cybersecurity breaches (–11%), while European firms reported a one-third decrease in external data leaks. Notably, platforms in LAC reported an increase of almost one-third in FX volatility, and firms in APAC experienced a 20% increase in liquidity risk. In terms of lockdown stringency measures, firms in jurisdictions with low stringency lockdown measures reported higher liquidity risks but a large decrease in external data leaks and cybersecurity attacks.

7.7 Regulation, policy, and government intervention

Regulatory support use

When asked about their use of regulatory support mechanisms to combat Covid-19, market provisioning platforms reported using regulatory support for remote onboarding the most, followed by simplified customer due diligence, engagement with an innovation office, and admission into a regulatory sandbox.

Figure 7.14: 2020 regulatory support initiatives: market provisioning use and needs



**Note that 'N/A' and 'No, and not needed' responses have been omitted from this chart.*
***Top five markets by economic development that used regulatory measures: AEs: United States, United Kingdom, Singapore, Canada, and Italy; EMDEs: Mexico, Brazil, India, Colombia, and Philippines*
****Top markets by economic development that did not use regulatory measures but needed support: AEs: Singapore, United Kingdom, United States, Canada, France, and Germany; EMDEs: India, Brazil, Cambodia, Honduras, Thailand, Mexico, and Nigeria*

Most market provisioning firms reported that current regulatory measures were insufficient. The exception was those firms that used standardization of cybersecurity measures and inclusion in a hackathon. The dissatisfaction was highest for core support measures related to pricing (reducing interchange fees and increasing limits on card payments) and those that support fintechs as a business (faster authorization or licensing processes, and less burdensome supervisory requirements). The results highlight that market provisioning firms believe there are significant regulatory deficiencies across multiple areas.

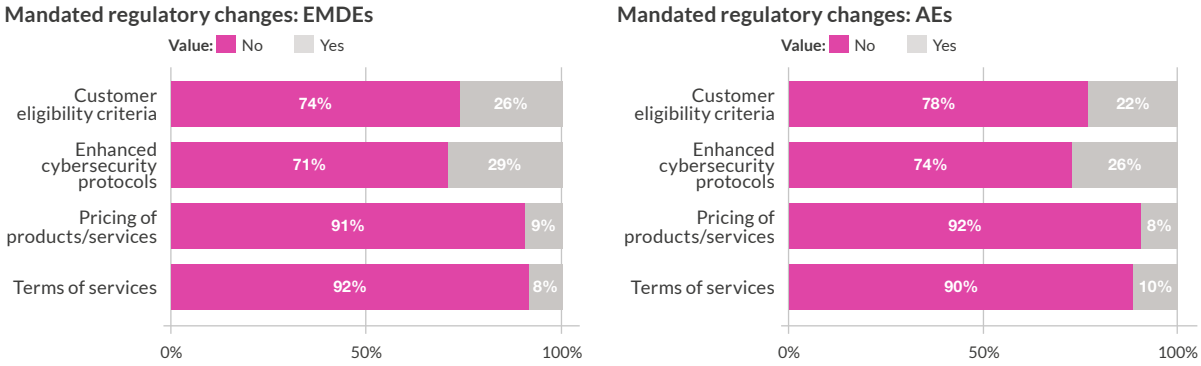
Table 7.11: Example of fintechs using regulatory mechanisms or interventions during the Covid-19 pandemic: market provisioning

Model	Region or market	Regulatory support used	Example from the field
Exchange Services	LAC	Admitted into a regulatory sandbox (for example, a digital sandbox)	Some exchange services firms in Colombia participated in a sandbox that allowed participants to conduct cash-in and cash-out operations. The aim was to understand the interaction between financial institutions and exchangers.

Mandated regulatory changes

Overall, most market provisioning platforms reported they did not have to change any of their operations as mandated by regulatory authorities. However, where firms did have to make mandated changes, most related to enhancing cybersecurity protocols and customer eligibility criteria. These results applied equally to firms in AEs and EMDEs.

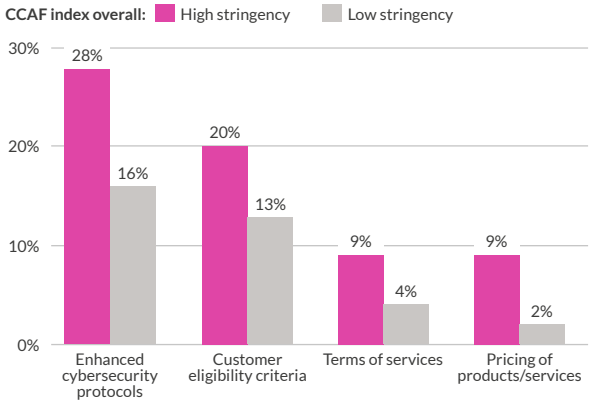
Figure 7.15: 2020 mandated regulatory changes by (a) EMDEs and (b) AEs: market provisioning



*Top markets by economic development: AEs: United States, United Kingdom, Singapore, Canada, and Switzerland; EMDEs: India, Malaysia, Argentina, Brazil, Indonesia, and Vietnam

More firms in Europe and APAC were subjected to mandated regulatory changes than those in other regions. Among market provisioning verticals, regtech firms reported the highest level of mandated regulatory changes, mainly in customer eligibility criteria and enhanced cybersecurity protocols.

Figure 7.16: 2020 mandated regulatory changes by lockdown stringency: market provisioning

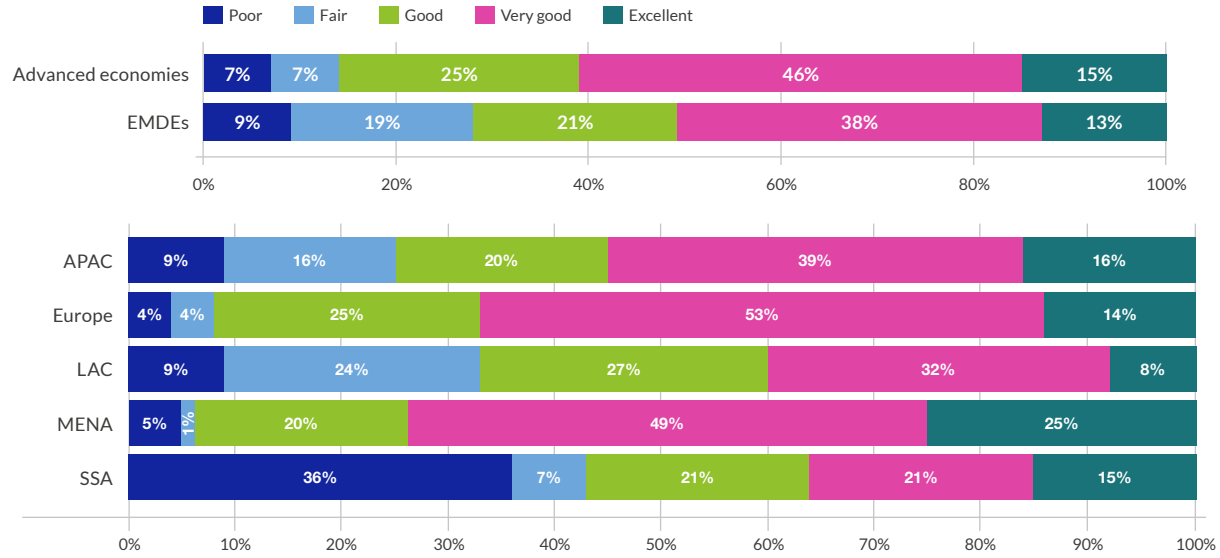


Overall, firms in jurisdictions with high stringency lockdown measures reported a greater proportion of mandated regulatory changes compared to platforms in jurisdictions with low stringency lockdown measures.

Regulatory response rating

Globally, market provisioning platforms had a generally positive perception of their regulators' responses to Covid-19, with 81% rating them as good, very good, or excellent.

Figure 7.17: 2020 regulatory response rating by (a) economic development and (b) region: market provisioning



*Top markets by economic development:

- *By negative rate – AEs: United States, United Kingdom, Australia, Canada, Singapore, and Switzerland; EMDEs: Mexico, India, Argentina, Colombia, Guatemala, and Nigeria*
- *By positive rate – AEs: United Kingdom, United States, Singapore, Canada, and Switzerland; EMDEs: India, Brazil, Mexico, Colombia, China, Malaysia, Peru, and Vietnam*

This positive assessment applies to firms operating in both AEs and EMDEs, although in AEs, firms reported slightly higher levels of satisfaction. By region, platforms in Europe were among the most satisfied, with 92% reporting that the regulatory response was positive. Platforms in APAC and LAC also had a positive perception of their regulatory responses, however, the satisfaction levels were slightly lower.

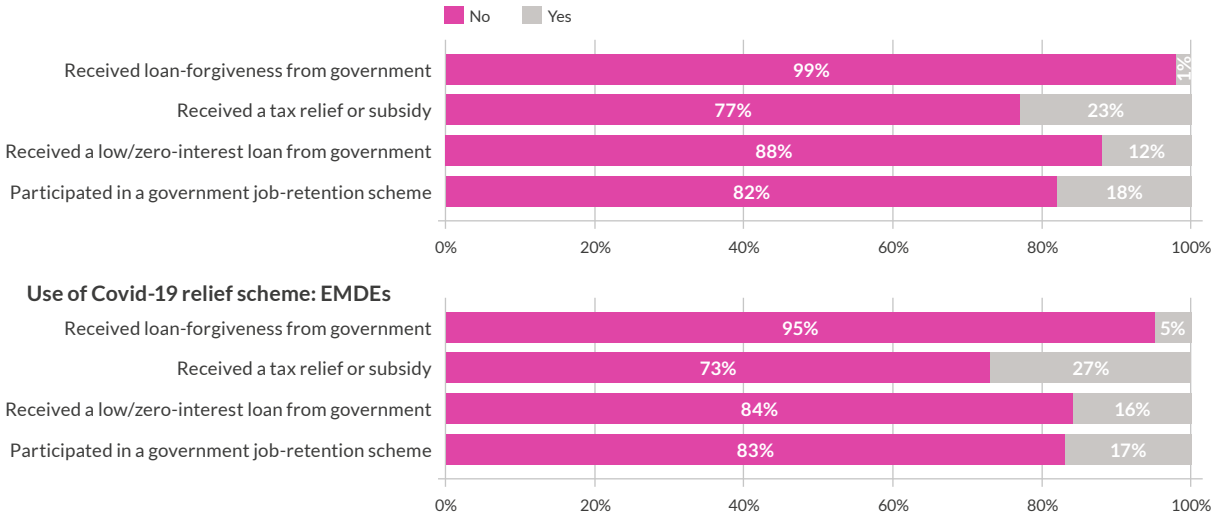
The main market provisioning verticals generally had a positive perception of the Covid-19 responses from regulatory authorities, with the combined responses for good, very good, and excellent equaling or exceeding 65% across all models. Regtech platforms indicated the highest satisfaction levels compared to other models, with 87% reporting a positive view.

Globally, most platforms reported having a positive view of regulatory responses. However, firms in jurisdictions with low stringency lockdown measures were slightly more positive about regulatory support to mitigate the impact of the pandemic compared to those in jurisdictions with high stringency lockdown measures.

Use of Covid-19 relief schemes

Globally, only 15% of market provisioning platforms reported using Covid-19 relief schemes. Of those, most (43%) received a tax relief or subsidy. This was followed by participating in a government job-retention scheme (31%) and receiving a government low/zero-interest loan (23%).

Figure 7.18: 2020 use of Covid-19 relief schemes by (a) AEs and (b) EMDEs: market provisioning



**Top markets by economic development: AEs: United States, United Kingdom, Singapore, France, and Italy; EMDEs: India, Brazil, China, Mexico, Thailand, and Vietnam*

Overall, firms in AEs and EMDEs used relief measures by similar amounts (12% and 14%, respectively). This is an important difference compared to other verticals, where most firms that could use relief measures were operating in AEs. There were also no differences in the type of relief schemes used.

In terms of lockdown stringency, market provisioning platforms in jurisdictions with high stringency lockdown measures reported using Covid-19 relief schemes more than those in jurisdictions with low stringency lockdown measures, consistent with results observed for other verticals.

Table 7.12: Examples of fintechs' participation in Covid-19 relief measures: market provisioning

Model	Region or market	Change to pricing, service agreements and policies	Example from the field
Enterprise technology provisioning	North America	Implementation of delivery partner: PPP	An American-based enterprise technology provisioning firm made it easier for small business owners to apply for Paycheck Protection Program (PPP) loans. Working directly with the small businesses, the firm developed a portal to help banks and credit unions process PPP loans significantly faster. They supplied the platform to financial institutions for free.
	North America	Implementation of delivery partner: PPP	An American-based firm released customizable payroll reports, a simplified PPP loan-forgiveness tracker, and a streamlined PPP application report that, at the time this report was written, had been downloaded more than 80,000 times. Nationwide, the firm facilitated more than USD2.5 billion of approved PPP loans.

Concluding remarks

Concluding remarks

This study summarizes the findings from a global survey to assess the medium-to-longer-term impact of Covid-19 on the fintech industry.

Overall, the findings indicate that the fintech industry has been resilient, and activities have continued to grow. However, specific factors influenced growth, particularly the jurisdiction of operation (whether the firms were in AEs or EMDEs), lockdown stringency level, and participation as distribution partners of government relief programs. There are also important differences across countries and verticals. Regarding those general findings, a few issues deserve further attention by policymakers and some, potentially, also by academics.

First, is the need for an appropriate regulatory framework for the provision of regulated services by fintech firms. Issues such as the scale of the economy and level of development of the financial sector may be influencing patterns of growth, but the regulatory framework also matters. In this regard, particularly in EMDEs, many jurisdictions have not yet implemented regulatory frameworks that enable fintechs to provide regulated services, or the current frameworks do not strike the right balance between the need to support innovation and the need to address the potential risks to consumers and/or financial stability that these activities can pose. Thus, financial regulators should review the situation in their respective jurisdictions and work toward implementing such frameworks. The WBG *Technical Note on the Regulation and Supervision of Fintech* guides policymakers in EMDEs to tackle this challenge.[38]

Second, is the potential need for additional regulatory support for fintechs. Most firms considered that mechanisms of support were not sufficient, and firms in EMDEs expressed a lower level of satisfaction with the support received during the pandemic than those in AEs. The forthcoming WBG *The Fintech and the Future of Finance Overview Paper* (2022) highlights the scope for improvement in the regulatory frameworks in EMDEs and the importance for regulators in these jurisdictions to catch up with AEs.[39] Although the findings from our study only offer a partial view, supervisory authorities should engage with the industry to assess whether improvements in regulatory support mechanisms are needed.

Third, is whether appropriate monitoring mechanisms exist. Firms reported significant increases in risks such as liquidity and foreign exchange risks. While, in most cases, these issues might not give rise to concerns about financial stability, supervisory authorities must assess whether they have appropriate monitoring arrangements in place. The WBG's *Technical Note* details key matters that supervisory authorities in EMDEs must consider as they implement such arrangements.[40]

Fourth, is the potential need for coordination arrangements with foreign supervisors. An important percentage of firms operate in more than one jurisdiction. Also, most firms that operate in EMDEs are headquartered in foreign jurisdictions. Therefore, financial supervisory authorities should review these findings in terms of their jurisdictions to assess whether additional mechanisms for coordinating and cooperating with foreign supervisors are needed.

Fifth, is the role of fintech firms in financial inclusion. The customer base of these platforms, in which a significant proportion are women, from low-income populations, and SMEs, may indicate fintechs' positive

contribution to financial inclusion. More analysis is needed, however, on the customer profile base (whether they are truly unbanked or underbaked customers) and price services arrangements. These findings should then be compared with similar information on traditional firms to confirm this.

Sixth, is the criteria governments use to determine distribution partners. Only a small percentage of firms that participated in this study were used to distribute government relief packages. Government authorities should assess the criteria used to select distribution partners to ensure they do not create unnecessary barriers.

Appendices

Appendix 1: Definition of fintech business models by sub-vertical

Category	Business model	Sub-vertical	Definition
Retail-facing (consumers and MSMEs)	Digital lending	Balance-sheet consumer lending	The platform entity provides an unsecured or secured loan directly to a consumer borrower.
		Balance-sheet business lending	The platform entity provides an unsecured or secured loan directly to the business borrower.
		Balance-sheet property lending	The platform entity provides a loan, secured against a property, directly to a consumer or business borrower.
		P2P/marketplace consumer lending	Individuals and/or institutional funders provide a loan to a consumer borrower.
		P2P/marketplace business lending	Individuals and/or institutional funders provide a loan to a business borrower.
		P2P/marketplace property lending	Individuals and/or institutional funders provide a loan, secured against a property, to a consumer or business borrower.
		Debt-based securities	Individuals and/or institutional funders purchase debt-based securities, typically a bond or debenture, at a fixed interest rate.
		Mini-bonds	Individuals or institutions purchase securities from companies in the form of an unsecured bond which is termed 'mini' because the issue size is much smaller than the minimum issue amount needed for a bond issued in institutional capital markets.
		Invoice trading	Individuals and/or institutional funders purchase discounted invoices or receivables from a business.
		Crowd-led microfinance	Interests and/or other profits are re-invested (forgoing the interest by donating) or microcredit is provided at lower rates.
		Customer cash advance/BNPL	A buy now/pay later payment facilitator or store credit solution, typically interest bearing.
		Merchant cash advance	A merchant cash advance provided via an electronic platform, typically with a retail and/or institutional investor counterpart receiving fixed payments or future payments based on sales.
	Digital capital raising	Equity-based crowdfunding	Individuals and/or institutional funders purchase equity issued by a company.
		Revenue/profit share crowdfunding	Individuals and/or institutions purchase securities from a company, such as shares, and share in the profits or royalties of the business.
		Real estate crowdfunding	Individuals and/or institutional funders provide equity or subordinated debt financing for real estate.
		Donation-based crowdfunding	Donors provide funding to individuals, projects or companies based on philanthropic or civic motivations with no expectation of monetary or material rewards.
		Reward-based crowdfunding	Backers provide funding to individuals, projects, or companies in exchange for non-monetary rewards or products.
	Digital banks and/or savings	Neobank/fully digitally native bank	Provides banking services to individual consumers exclusively through digital platforms.
		Marketplace bank	Provides banking services to businesses exclusively through digital platforms.
		Digital moneymarket/fund	Allows fundraising by issuing short-term debt that can be bought by investors.
		Digital micro-saving solutions	Identify small savings opportunities within individuals' existing budget and put money automatically aside into a savings account to encourage positive behavioral change.
		Digital savings collective/pool	Members pay into a common platform that pools contributions for issuing loans, with interest from the loans shared among the members.
		Agent banking (cash-in, cash-out	Performs services in some capacity on behalf of another banking entity.
		Banking-as-a-service (BaaS)	An end-to-end process that allows other organizations to set up and offer digital banking services.
		Savings-as-a-service (SaaS)	An end-to-end process that allows other organizations to set up and offer savings services.
	Digital payment	Digital remittances (cross-border P2P)	Provide cross-border remittances services.
		Digital remittances (domestic P2P)	Provide domestic remittances services.
		Money transfer (P2P/P2B/B2P/B2B)	Provides digital means of payment to access and use funds stored in an account (for example, virtual debit/credit cards and wallets).
		E-money issuers	Issue electronic funds and provide digital means of payment to access and use those funds (for example, virtual prepaid cards and e-money).
		Mobile money	Use of a mobile phone to transfer funds between banks or accounts, deposit or withdraw funds, or pay bills.
		Acquiring service providers for merchants	Provide means for accepting digital payments by merchants.
		Point-of-access (PoS/mPoSonline PoS)	Provide hardware or software to capture payment transactions to transmit to a network.
		Bulk payment solutions	Provide payments to multiple beneficiaries from a single transaction.
		Top-ups and refills	Provider facilitates top-ups or refills of various products and services such as mobile phone contracts.
		Payment gateways	Provide digital payment acceptance services on behalf of multiple acquirers to integrate different types of digital payment mechanisms/instruments.
		Payment aggregators	Collect payments on behalf of multiple merchants and accept different digital payment instruments.
		API hubs for payments	Integrate different online payment services through a unified API service.
		Settlement and clearing services providers	Manage and operate digital platforms where different entities exchange funds on their behalf or on behalf of their customers.
	Exchange services	Central order-book exchange	Central limit order-book using a trading engine to match, buy and sell spot orders from users.
		Decentralized exchange (DEX) models	Peer-to-peer exchange built on top of a public blockchain.
		Trading bots/automation	Platform using an algorithm to optimize trading strategies.
		P2P cryptoasset marketplaces	Buyer and seller matching platform often coupled with cryptocurrency escrow services.
		Derivatives platforms	Traders speculate on the potential price action of a financial instrument to achieve gains, all without having to own the asset itself.
		Retail brokerage services	Platform allowing users to acquire and/or sell cryptoassets at fixed prices and submit orders.
		Institutional brokerage services	Service providers executing trade orders on behalf of their institutional clients.
		Single dealer platform/OTC trading	Provider enabling clients to engage in bilateral trades outside formal trading venues.

Appendix 1: Definition of fintech business models by sub-vertical

Category	Business model	Sub-vertical	Definition
Retail-facing (consumers & MSMEs)	Digital custody	Third-party custody	Fully managed custody solutions often using an omnibus model.
		Co-managed custody	Sophisticated custody solutions using multi-party computation (MPC), often associated with a 'walled garden' setup/closed environment.
		Hardware cryptoasset wallet	Small devices that securely store private keys without exposing them to connected machines.
		Unhosted cryptoasset wallet	Non-custodial applications that store cryptoassets on a device (for example, a mobile, desktop, or tablet).
		Hosted cryptoasset wallet	Custodial applications that store cryptoassets on a device (for example, a mobile, desktop, or tablet) or that can be accessed from any connected device via a browser.
		E-money wallet	Online applications that can be accessed from any connected device via a browser.
		Key management services	Providers offering technology infrastructure to self-custody their cryptoassets.
	Insurtech	Usage-based insurance	Premiums or levels of cover are determined by usage behavior.
		Parametric-based insurance	Compensates policyholders automatically based on pre-defined triggers associated with losses.
		On-demand insurance	Insurance is extended in real-time for a specific risk event and duration.
		P2P insurance	Risk-sharing network where a group of individuals pool premiums.
		Technical service provider (TSP)	Enables distribution partnerships with MNOs, virtual marketplaces, and other consumer aggregation points.
		Digital broker or agent	Allows users to buy insurance cover underwritten by one or multiple insurers.
		Comparison portal	Compares insurers and insurance options to facilitate policy selection.
		Customer management	Supports insurers in managing customer acquisition
		Claims and risk management solutions	Supports insurers in risk management and processing digital claims.
		IoT (including telematics)	Remote devices connected to insurance services.
	Wealthtech	Digital wealth management	Online platforms that supply and provide asset-management services.
		Social trading	Platforms that provide investment advice through a social network.
		Robo-advisors	Asset management automated solutions based on algorithms or artificial intelligence.
		Pension planning	Use of algorithms and machine learning to offer pension advice.
		Personal financial management/planning	Enables understanding and effective application of various financial skills, including personal financial management, budgeting, and investing.
		Financial comparison sites	Online and mobile platforms comparing financial products.
Market provisioning	Regtech and/or suptech	Profiling and due diligence	Collects and integrates data from multiple sources to build a profile of a person or entity to allow identity confirmation and categorization according to regulation.
		Blockchain forensics	Captures and records key biographical attributes such as the location of birth for identification; monitors customer deposits and withdrawals for signs of 'tainted' coins that may have been involved in criminal activity.
		Risk analytics	Uses big data to assess fraud risk, market abuse or other misconduct at the transaction level.
		Dynamic compliance	Facilitates and monitors regulatory changes to ensure that policies and controls adapt seamlessly to changing requirements.
		Regulatory reporting	Reporting and dashboards.
		Market monitoring	Matches market-level outcomes to regulatory or internal rules to, for example, identify poor product performance.
	Alternative credit and/or data analytics	Psychometric analytics	Connects an individual's personality type and behavior with a credit or insurance product.
		Sociometric analytics	Analyzes social communication patterns with social sensing technology to drive innovative transformation services.
		Biometric analytics	Discovers patterns within biometric signals to ascertain potentially valuable information about a person such as emotional state or longevity.
		Alternative credit rating agency	Issues corporate ratings on corporate issuers not considered a financial institution or insurance undertaking.
		Credit scoring	Helps lenders see the true creditworthiness of their customers by removing unconscious biases and adding much-needed nuance to credit applications.
	Digital identity	Security and biometrics	Captures and records key biometric attributes, such as fingerprints, for identification.
		KYC solutions	Capture and record key biographical attributes, such as the location of birth, for identification.
		Fraud prevention and risk management	Aims to prevent theft and misuse of personal data
	Enterprise technology provisioning	API management	Creating and publishing web application programming interfaces (APIs) by, for example, enforcing their usage policies and analyzing usage statistics.
		Enterprise blockchain	The features of blockchain technology that will solve major enterprise problems.
		Financial management and business intelligence	Business intelligence tools that help finance professionals gain insight into internal and external factors that affect the bottom line.
		Digital accounting	The formation, representation and transmission of financial data in an electronic format.
		Electronic invoicing	A form of electronic billing to allow the collection of payments.
		Process automation	Technology-enabled automation of complex business processes.

Appendix 2: Country region classification

Country/jurisdiction	Region	Number of observations by OQ
United Kingdom	United Kingdom	207
United States	NORTH AMERICA (US & Canada)	204
India	APAC	135
China	China	133
Italy	Europe	111
Germany	Europe	108
France	Europe	104
Mexico	LAC	103
Brazil	LAC	101
Spain	Europe	98
Singapore	APAC	96
Australia	APAC	86
Indonesia	APAC	86
Canada	North America (US & Canada)	71
Netherlands	Europe	70
Colombia	LAC	69
Switzerland	Europe	64
Malaysia	APAC	61
Kenya	SSA	57
Philippines	APAC	56
Peru	LAC	54
Belgium	Europe	52
United Arab Emirates	MENA	52
Sweden	Europe	51
Denmark	Europe	49
Nigeria	SSA	49
Austria	Europe	48
Argentina	LAC	47
Portugal	Europe	47
Chile	LAC	46
Finland	Europe	46
Estonia	Europe	44
Japan	APAC	44
Norway	Europe	44
Thailand	APAC	44
Latvia	Europe	41
Lithuania	Europe	41
Poland	Europe	41
Czech Republic	Europe	40
Vietnam	APAC	40
Greece	Europe	38
Ireland	Europe	38
Luxembourg	Europe	38
South Africa	SSA	38
Uganda	SSA	37
New Zealand	APAC	32
Hungary	Europe	30
Romania	Europe	30
Dominican Republic	LAC	28
Taiwan	APAC	28
Turkey	Europe	28
Cambodia	APAC	27
Ecuador	LAC	27
Guatemala	LAC	27
Bulgaria	Europe	26
Israel	MENA	26
Croatia	Europe	25
Slovakia	Europe	25

Country/jurisdiction	Region	Number of observations by OQ
Cyprus	Europe	23
Ghana	SSA	23
Russia	Europe	23
South Korea	APAC	23
Malta	Europe	22
Slovenia	Europe	22
Uruguay	LAC	22
Rwanda	SSA	20
Saudi Arabia	MENA	20
Zambia	SSA	19
Pakistan	APAC	18
Panama	LAC	18
Sri Lanka	APAC	18
Tanzania	SSA	18
Honduras	LAC	17
Iceland	Europe	16
Morocco	MENA	16
Ukraine	Europe	16
Costa Rica	LAC	15
Egypt	MENA	15
Liechtenstein	Europe	15
Paraguay	LAC	15
Senegal	SSA	14
Bangladesh	APAC	13
Cameroon	SSA	13
Jordan	MENA	13
Georgia	Europe	12
Kazakhstan	Europe	12
Lebanon	MENA	12
Malawi	SSA	12
Mozambique	SSA	12
Nepal	APAC	12
Mauritius	SSA	11
Serbia	Europe	11
Armenia	Europe	10
Kuwait	MENA	10
Qatar	MENA	10
Zimbabwe	SSA	10
Bahrain	MENA	9
Belarus	Europe	9
Bolivia	LAC	9
Botswana	SSA	9
El Salvador	LAC	9
Moldova	Europe	9
Nicaragua	LAC	9
Togo	SSA	9
Venezuela	LAC	9
Belize	LAC	8
Madagascar	SSA	8
Monaco	Europe	8
Mongolia	APAC	8
Gibraltar	United Kingdom	8
Albania	Europe	7
Bermuda	LAC	7
Burkina Faso	SSA	7
Iraq	MENA	7
Isle of Man	Europe	7
Kosovo	Europe	7
Mali	SSA	7

Country/jurisdiction	Region	Number of observations by OQ
Benin	SSA	6
Faroe Islands	Europe	6
Jamaica	LAC	6
Kyrgyzstan	APAC	6
Namibia	SSA	6
Trinidad and Tobago	LAC	6
Tunisia	MENA	6
Bahamas	LAC	5
Cayman Islands	LAC	5
Ethiopia	SSA	5
Greenland	Europe	5
Liberia	SSA	5
Oman	MENA	5
Sierra Leone	SSA	5
Algeria	MENA	4
Andorra	Europe	4
Azerbaijan	APAC	4
Bhutan	APAC	4
Cuba	LAC	4
Haiti	LAC	4
Lesotho	SSA	4
Seychelles	SSA	4
Tajikistan	APAC	4
Chad	SSA	3
Gambia	SSA	3
Guinea	SSA	3
Montenegro	Europe	3
Saint Lucia	LAC	3
Samoa	APAC	3
Suriname	LAC	3
Vanuatu	APAC	3
Yemen	MENA	3
Jersey	United Kingdom	3
Afghanistan	MENA	2
Angola	SSA	2
Burundi	SSA	2
Dominica	LAC	2
Fiji	APAC	2
Papua New Guinea	APAC	2
Somalia	SSA	2
Syria	MENA	2
Timor-Leste	APAC	2
Guernsey	United Kingdom	2
Maldives	APAC	2
Barbados	LAC	1
Central African Republic	SSA	1
Comoros	SSA	1
Equatorial Guinea	SSA	1
Falkland Islands	United Kingdom	1
Iran	MENA	1
Mauritania	SSA	1
New Caledonia	APAC	1
Niger	SSA	1
Solomon Islands	APAC	1
South Sudan	SSA	1
Sudan	MENA	1
Tonga	APAC	1
Brunei	APAC	1
Grenada	LAC	1

Appendix 3: Regression findings on understanding the impact of lockdown stringency, economic development, and fintechs' participation in Covid-19 relief distribution schemes on their transaction values

Methodology

We performed a panel regression analysis on the data from 2019 to 2020 transaction values for all retail-facing fintechs[41] against economic developmental factors (determined by income level based on country of operation), lockdown stringency levels, and participation as delivery partners for Covid-19 relief schemes (this also includes fintechs who may not have directly participated in distributing Covid-19 relief funds but did participate in schemes by verifying the identity of recipients of government stimulus payments) to determine whether there were any statistically significant impacts on transactional values. To understand Covid-19's impact, we applied interactions to determine the effects of countries' lockdown stringency levels, fintechs' participation in Covid-19 relief schemes, and country-specific economic development factors on transactional value growth in 2020. We also applied country and firm fixed effects to the pooled panel dataset, but found no significant variations across country or firm level.

In terms of the regression findings, it is important to note that there is significant bias in this model in terms of omitted control variables that may have country-specific macroeconomic impact. This is also evident in the lower value of the computed R square for the model in each of the regression findings we discuss below, implying that the current model can only explain 5.8% variation in the global transaction values. As such, these results are preliminary and hence cannot be used to conclude whether any of the independent variables examined in this study were significant to understanding the impact of Covid-19 on the growth of fintechs' transaction values.

Table A1: Impact of Covid-19 relief schemes, lockdown stringency, and economic development on the growth rate of fintechs' transaction values

Dependent variable: log (USD transaction values)				
Independent variables	(1) Global	(2) Digital lending	(3) Digital capital raising	(4) Digital payments
Year:2020	−2.455*** (0.227)	−2.873*** (0.277)	−2.498*** (0.246)	1.038 (1.137)
Firms participating in Covid-19 relief scheme distribution partnership (2020)	4.110*** (0.402)	3.243*** (0.385)	2.475*** (0.737)	6.016*** (1.035)
Advanced economic development (2020)	2.031*** (0.174)	2.486*** (0.216)	3.015*** (0.207)	−0.868 (0.758)
Medium lockdown stringency (2020)	1.057*** (0.233)	0.924*** (0.285)	1.440*** (0.262)	−2.964** (1.358)
High lockdown stringency (2020)	1.404*** (0.215)	0.548** (0.266)	1.570*** (0.248)	−1.030 (1.129)
Constant	13.68*** (0.0939)	15.92*** (0.116)	11.44*** (0.118)	15.66*** (0.395)
Observations R-squared	3,951 0.058	1,485 0.123	1,725 0.110	312 0.077

Robust standard errors in parentheses.
**** p < 0.01; ** p < 0.05; * p < 0.1*

Note: The lockdown stringency index and Covid-19 relief scheme to not apply to 2019. Hence, in this model, we add an interaction term between 2020 dummy variables and independent variables without including their original effect for 2019 values. The baseline group in this model is for firms who did not participate in a Covid-19 relief scheme distribution partnership, belonged to EMDEs, and operated in jurisdictions with low stringency lockdown measures.

Findings

- For fintechs in emerging markets, in lower stringency lockdown levels, and that did not participate in a Covid-19 distribution scheme, this model suggests that globally, fintech transaction values dropped by 2.45% in 2020.
- Transaction values grew by only 1.65% in 2020 in countries where fintechs did participate in Covid-19 relief schemes, marginally growing by 4% more than in countries where fintechs did not participate. This implies that fintech participation in a Covid-19 relief scheme played a role in the growth of transaction values in 2020. However, it must be noted that we cannot conclude that the presence of a Covid-19 relief scheme was the most significant factor that explains the growth in 2020 transaction values.
- Firms in AEs experienced a relatively lower decrease in the growth rate of transaction values compared to emerging market economies.
- Similarly, as the lockdown stringency levels increased, the effect on the decline of the transaction value growth rate decreased.

Digital lending

- Digital lending firms in countries with no Covid-19 relief schemes, in EMDEs, and with low stringency lockdown levels experienced a 2.8% decrease in lending volumes.
- Countries in which digital lending firms participated in Covid-19 relief schemes saw a marginal growth of 3.2% in lending volumes compared to those countries in which digital lending firms did not participate in Covid-19 relief schemes. This indicates that countries that did introduce Covid-19 relief schemes through fintechs during the pandemic's recovery period had better outcomes than the countries that did not, although marginal.
- For fintechs in AEs, there was a relatively smaller decrease in transaction value growth rate compared to fintechs in EMDEs. From this, we can say that Covid-19 had a negative impact on lending volumes, but the effect was less significant for firms in developed markets.
- In terms of lockdown stringency levels, firms in jurisdictions with medium stringency lockdown measures reported a relatively lower decline in transaction value growth rate than firms operating under other lockdown stringency levels.

Digital capital raising

- Countries in which digital capital raising firms did not participate in Covid-19 relief schemes, that belonged to EMDEs, and had lower lockdown stringency measures, experienced an almost 2.5% decrease in crowdfunding volumes in 2020 due to Covid-19.
- While crowdfunding firms operating in AEs observed a negligible change (–0.02%) in their growth for 2020, they outgrew EMDEs by nearly 2.5%.
- Also, in terms of lockdown stringency levels, there was a monotonic increasing effect on crowdfunding volumes. This implies that the countries with higher stringency lockdown levels experienced a smaller negative in crowdfunding volume growth.

Digital payments

- For digital payments, there was a statistically significant relationship associated with distributing Covid-19 relief schemes through fintechs. The results suggest that the countries in which digital payments firms participated in distributing Covid-19 relief schemes observed a growth rate of almost 6% more than countries in which fintechs did not participate in distributing Covid-19 relief schemes. It must be noted that most of the digital payment firms that participated in Covid-19 relief schemes did so by helping to verify the identity of government stimulus payments recipients.

Appendix 4: Digital lending volumes

Operational country/ jurisdiction	CCAF lockdown stringency category	Income group classification	2019 total value of loan origination (USD)	2020 total value of loan origination (USD)	Annual rate of change (%)
United States	High stringency	Advanced economies	50.0bn	72.8bn	46
United Kingdom	High stringency	Advanced economies	8.7bn	6.7bn	–24
Hong Kong (SAR)	Medium stringency	Advanced economies	346.7m	5.5bn	1,479
Brazil	High stringency	EMDEs	3.4bn	3.5bn	5
India	High stringency	EMDEs	3.2bn	2.2bn	–30
Italy	High stringency	Advanced economies	1.5bn	1.9bn	25
Dominican Republic	High stringency	EMDEs	1.3bn	1.7bn	32
Indonesia	Medium stringency	EMDEs	1.4bn	1.4bn	1
France	Medium stringency	Advanced economies	1.2bn	1.3bn	6
China	High stringency	EMDEs	84.3bn	1.2bn	99
South korea	Low stringency	Advanced economies	1.4bn	1.1bn	–22
Germany	Medium stringency	Advanced economies	953.5m	1.0bn	7
Australia	High stringency	Advanced economies	1.1bn	1.0bn	–10
Chile	High stringency	Advanced economies	552.8m	967.6m	75
Singapore	Medium stringency	Advanced economies	304.1m	678.2m	123
Japan	Low stringency	Advanced economies	312.2m	654.5m	110
Israel	High stringency	Advanced economies	808.5m	631.1m	–22
Spain	High stringency	Advanced economies	509.3m	584.4m	15
Netherlands	Medium stringency	Advanced economies	2.8bn	535.7m	–81
Ghana	Low stringency	EMDEs	585.4m	527.9m	–10
Colombia	High stringency	EMDEs	425.6m	520.4m	22
Mexico	High stringency	EMDEs	524.9m	517.6m	–1
Ukraine	Medium stringency	EMDEs	539.0m	396.5m	–26
Finland	Low stringency	Advanced economies	439.9m	376.6m	–14
Poland	Medium stringency	Advanced economies	477.4m	304.8m	–36
Zambia	Low stringency	EMDEs	172.4m	297.6m	73
Russia	Medium stringency	EMDEs	309.1m	233.2m	–25
Lithuania	Low stringency	Advanced economies	162.9m	202.3m	24
New Zealand	Low stringency	Advanced economies	283.6m	190.7m	–33
Kazakhstan	High stringency	EMDEs	260.4m	172.7m	–34
Canada	High stringency	Advanced economies	225.6m	169.7m	–25
Estonia	Low stringency	Advanced economies	142.4m	141.3m	–1
Sweden	Low stringency	Advanced economies	106.2m	133.8m	26
Czech Republic	Low stringency	Advanced economies	67.4m	132.1m	96
Armenia	Stringency data unavailable	EMDEs	468.9m	128.9m	–72
Vietnam	Medium stringency	EMDEs	44.0m	121.7m	176
Uganda	High stringency	EMDEs	8.4m	115.3m	1,276
Malaysia	Medium stringency	EMDEs	73.0m	110.1m	51
Lebanon	High stringency	EMDEs	232.5m	103.0m	–56
Tanzania	Low stringency	EMDEs	83.0m	103.0m	24
Slovenia	Medium stringency	Advanced economies	97.0m	101.1m	4
Moldova	Medium stringency	EMDEs	179.1m	93.8m	–48
Peru	High stringency	EMDEs	73.4m	83.3m	13
Kenya	High stringency	EMDEs	73.5m	79.4m	8
Latvia	Low stringency	Advanced economies	356.7m	75.8m	–79
Costa Rica	Medium stringency	EMDEs	53.4m	74.0m	39
Argentina	High stringency	EMDEs	59.7m	72.5m	22
United Arab Emirates	Medium stringency	Advanced economies	81.4m	68.1m	–16
Philippines	High stringency	EMDEs	270.0m	64.3m	–76
Denmark	Low stringency	Advanced economies	146.3m	62.2m	–57
Belgium	Medium stringency	Advanced economies	71.2m	61.3m	–14
Albania	Medium stringency	EMDEs	79.6m	60.8m	–24
Norway	Low stringency	Advanced economies	35.3m	57.7m	63
Bulgaria	Low stringency	EMDEs	66.2m	52.9m	–20
Switzerland	Low stringency	Advanced economies	47.1m	48.4m	3
Uruguay	Low stringency	Advanced economies	2.5m	43.3m	1,611
Taiwan	Low stringency	Advanced economies	198.5m	42.5m	–79
Romania	Medium stringency	Advanced economies	26.8m	30.3m	13
Turkey	Medium stringency	EMDEs	1.3m	29.5m	2,215
Egypt	High stringency	EMDEs	773.7k	26.1m	3,275
Guatemala	High stringency	EMDEs	32.7m	22.7m	–31
Botswana	Medium stringency	EMDEs	39.3m	21.8m	–45
Ireland	High stringency	Advanced economies	19.6m	20.4m	4
North Macedonia	Stringency data unavailable	EMDEs	33.1m	20.1m	–39

Operational country/ jurisdiction	CCAF lockdown stringency category	Income group classification	2019 total value of loan origination (USD)	2020 total value of loan origination (USD)	Annual rate of change (%)
Gibraltar	Stringency data unavailable	Advanced economies	46.1m	19.9m	–57
Jersey	Stringency data unavailable	Advanced economies	96.2m	18.4m	–81
Georgia	High stringency	EMDEs	57.7m	17.9m	–69
Portugal	High stringency	Advanced economies	28.0m	17.4m	–38
Belarus	Low stringency	EMDEs	4.0m	15.3m	287
Rwanda	High stringency	EMDEs	6.7m	9.2m	37
Greece	Medium stringency	Advanced economies	121.5k	8.8m	7,159
Namibia	Low stringency	EMDEs	2.4m	8.4m	246
Paraguay	High stringency	EMDEs	9.4m	8.3m	–11
Ecuador	High stringency	EMDEs	11.0m	7.9m	–28
Luxembourg	Low stringency	Advanced economies	3.4m	5.7m	70
Slovakia	Low stringency	Advanced economies	5.8m	5.3m	–9
Nigeria	Medium stringency	EMDEs	14.2m	5.3m	–63
Guernsey	Stringency data unavailable	Advanced economies	14.2m	5.2m	–64
Tajikistan	Low stringency	EMDEs	4.0m	5.1m	27
Isle of man	Stringency data unavailable	Advanced economies	12.1m	4.9m	–59
Cambodia	Low stringency	EMDEs	4.4m	4.5m	2
Senegal	Low stringency	EMDEs	3.8m	4.5m	18
Congo Dem. Rep.	Low stringency	EMDEs	3.2m	4.4m	39
Nicaragua	Low stringency	EMDEs	2.0m	4.1m	101
Thailand	Medium stringency	EMDEs	504.5k	4.1m	716
South Africa	Medium stringency	EMDEs	4.8m	4.0m	–17
Bangladesh	High stringency	EMDEs	8.1m	3.6m	–56
Bolivia	High stringency	EMDEs	2.3m	3.4m	49
El Salvador	High stringency	EMDEs	5.2m	3.4m	–35
Kyrgyzstan	High stringency	EMDEs	3.1m	3.2m	3
Palestine	High stringency	EMDEs	4.0m	2.8m	–30
Burkina Faso	Low stringency	EMDEs	1.2m	2.8m	136
Saudi Arabia	High stringency	Advanced economies	0.0k	2.7m	N/A
Jordan	High stringency	EMDEs	3.9m	2.5m	–37
Honduras	High stringency	EMDEs	2.0m	1.7m	–17
Togo	Medium stringency	EMDEs	1.3m	1.3m	1
Mauritius	Low stringency	Advanced economies	511.1k	1.3m	149
Myanmar (Burma)	High stringency	EMDEs	1.5m	1.3m	–14
Puerto Rico (US)	Stringency data unavailable	Advanced economies	546.7k	1.2m	117
Pakistan	Medium stringency	EMDEs	4.5m	1.2m	–74
Samoa	Stringency data unavailable	EMDEs	1.9m	1.2m	–39
Malawi	Medium stringency	EMDEs	2.1m	1.1m	–45
Mali	Low stringency	EMDEs	746.7k	1.1m	51
Madagascar	Medium stringency	EMDEs	923.6k	1.1m	22
Timor–Leste	Low stringency	EMDEs	1.4m	1.1m	–20
Liberia	High stringency	EMDEs	1.1m	985.1k	–11
Croatia	Low stringency	Advanced economies	1.8m	821.3k	–55
Tonga	Stringency data unavailable	EMDEs	849.9k	816.2k	–4
Haiti	Low stringency	EMDEs	896.0k	678.1k	–24
Sierra Leone	Low stringency	EMDEs	558.3k	570.2k	2
Fiji	Medium stringency	EMDEs	805.0k	537.6k	–33
Mozambique	Medium stringency	EMDEs	652.1k	514.2k	–21
Mongolia	Medium stringency	EMDEs	62.9k	428.8k	582
Solomon Islands	Stringency data unavailable	EMDEs	659.0k	409.9k	–38
Kosovo	High stringency	EMDEs	56.5m	258.1k	–100
Venezuela	High stringency	EMDEs	95.7k	235.6k	146
Faroe Islands	Low stringency	Advanced economies	4.5m	229.6k	–95
Panama	High stringency	Advanced economies	144.2k	181.9k	26
Lesotho	Medium stringency	EMDEs	246.9k	151.2k	–39
Cameroon	Low stringency	EMDEs	165.6k	136.6k	–18
Papua New Guinea	Low stringency	EMDEs	114.8k	107.2k	–7
Nepal	High stringency	EMDEs	105.0k	55.7k	–47
Vanuatu	Low stringency	EMDEs	0.0k	54.7k	N/A
Austria	Low stringency	Advanced economies	0.0k	27.5k	N/A
Bosnia and Herzegovina	Medium stringency	EMDEs	19.3k	19.7k	2
Zimbabwe	High stringency	EMDEs	1.6m	1.0k	–100
Morocco	High stringency	EMDEs	0.2k	0.6k	204
Congo Rep.	Stringency data unavailable	EMDEs	9.6k	0.0k	–100
Cote d'Ivoire	Low stringency	EMDEs	15.8m	0.0k	–100
Hungary	Medium stringency	Advanced economies	9.2k	0.0k	–100
Malta	Low stringency	Advanced economies	123.2k	0.0k	–100

Appendix 5: Digital lending SME volumes

Operational country/ jurisdiction	CCAF lockdown stringency category	Income group classification	2019 SME value of loan origination (USD)	2020 SME value of loan origination (USD)	Annual rate of change (%)
United States	High stringency	Advanced economies	14.8bn	31.9B	115
United Kingdom	High stringency	Advanced economies	5.5bn	6.0B	9
Brazil	High stringency	EMDEs	2.9bn	3.3B	11
Italy	High stringency	Advanced economies	1.3bn	1.7B	28
Dominican Republic	High stringency	EMDEs	1.3bn	1.7B	32
Indonesia	Medium stringency	EMDEs	1.2bn	1.2B	3
Chile	High stringency	Advanced economies	552.8m	967.6m	75
France	Medium stringency	Advanced economies	476.7m	894.7m	88
Australia	High stringency	Advanced economies	809.9m	649.8m	–20
Japan	Low stringency	Advanced economies	312.2m	648.5m	108
Singapore	Medium stringency	Advanced economies	229.1m	633.3m	176
Netherlands	Medium stringency	Advanced economies	570.5m	469.4m	–18
Colombia	High stringency	EMDEs	331.4m	426.9m	29
Spain	High stringency	Advanced economies	320.5m	352.3m	10
Finland	Low stringency	Advanced economies	264.7m	275.8m	4
India	High stringency	EMDEs	992.4m	215.9m	–78
Mexico	High stringency	EMDEs	192.7m	184.0m	–5
Germany	Medium stringency	Advanced economies	164.1m	172.2m	5
Lithuania	Low stringency	Advanced economies	62.3m	143.9m	131
Canada	High stringency	Advanced economies	192.2m	139.1m	–28
Hong Kong (SAR)	Medium stringency	Advanced economies	76.5m	135.5m	77
Czech Republic	Low stringency	Advanced economies	61.5m	130.1m	112
Malaysia	Medium stringency	EMDEs	73.0m	109.8m	50
Israel	High stringency	Advanced economies	135.5m	102.8m	–24
Slovenia	Medium stringency	Advanced economies	97.0m	101.1m	4
Sweden	Low stringency	Advanced economies	76.4m	80.2m	5
Estonia	Low stringency	Advanced economies	71.1m	79.5m	12
Peru	High stringency	EMDEs	56.3m	76.1m	35
Latvia	Low stringency	Advanced economies	76.3m	72.2m	–5
United Arab Emirates	Medium stringency	Advanced economies	81.4m	63.9m	–22
Belgium	Medium stringency	Advanced economies	71.2m	51.7m	–27
Norway	Low stringency	Advanced economies	25.2m	34.5m	37
Switzerland	Low stringency	Advanced economies	36.2m	34.1m	–6
Uruguay	Low stringency	Advanced economies	0.0k	34.0m	N/A
Ireland	High stringency	Advanced economies	17.8m	20.4m	15
Gibraltar	Stringency data unavailable	Advanced economies	36.1m	19.9m	–45
Kenya	High stringency	EMDEs	20.4m	19.2m	–6
South korea	Low stringency	Advanced economies	112.9m	19.1m	–83
Romania	Medium stringency	Advanced economies	271.1k	18.9m	6883
Guatemala	High stringency	EMDEs	28.3m	18.6m	–35
Jersey	Stringency data unavailable	Advanced economies	75.3m	18.4m	–76
China	High stringency	EMDEs	14.2bn	16.3m	–100
Argentina	High stringency	EMDEs	14.1m	16.1m	14
Denmark	Low stringency	Advanced economies	14.1m	14.5m	3
Russia	Medium stringency	EMDEs	6.5m	12.1m	86
New Zealand	Low stringency	Advanced economies	14.7m	10.2m	–31
Moldova	Medium stringency	EMDEs	3.1m	8.9m	187
Greece	Medium stringency	Advanced economies	112.0k	8.8m	7,776
Taiwan	Low stringency	Advanced economies	171.4m	8.5m	–95
Portugal	High stringency	Advanced economies	12.9m	7.1m	–45
Luxembourg	Low stringency	Advanced economies	3.4m	5.7m	70
Guernsey	Stringency data unavailable	Advanced economies	11.1m	5.2m	–54
Bulgaria	Low stringency	EMDEs	3.3m	5.2m	55
Isle of man	Stringency data unavailable	Advanced economies	9.4m	4.9m	–48
Nigeria	Medium stringency	EMDEs	13.1m	4.6m	–64
Poland	Medium stringency	Advanced economies	2.8m	4.1m	49
Bangladesh	High stringency	EMDEs	8.0m	3.6m	–55
Rwanda	High stringency	EMDEs	1.7m	3.5m	105
Belarus	Low stringency	EMDEs	0.0k	3.5m	N/A
Thailand	Medium stringency	EMDEs	0.0k	3.4m	N/A

Operational country/ jurisdiction	CCAF lockdown stringency category	Income group classification	2019 SME value of loan origination (USD)	2020 SME value of loan origination (USD)	Annual rate of change (%)
Kazakhstan	High stringency	EMDEs	0.0k	2.5m	N/A
Uganda	High stringency	EMDEs	2.1m	2.3m	9
Saudi Arabia	High stringency	Advanced economies	0.0k	2.2m	N/A
Philippines	High stringency	EMDEs	135.9m	1.7m	–99
Mauritius	Low stringency	Advanced economies	511.1k	1.3m	149
Myanmar (Burma)	High stringency	EMDEs	1.5m	1.2m	–18
Ghana	Low stringency	EMDEs	1.1m	1.2m	6
Vietnam	Medium stringency	EMDEs	1.0m	1.1m	9
Croatia	Low stringency	Advanced economies	1.8m	821.3k	–55
Tanzania	Low stringency	EMDEs	839.7k	696.8k	–17
Togo	Medium stringency	EMDEs	559.8k	464.5k	–17
Mongolia	Medium stringency	EMDEs	57.2k	428.8k	650
Slovakia	Low stringency	Advanced economies	2.3m	336.6k	–86
Honduras	High stringency	EMDEs	315.6k	321.7k	2
Cambodia	Low stringency	EMDEs	1.3m	302.5k	–76
Zambia	Low stringency	EMDEs	839.5k	265.7k	–68
Venezuela	High stringency	EMDEs	95.7k	235.6k	146
Faroe Islands	Low stringency	Advanced economies	4.5m	229.6k	–95
Malawi	Medium stringency	EMDEs	1.2m	185.8k	–84
Haiti	Low stringency	EMDEs	178.0k	182.5k	2
Nicaragua	Low stringency	EMDEs	156.3k	159.3k	2
Botswana	Medium stringency	EMDEs	0.0k	98.4k	N/A
South Africa	Medium stringency	EMDEs	443.7k	95.9k	–78
Tajikistan	Low stringency	EMDEs	90.9k	92.6k	2
Mali	Low stringency	EMDEs	83.9k	85.5k	2
Senegal	Low stringency	EMDEs	45.8k	85.5k	87
Lebanon	High stringency	EMDEs	58.0k	59.1k	2
Ecuador	High stringency	EMDEs	1.4m	50.0k	–97
Bosnia & Herzegovina	Medium stringency	EMDEs	19.3k	19.7k	2
Palestine	High stringency	EMDEs	346.0k	0.0k	–100
Cote d'Ivoire	Low stringency	EMDEs	15.8m	0.0k	–100
Pakistan	Medium stringency	EMDEs	1.4m	0.0k	–100
Zimbabwe	High stringency	EMDEs	289.4k	0.0k	–100
Georgia	High stringency	EMDEs	5.9k	0.0k	–100
Paraguay	High stringency	EMDEs	28.9k	0.0k	–100

Appendix 6: Digital capital raising volumes

			2019 fund value (USD)			2020 fund value (USD)			
Operational country/ jurisdiction	CCAF lockdown stringency category	Income group classification	Investment	Non-investment	2019 total	Investment	Non-investment	2020 total	Annual rate of change (%)
United Kingdom	High stringency	Advanced economies	636.3m	4.2bn	4.8bn	658.9m	5.8bn	6.5bn	35
United States	High stringency	Advanced economies	1.9B	580.8m	2.5bn	1.8bn	1.0bn	2.9bn	15
France	Medium stringency	Advanced economies	336.5m	59.1m	395.6m	498.2m	69.4m	567.6m	43
Japan	Low stringency	Advanced economies	223.9m	62.7m	286.6m	304.7m	196.5m	501.2m	75
Germany	Medium stringency	Advanced economies	412.4m	51.4m	463.9m	399.2m	96.7m	495.9m	7
Singapore	Medium stringency	Advanced economies	111.2m	4.6m	115.8m	313.4m	7.0m	320.4m	177
South korea	Low stringency	Advanced economies	33.4m	124.0m	157.3m	17.9m	162.1m	180.0m	14
Canada	High stringency	Advanced economies	20.9m	127.2m	148.1m	31.0m	140.2m	171.1m	16
Australia	High stringency	Advanced economies	42.0m	47.8m	89.9m	43.8m	105.8m	149.6m	66
Ireland	High stringency	Advanced economies	1.3m	13.4m	14.7m	3.3m	131.1m	134.3m	812
Gibraltar	Stringency data unavailable	Advanced economies	0.0k	0.0k	0.0k	133.5m	0.0k	133.5m	N/A
India	High stringency	EMDEs	12.9m	37.4m	50.3m	16.7m	98.5m	115.2m	129
Italy	High stringency	Advanced economies	66.9m	19.9m	86.8m	85.9m	24.1m	110.0m	27
Spain	High stringency	Advanced economies	70.4m	28.3m	98.7m	59.1m	39.0m	98.1m	–1
Poland	Medium stringency	Advanced economies	6.3m	40.2m	46.5m	6.1m	79.1m	85.2m	83
Brazil	High stringency	EMDEs	9.0m	40.0m	49.0m	9.0m	74.5m	83.6m	71
Sweden	Low stringency	Advanced economies	74.2m	1.0m	75.2m	79.0m	1.6m	80.7m	7
Norway	Low stringency	Advanced economies	18.7m	103.9m	122.6m	34.9m	30.1m	65.0m	–47
Austria	Low stringency	Advanced economies	15.4m	8.2m	23.6m	45.7m	7.0m	52.6m	123
Hong Kong (SAR)	Medium stringency	Advanced economies	0.0k	18.0m	18.0m	3.5m	35.1m	38.6m	115
Switzerland	Low stringency	Advanced economies	11.5m	13.9m	25.4m	13.8m	24.0m	37.8m	49
New Zealand	Low stringency	Advanced economies	14.0m	2.2m	16.2m	29.5m	2.7m	32.2m	99
Malaysia	Medium stringency	EMDEs	8.2m	1.2m	9.4m	20.0m	4.7m	24.7m	162
Netherlands	Medium stringency	Advanced economies	15.8m	12.8m	28.6m	8.3m	14.6m	23.0m	–20
Indonesia	Medium stringency	EMDEs	1.1m	15.3m	16.4m	10.8m	10.4m	21.2m	30
South Africa	Medium stringency	EMDEs	12.7m	7.2m	19.9m	7.0m	13.8m	20.8m	5
Mexico	High stringency	EMDEs	18.3m	5.6m	23.9m	11.8m	8.8m	20.6m	–14
Finland	Low stringency	Advanced economies	22.8m	2.3m	25.1m	17.9m	1.4m	19.3m	–23
Pakistan	Medium stringency	EMDEs	0.0k	1.1m	1.1m	15.8m	751.8k	16.5m	1,364
Israel	High stringency	Advanced economies	9.0m	2.1m	11.1m	12.4m	3.8m	16.2m	46
Belgium	Medium stringency	Advanced economies	56.0k	3.3m	3.4m	11.9m	2.5m	14.4m	328
Argentina	High stringency	EMDEs	4.6m	105.5k	4.7m	12.7m	129.5k	12.9m	172
Estonia	Low stringency	Advanced economies	26.5m	818.6k	27.3m	11.8m	888.2k	12.7m	–54
Luxembourg	Low stringency	Advanced economies	11.2m	248.5k	11.4m	10.3m	237.8k	10.5m	–8
Latvia	Low stringency	Advanced economies	2.9m	390.5k	3.3m	10.4m	74.3k	10.5m	219
Denmark	Low stringency	Advanced economies	0.0k	2.3m	2.3m	1.7m	7.6m	9.3m	306
China	High stringency	EMDEs	72.4k	10.0m	10.1m	36.2k	8.4m	8.4m	–16
Thailand	Medium stringency	EMDEs	3.6m	1.4m	5.0m	3.9m	4.2m	8.1m	63
Czech Republic	Low stringency	Advanced economies	693.0k	3.0m	3.7m	2.0m	5.3m	7.3m	98
Lithuania	Low stringency	Advanced economies	1.8m	8.7k	1.8m	6.1m	67.4k	6.2m	250
Russia	Medium stringency	EMDEs	0.0k	4.3m	4.3m	0.0k	6.0m	6.0m	41
Romania	Medium stringency	Advanced economies	1.9m	1.1m	3.0m	3.8m	1.4m	5.2m	71
Taiwan	Low stringency	Advanced economies	0.0k	2.8m	2.8m	0.0k	4.4m	4.4m	59
Ukraine	Medium stringency	EMDEs	0.0k	3.7m	3.7m	0.0k	4.3m	4.3m	16
Colombia	High stringency	EMDEs	85.4k	1.9m	1.9m	338.7k	3.7m	4.1m	111
Chile	High stringency	Advanced economies	1.6m	110.6k	1.8m	3.7m	109.6k	3.8m	117
Saudi Arabia	High stringency	Advanced economies	5.8m	15.0k	5.8m	3.7m	101.9k	3.8m	–36
Greece	Medium stringency	Advanced economies	0.0k	998.5k	998.5k	0.0k	3.6m	3.6m	264
Bangladesh	High stringency	EMDEs	0.0k	119.8k	119.8k	0.0k	2.3m	2.3m	1,817
Portugal	High stringency	Advanced economies	1.1m	1.5m	2.6m	1.1m	1.0m	2.1m	–19
Vietnam	Medium stringency	EMDEs	2.1m	35.9k	2.1m	0.0k	1.8m	1.8m	–14
Kenya	High stringency	EMDEs	4.0m	1.6m	5.6m	5.4k	1.6m	1.6m	–71
Croatia	Low stringency	Advanced economies	0.0k	566.7k	566.7k	0.0k	1.3m	1.3m	123
Turkey	Medium stringency	EMDEs	0.0k	1.6m	1.6m	0.0k	1.2m	1.2m	–24
Uganda	High stringency	EMDEs	0.0k	443.7k	443.7k	0.0k	1.1m	1.1m	141
Yemen	Low stringency	EMDEs	0.0k	412.6k	412.6k	0.0k	1.1m	1.1m	155
Slovakia	Low stringency	Advanced economies	0.0k	1.1m	1.1m	0.0k	880.4k	880.4k	–16
United Arab Emirates	Medium stringency	Advanced economies	6.8m	5.6m	12.4m	10.9k	852.3k	863.2k	–93
Philippines	High stringency	EMDEs	71.9k	248.2k	320.2k	182.1k	656.3k	838.4k	162

			2019 fund value (USD)			2020 fund value (USD)			
Operational country/ jurisdiction	CCAF lockdown stringency category	Income group classification	Investment	Non-investment	2019 total	Investment	Non-investment	2020 total	Annual rate of change (%)
Hungary	Medium stringency	Advanced economies	0.0k	452.6k	452.6k	48.7k	747.5k	796.2k	76
Cyprus	Medium stringency	Advanced economies	0.0k	185.0k	185.0k	0.0k	713.5k	713.5k	286
Lebanon	High stringency	EMDEs	0.0k	88.0k	88.0k	0.0k	674.1k	674.1k	666
Dominican Republic	High stringency	EMDEs	0.0k	886.6k	886.6k	0.0k	661.7k	661.7k	–25
Ghana	Low stringency	EMDEs	0.0k	113.6k	113.6k	355.0k	279.3k	634.3k	458
Venezuela	High stringency	EMDEs	0.0k	291.3k	291.3k	0.0k	491.5k	491.5k	69
Bulgaria	Low stringency	EMDEs	0.0k	828.9k	828.9k	0.0k	458.3k	458.3k	–45
Ecuador	High stringency	EMDEs	0.0k	217.8k	217.8k	0.0k	437.0k	437.0k	101
Slovenia	Medium stringency	Advanced economies	0.0k	296.0k	296.0k	0.0k	422.4k	422.4k	43
Guatemala	High stringency	EMDEs	117.0k	326.1k	443.1k	0.0k	415.9k	415.9k	–6
Nigeria	Medium stringency	EMDEs	0.0k	362.2k	362.2k	0.0k	377.9k	377.9k	4
Nepal	High stringency	EMDEs	0.0k	251.5k	251.5k	0.0k	352.4k	352.4k	40
Malta	Low stringency	Advanced economies	0.0k	728.3k	728.3k	0.0k	345.3k	345.3k	–53
North Macedonia	Stringency data unavailable	EMDEs	0.0k	948.7k	948.7k	0.0k	291.9k	291.9k	–69
Bosnia and Herzegovina	Medium stringency	EMDEs	0.0k	29.6k	29.6k	0.0k	291.3k	291.3k	885
Peru	High stringency	EMDEs	0.0k	290.5k	290.5k	0.0k	285.2k	285.2k	–2
Senegal	Low stringency	EMDEs	447.8k	44.8k	492.6k	228.2k	56.7k	284.9k	–42
Cambodia	Low stringency	EMDEs	0.0k	384.1k	384.1k	15.0k	265.5k	280.5k	–27
Zimbabwe	High stringency	EMDEs	0.0k	103.0k	103.0k	0.0k	259.9k	259.9k	152
Puerto Rico (US)	Stringency data unavailable	Advanced economies	0.0k	195.8k	195.8k	0.0k	259.8k	259.8k	33
Tanzania	Low stringency	EMDEs	0.0k	223.9k	223.9k	0.0k	256.1k	256.1k	14
Iraq	High stringency	EMDEs	0.0k	58.0k	58.0k	0.0k	203.9k	203.9k	251
Costa Rica	Medium stringency	EMDEs	0.0k	163.3k	163.3k	0.0k	181.6k	181.6k	11
Serbia	Medium stringency	EMDEs	0.0k	95.1k	95.1k	57.1k	123.5k	180.5k	90
Rwanda	High stringency	EMDEs	0.0k	67.3k	67.3k	0.1k	178.0k	178.1k	164
Cote d'Ivoire	Low stringency	EMDEs	279.9k	2.7k	282.6k	171.2k	2.6k	173.8k	–38
Sri Lanka	Low stringency	EMDEs	0.0k	97.2k	97.2k	0.0k	172.1k	172.1k	77
Myanmar (Burma)	High stringency	EMDEs	0.0k	3.9k	3.9k	0.0k	163.5k	163.5k	4,120
Iceland	Low stringency	Advanced economies	0.0k	728.7k	728.7k	0.0k	158.9k	158.9k	–78
Uruguay	Low stringency	Advanced economies	0.0k	0.9k	0.9k	0.0k	150.1k	150.1k	16,455
Cameroon	Low stringency	EMDEs	580.3k	271.6k	851.9k	0.0k	137.9k	137.9k	–84
Mali	Low stringency	EMDEs	0.0k	0.1k	0.1k	136.9k	0.0k	136.9k	130,733
Tunisia	Low stringency	EMDEs	0.0k	4.1k	4.1k	114.1k	22.8k	136.9k	3,272
kosovo	High stringency	EMDEs	0.0k	58.7k	58.7k	0.0k	124.7k	124.7k	112
Mongolia	Medium stringency	EMDEs	0.0k	130.4k	130.4k	0.0k	116.7k	116.7k	–10
Belize	High stringency	EMDEs	0.0k	57.1k	57.1k	0.0k	89.5k	89.5k	57
Egypt	High stringency	EMDEs	0.0k	39.6k	39.6k	0.0k	85.1k	85.1k	115
Algeria	High stringency	EMDEs	0.0k	14.6k	14.6k	0.0k	74.8k	74.8k	414
Liberia	High stringency	EMDEs	0.0k	77.9k	77.9k	0.0k	64.6k	64.6k	–17
Burkina Faso	Low stringency	EMDEs	112.0k	7.6k	119.6k	57.1k	7.2k	64.2k	–46
Zambia	Low stringency	EMDEs	0.0k	41.2k	41.2k	0.0k	61.4k	61.4k	49
Nicaragua	Low stringency	EMDEs	0.0k	61.3k	61.3k	0.0k	57.2k	57.2k	–7
Panama	High stringency	Advanced economies	0.0k	49.1k	49.1k	0.0k	45.9k	45.9k	–7
Sierra Leone	Low stringency	EMDEs	0.0k	55.1k	55.1k	0.0k	44.2k	44.2k	–20
Eswatini	Medium stringency	EMDEs	0.0k	53.9k	53.9k	0.0k	44.1k	44.1k	–18
Armenia	Stringency data unavailable	EMDEs	0.0k	87.7k	87.7k	0.0k	43.8k	43.8k	–50
Botswana	Medium stringency	EMDEs	0.0k	6.9k	6.9k	11.0k	32.2k	43.2k	527
Palestine	High stringency	EMDEs	0.0k	79.8k	79.8k	0.0k	42.0k	42.0k	–47
Malawi	Medium stringency	EMDEs	0.0k	65.1k	65.1k	0.0k	39.9k	39.9k	–39
Bahamas, The	High stringency	Advanced economies	0.0k	107.2k	107.2k	0.0k	36.5k	36.5k	–66
Virgin Islands	Stringency data unavailable	Advanced economies	0.0k	34.0k	34.0k	0.0k	34.3k	34.3k	1
Moldova	Medium stringency	EMDEs	0.0k	33.6k	33.6k	0.0k	34.2k	34.2k	2
Honduras	High stringency	EMDEs	0.0k	24.5k	24.5k	0.0k	34.1k	34.1k	39
Namibia	Low stringency	EMDEs	0.0k	29.1k	29.1k	0.0k	33.7k	33.7k	16
Guinea	Medium stringency	EMDEs	0.0k	5.2k	5.2k	0.0k	32.5k	32.5k	528
Burundi	Low stringency	EMDEs	0.0k	38.7k	38.7k	0.0k	29.9k	29.9k	–23
Congo Dem. Rep.	Low stringency	EMDEs	0.0k	5.6m	5.6m	0.0k	25.6k	25.6k	–100
Morocco	High stringency	EMDEs	167.9k	61.7k	229.7k	0.0k	25.4k	25.4k	–89
Kuwait	High stringency	Advanced economies	0.0k	5.0k	5.0k	0.0k	22.6k	22.6k	352
Madagascar	Medium stringency	EMDEs	0.0k	56.0k	56.0k	0.0k	22.6k	22.6k	–60
Ethiopia	High stringency	EMDEs	0.0k	52.8k	52.8k	0.0k	21.6k	21.6k	–59
Bolivia	High stringency	EMDEs	0.0k	82.0k	82.0k	0.0k	21.3k	21.3k	–74

			2019 fund value (USD)			2020 fund value (USD)			
Operational country/ jurisdiction	CCAF lockdown stringency category	Income group classification	Investment	Non-investment	2019 total	Investment	Non-investment	2020 total	Annual rate of change (%)
Afghanistan	Low stringency	EMDEs	0.0k	67.0k	67.0k	0.0k	21.3k	21.3k	−68%
Qatar	High stringency	Advanced economies	0.0k	0.0k	0.0k	0.0k	20.8k	20.8k	N/A
Haiti	Low stringency	EMDEs	0.0k	45.7k	45.7k	0.0k	19.5k	19.5k	−57
Belarus	Low stringency	EMDEs	0.0k	58.1k	58.1k	0.0k	17.2k	17.2k	−70
Suriname	High stringency	EMDEs	0.0k	33.2k	33.2k	0.0k	17.2k	17.2k	−48
Lesotho	Medium stringency	EMDEs	0.0k	23.9k	23.9k	0.0k	16.9k	16.9k	−30
Albania	Medium stringency	EMDEs	0.0k	15.2k	15.2k	0.0k	15.8k	15.8k	4
Fiji	Medium stringency	EMDEs	0.0k	16.4k	16.4k	0.0k	12.8k	12.8k	−22
Macao	Low stringency	Advanced economies	0.0k	0.0k	0.0k	0.0k	12.8k	12.8k	395,157
Kazakhstan	High stringency	EMDEs	0.0k	20.0k	20.0k	0.0k	11.5k	11.5k	−43
Barbados	Low stringency	Advanced economies	0.0k	5.1k	5.1k	0.0k	10.6k	10.6k	109
Saint Lucia	Stringency data unavailable	EMDEs	0.0k	1.4k	1.4k	0.0k	9.7k	9.7k	589
Mauritius	Low stringency	Advanced economies	0.0k	37.8k	37.8k	0.0k	9.0k	9.0k	−76
Tajikistan	Low stringency	EMDEs	0.0k	4.0k	4.0k	0.0k	8.7k	8.7k	115
Greenland	Low stringency	Advanced economies	0.0k	8.8k	8.8k	0.0k	8.1k	8.1k	−9
Jamaica	High stringency	EMDEs	0.0k	94.8k	94.8k	0.0k	7.9k	7.9k	−92
Benin	Low stringency	EMDEs	0.0k	0.8k	0.8k	0.0k	7.5k	7.5k	904
Gambia	Medium stringency	EMDEs	0.0k	2.3k	2.3k	0.0k	6.4k	6.4k	175
Paraguay	High stringency	EMDEs	0.0k	8.7k	8.7k	0.0k	6.0k	6.0k	−31
Mozambique	Medium stringency	EMDEs	0.0k	3.9k	3.9k	0.0k	5.8k	5.8k	50
Syria	Medium stringency	EMDEs	0.0k	0.0k	0.0k	0.0k	5.3k	5.3k	26,525
Trinidad and Tobago	High stringency	Advanced economies	0.0k	3.8k	3.8k	0.0k	5.2k	5.2k	39
Curacao	Stringency data unavailable	Advanced economies	0.0k	6.6k	6.6k	0.0k	5.1k	5.1k	−22
Cuba	High stringency	EMDEs	0.0k	0.0k	0.0k	0.0k	4.9k	4.9k	N/A
Jordan	High stringency	EMDEs	0.0k	11.2k	11.2k	0.0k	4.7k	4.7k	−58
Georgia	High stringency	EMDEs	0.0k	0.2k	0.2k	0.0k	4.0k	4.0k	1,804
Timor–Leste	Low stringency	EMDEs	0.0k	2.3k	2.3k	0.0k	3.1k	3.1k	37
Mauritania	Stringency data unavailable	EMDEs	0.0k	0.0k	0.0k	0.0k	3.1k	3.1k	N/A
Chad	High stringency	EMDEs	0.0k	4.4k	4.4k	0.0k	2.9k	2.9k	−34
South Sudan	Medium stringency	EMDEs	0.0k	3.3k	3.3k	0.0k	2.9k	2.9k	−11
Lao People's Democratic Republic	Low stringency	EMDEs	0.0k	24.4k	24.4k	0.0k	2.8k	2.8k	−88
New Caledonia	Stringency data unavailable	Advanced economies	0.0k	0.0k	0.0k	0.0k	2.8k	2.8k	N/A
Faroe Islands	Low stringency	Advanced economies	0.0k	3.1k	3.1k	0.0k	2.4k	2.4k	−22
Niger	Low stringency	EMDEs	0.0k	0.0k	0.0k	0.0k	2.2k	2.2k	N/A
Bermuda	Low stringency	Advanced economies	0.0k	23.6k	23.6k	0.0k	1.4k	1.4k	−94
Vanuatu	Low stringency	EMDEs	0.0k	2.1k	2.1k	0.0k	1.2k	1.2k	−42
Togo	Medium stringency	EMDEs	0.0k	5.8k	5.8k	0.0k	1.1k	1.1k	−80
Somalia	Low stringency	EMDEs	0.0k	12.4k	12.4k	0.0k	0.7k	0.7k	−94
Grenada	Stringency data unavailable	EMDEs	0.0k	0.0k	0.0k	0.0k	0.6k	0.6k	N/A
Bhutan	High stringency	EMDEs	0.0k	1.3k	1.3k	0.0k	0.6k	0.6k	−53
Seychelles	Low stringency	Advanced economies	0.0k	0.0k	0.0k	0.0k	0.3k	0.3k	N/A
Dominica	Low stringency	EMDEs	0.0k	0.0k	0.0k	0.0k	0.2k	0.2k	N/A
Falkland Islands	Stringency data unavailable	Advanced economies	0.0k	0.0k	0.0k	0.0k	0.2k	0.2k	N/A
Congo Rep.	Stringency data unavailable	EMDEs	0.0k	0.0k	0.0k	0.0k	0.1k	0.1k	N/A
El Salvador	High stringency	EMDEs	0.0k	5.8k	5.8k	0.0k	0.0k	0.0k	−99
Papua New Guinea	Low stringency	EMDEs	0.0k	1.4k	1.4k	0.0k	0.0k	0.0k	−99
Maldives	Stringency data unavailable	EMDEs	0.0k	0.8k	0.8k	0.0k	0.0k	0.0k	−99
Angola	High stringency	EMDEs	0.0k	4.0k	4.0k	0.0k	0.0k	0.0k	−100
Brunei	Stringency data unavailable	Advanced economies	0.0k	639.0k	639.0k	0.0k	0.0k	0.0k	−100
Central African Republic	Stringency data unavailable	EMDEs	0.0k	11.0k	11.0k	0.0k	0.0k	0.0k	−100
Kyrgyzstan	High stringency	EMDEs	0.0k	27.7k	27.7k	0.0k	0.0k	0.0k	−100
Liechtenstein	Low stringency	Advanced economies	0.0k	42.7k	42.7k	0.0k	0.0k	0.0k	−100
Monaco	Medium stringency	Advanced economies	0.0k	11.0m	11.0m	0.0k	0.0k	0.0k	−100
St. Kitts and Nevis	Stringency data unavailable	Advanced economies	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	−100
Samoa	Stringency data unavailable	EMDEs	0.0k	7.1k	7.1k	0.0k	0.0k	0.0k	−100
Svalbard and Jan Mayen	Stringency data unavailable	Advanced economies	0.0k	4.8k	4.8k	0.0k	0.0k	0.0k	−100

Appendix 7: Digital payments transaction values

			2019 total value of payments transactions per year (USD)			2020 total value of payments transactions per year (USD)			
Operational country/jurisdiction	CCAF lockdown stringency category	Income group classification	Individual clients	Business customers	2019 total	Individual clients	Business customers	2020 total	Annual rate of change (%)
United Kingdom	High stringency	Advanced economies	39.3bn	20.5bn	59.9bn	75.3bn	24.9bn	100.2bn	67%
Pakistan	Medium stringency	EMDEs	9.8bn	14.0m	9.8bn	25.9bn	1.2bn	27.1bn	175%
Uganda	High stringency	EMDEs	19.6bn	275.7m	19.8bn	24.4bn	388.3m	24.8bn	25%
Spain	High stringency	Advanced economies	6.2bn	12.0m	6.2bn	15.1bn	125.5m	15.2bn	147%
Tanzania	Low stringency	EMDEs	6.8bn	0.0k	6.8bn	9.7bn	0.0k	9.7bn	41%
Zambia	Low stringency	EMDEs	4.7bn	131.1m	4.8bn	7.0bn	207.6m	7.2bn	51%
Myanmar (Burma)	High stringency	EMDEs	4.9bn	63.1m	4.9bn	5.5bn	231.5m	5.8bn	17%
India	High stringency	EMDEs	3.2bn	385.8m	3.6bn	2.8bn	109.8m	2.9bn	-19%
Puerto Rico (US)	Stringency data unavailable	Advanced economies	2.4bn	1.2bn	3.6bn	2.5bn	1.2bn	3.7bn	5%
Malawi	Medium stringency	EMDEs	1.1bn	132.3m	1.3bn	1.7bn	206.8m	1.9bn	50%
Sierra Leone	Low stringency	EMDEs	916.5m	2.0bn	3.0bn	1.3bn	2.4bn	3.7bn	25%
Malaysia	Medium stringency	EMDEs	2.0bn	2.8bn	4.8bn	1.1bn	4.3bn	5.3bn	11%
Mongolia	Medium stringency	EMDEs	805.7m	1.4bn	2.3bn	835.4m	1.5bn	2.3bn	4%
Singapore	Medium stringency	Advanced economies	361.6m	7.3k	361.6m	302.8m	12.9k	302.8m	-16%
Colombia	High stringency	EMDEs	51.3m	110.9m	162.2m	139.9m	223.8m	363.7m	124%
Uruguay	Low stringency	Advanced economies	166.5m	44.8m	211.2m	139.8m	71.7m	211.5m	0%
Sri Lanka	Low stringency	EMDEs	127.0m	124.5m	251.5m	132.5m	129.9m	262.4m	4%
Chile	High stringency	Advanced economies	20.8m	44.7m	65.5m	126.9m	72.3m	199.2m	204%
Hong Kong (SAR)	Medium stringency	Advanced economies	108.5m	8.1m	116.6m	86.6m	1.7m	88.2m	-24%
Australia	High stringency	Advanced economies	90.6m	2.7bn	2.7bn	79.6m	2.8bn	2.9bn	5%
United States	High stringency	Advanced economies	69.7m	96.7bn	96.8bn	34.0m	103.1bn	103.1bn	7%
Sudan	Medium stringency	EMDEs	19.1m	17.5m	36.6m	26.9m	125.9m	152.8m	318%
Bangladesh	High stringency	EMDEs	33.3m	42.9m	76.3m	22.9m	68.3m	91.2m	20%
France	Medium stringency	Advanced economies	22.4m	22.4m	44.8m	22.8m	22.8m	45.6m	2%
Mexico	High stringency	EMDEs	13.2m	82.2m	95.4m	21.9m	117.9m	139.7m	46%
Peru	High stringency	EMDEs	3.1m	47.7m	50.8m	20.4m	79.9m	100.3m	98%
Ecuador	High stringency	EMDEs	1.0m	45.6m	46.6m	18.3m	87.5m	105.8m	127%
Paraguay	High stringency	EMDEs	0.0k	44.6m	44.6m	15.0m	72.5m	87.5m	96%
Argentina	High stringency	EMDEs	1.4m	65.3m	66.7m	14.7m	96.2m	110.9m	66%
Senegal	Low stringency	EMDEs	17.1m	80.1m	97.2m	13.9m	105.0m	118.9m	22%
Brazil	High stringency	EMDEs	6.6m	1.5bn	1.5bn	12.0m	7.3bn	7.3bn	384%
Turkey	Medium stringency	EMDEs	6.2m	82.6m	88.7m	6.5m	91.7m	98.2m	11%
Italy	High stringency	Advanced economies	1.4m	15.2k	1.4m	3.9m	314.3k	4.2m	194%
Dominican Republic	High stringency	EMDEs	5.6m	46.3m	51.8m	1.7m	73.2m	75.0m	45%
Nigeria	Medium stringency	EMDEs	894.7k	47.2m	48.1m	1.2m	76.7m	77.9m	62%
Russia	Medium stringency	EMDEs	225.5k	73.5m	73.7m	766.0k	217.7m	218.4m	196%
Costa Rica	Medium stringency	EMDEs	12.9k	44.6m	44.6m	540.2k	72.0m	72.6m	63%
Taiwan	Low stringency	Advanced economies	326.0k	0.0k	326.0k	520.1k	5.8k	525.9k	61%
China	High stringency	EMDEs	0.0k	42.9m	42.9m	217.7k	79.2m	79.4m	85%
Ghana	Low stringency	EMDEs	31.5k	46.0m	46.0m	96.0k	73.8m	73.8m	60%
Kenya	High stringency	EMDEs	19.6k	46.0m	46.0m	28.2k	73.8m	73.8m	60%
Norway	Low stringency	Advanced economies	0.0k	0.0k	0.0k	15.9k	0.0k	15.9k	NA
Canada	High stringency	Advanced economies	17.4k	2.7bn	2.7bn	15.7k	2.8bn	2.8bn	6%
Philippines	High stringency	EMDEs	11.8k	414.0m	414.0m	14.9k	459.2m	459.2m	11%
United Arab Emirates	Medium stringency	Advanced economies	11.4k	37.5k	48.9k	14.6k	50.1k	64.7k	32%
Saudi Arabia	High stringency	Advanced economies	14.1k	4.2k	18.3k	9.9k	10.9k	20.8k	14%
Indonesia	Medium stringency	EMDEs	7.7k	42.9m	42.9m	5.7k	68.3m	68.3m	59%
Venezuela	High stringency	EMDEs	1.3k	0.4k	1.6k	5.5k	1.7k	7.2k	341%
South Africa	Medium stringency	EMDEs	7.3k	46.0m	46.0m	4.3k	73.8m	73.8m	60%
Ukraine	Medium stringency	EMDEs	5.1k	0.0k	5.1k	3.7k	0.0k	3.7k	-28%
Hungary	Medium stringency	Advanced economies	0.5k	0.0k	0.5k	3.6k	0.0k	3.6k	620%
Thailand	Medium stringency	EMDEs	2.5k	215.6m	215.6m	2.8k	63.9m	63.9m	-70%
Germany	Medium stringency	Advanced economies	2.9k	3.3k	6.2k	2.5k	2.9k	5.4k	-13%
New Zealand	Low stringency	Advanced economies	0.1k	0.0k	0.1k	0.3k	0.0k	0.3k	97%
Bahrain	Medium stringency	Advanced economies	0.1k	0.0k	0.1k	0.1k	0.0k	0.1k	-12%
Albania	Medium stringency	EMDEs	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Andorra	Low stringency	Advanced economies	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Angola	High stringency	EMDEs	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Armenia	Stringency data unavailable	EMDEs	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Austria	Low stringency	Advanced economies	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA

			2019 total value of payments transactions per year (USD)			2020 total value of payments transactions per year (USD)			
Operational country/jurisdiction	CCAF lockdown stringency category	Income group classification	Individual clients	Business customers	2019 total	Individual clients	Business customers	2020 total	Annual rate of change (%)
Azerbaijan	High stringency	EMDEs	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Belarus	Low stringency	EMDEs	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Belgium	Medium stringency	Advanced economies	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Benin	Low stringency	EMDEs	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Bermuda	Low stringency	Advanced economies	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Bhutan	High stringency	EMDEs	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Bolivia	High stringency	EMDEs	0.0k	44.6m	44.6m	0.0k	71.5m	71.5m	60%
Bosnia & Herzegovina	Medium stringency	EMDEs	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Botswana	Medium stringency	EMDEs	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Bulgaria	Low stringency	EMDEs	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Burkina Faso	Low stringency	EMDEs	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Cambodia	Low stringency	EMDEs	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Cameroon	Low stringency	EMDEs	0.0k	42.9m	42.9m	0.0k	68.3m	68.3m	59%
Cote d'Ivoire	Low stringency	EMDEs	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Croatia	Low stringency	Advanced economies	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Cyprus	Medium stringency	Advanced economies	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Czech Republic	Low stringency	Advanced economies	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Denmark	Low stringency	Advanced economies	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Egypt	High stringency	EMDEs	0.0k	46.0m	46.0m	0.0k	73.8m	73.8m	60%
El Salvador	High stringency	EMDEs	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Estonia	Low stringency	Advanced economies	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Finland	Low stringency	Advanced economies	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Georgia	High stringency	EMDEs	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Greece	Medium stringency	Advanced economies	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Guatemala	High stringency	EMDEs	0.0k	0.0k	0.0k	0.0k	83.9k	83.9k	NA
Guinea	Medium stringency	EMDEs	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Honduras	High stringency	EMDEs	0.0k	241.5k	241.5k	0.0k	1.2m	1.2m	395%
Iceland	Low stringency	Advanced economies	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Iraq	High stringency	EMDEs	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Ireland	High stringency	Advanced economies	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Israel	High stringency	Advanced economies	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Japan	Low stringency	Advanced economies	0.0k	2.7bn	2.7bn	0.0k	2.8bn	2.8bn	6%
Jordan	High stringency	EMDEs	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Kazakhstan	High stringency	EMDEs	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Kuwait	High stringency	Advanced economies	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Kyrgyzstan	High stringency	EMDEs	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Lao People's Democratic Republic	Low stringency	EMDEs	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Latvia	Low stringency	Advanced economies	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Lebanon	High stringency	EMDEs	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Liberia	High stringency	EMDEs	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Liechtenstein	Low stringency	Advanced economies	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Lithuania	Low stringency	Advanced economies	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Luxembourg	Low stringency	Advanced economies	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Macao	Low stringency	Advanced economies	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Madagascar	Medium stringency	EMDEs	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Malta	Low stringency	Advanced economies	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Moldova	Medium stringency	EMDEs	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Monaco	Medium stringency	Advanced economies	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Morocco	High stringency	EMDEs	0.0k	46.0m	46.0m	0.0k	73.8m	73.8m	60%
Mozambique	Medium stringency	EMDEs	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Nepal	High stringency	EMDEs	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Netherlands	Medium stringency	Advanced economies	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Nicaragua	Low stringency	EMDEs	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
North Macedonia	Stringency data unavailable	EMDEs	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Oman	High stringency	Advanced economies	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Panama	High stringency	Advanced economies	0.0k	124.6m	124.6m	0.0k	231.5m	231.5m	86%
Poland	Medium stringency	Advanced economies	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Portugal	High stringency	Advanced economies	0.0k	671.8k	671.8k	0.0k	228.2k	228.2k	-66%
Qatar	High stringency	Advanced economies	0.0k	14.8m	14.8m	0.0k	123.6m	123.6m	733%
Romania	Medium stringency	Advanced economies	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Samoa	Stringency data unavailable	EMDEs	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA

			2019 total value of payments transactions per year (USD)			2020 total value of payments transactions per year (USD)			
Operational country/jurisdiction	CCAF lockdown stringency category	Income group classification	Individual clients	Business customers	2019 total	Individual clients	Business customers	2020 total	Annual rate of change (%)
Serbia	Medium stringency	EMDEs	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Slovakia	Low stringency	Advanced economies	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Slovenia	Medium stringency	Advanced economies	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Sweden	Low stringency	Advanced economies	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Switzerland	Low stringency	Advanced economies	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Togo	Medium stringency	EMDEs	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Tunisia	Low stringency	EMDEs	0.0k	0.0k	0.0k	0.0k	0.0k	0.0k	NA
Vietnam	Medium stringency	EMDEs	0.0k	42.9m	42.9m	0.0k	68.3m	68.3m	59%

Appendix 8: Insurtech gross premiums

Operational country/ jurisdiction	CCAF lockdown stringency category	Income group classification	2019 gross premium (USD)	2020 gross premium (USD)	Annual rate of change (%)
Italy	High stringency	Advanced economies	95.3m	114.9m	21
Thailand	Medium stringency	EMDEs	21.5m	31.8m	48
United Kingdom	High stringency	Advanced economies	5.2m	20.3m	292
Dominican Republic	High stringency	EMDEs	12.1m	8.9m	–26
Sri Lanka	Low stringency	EMDEs	8.2m	8.2m	1
Nigeria	Medium stringency	EMDEs	1.9m	8.1m	318
Pakistan	Medium stringency	EMDEs	7.4m	7.8m	5
Zimbabwe	High stringency	EMDEs	6.2m	7.2m	16
Ghana	Low stringency	EMDEs	6.3m	6.7m	7
Indonesia	Medium stringency	EMDEs	3.6m	4.7m	29
Cambodia	Low stringency	EMDEs	4.2m	3.2m	–24
South Africa	Medium stringency	EMDEs	1.0m	3.0m	192
Spain	High stringency	Advanced economies	2.5m	3.0m	20
Kenya	High stringency	EMDEs	1.6m	2.7m	76
Chile	High stringency	Advanced economies	1.1m	2.1m	86
Zambia	Low stringency	EMDEs	893.1k	1.6m	80
United States	High stringency	Advanced economies	1.7m	1.5m	–8
Mexico	High stringency	EMDEs	626.1k	1.4m	130
Tanzania	Low stringency	EMDEs	1.1m	1.3m	11
Malawi	Medium stringency	EMDEs	224.3k	1.1m	392
Bangladesh	High stringency	EMDEs	2.2m	1.0m	–52
Bermuda	Low stringency	Advanced economies	1.0m	1.0m	0
Canada	High stringency	Advanced economies	753.7k	745.9k	–1
Philippines	High stringency	EMDEs	138.0k	480.0k	248
Singapore	Medium stringency	Advanced economies	298.2k	440.0k	48
Malaysia	Medium stringency	EMDEs	455.6k	345.0k	–24
Austria	Low stringency	Advanced economies	1.1m	273.9k	–74
Brazil	High stringency	EMDEs	43.7k	236.2k	440
Hong Kong (SAR)	Medium stringency	Advanced economies	19.1k	208.4k	988
Germany	Medium stringency	Advanced economies	684.8k	182.1k	–73
Sweden	Low stringency	Advanced economies	125.0k	125.0k	0
Australia	High stringency	Advanced economies	173.9k	119.9k	–31
Peru	High stringency	EMDEs	0.0k	76.1k	N/A
Madagascar	Medium stringency	EMDEs	0.0k	70.0k	N/A
Mali	Low stringency	EMDEs	30.4k	69.7k	129
India	High stringency	EMDEs	0.0k	53.5k	NA
Senegal	Low stringency	EMDEs	27.4k	51.4k	88
Uganda	High stringency	EMDEs	27.0k	43.3k	61
New Zealand	Low stringency	Advanced economies	23.1k	26.0k	13
Japan	Low stringency	Advanced economies	20.0k	20.0k	0
Ethiopia	High stringency	EMDEs	118.4k	0.0k	–100
Rwanda	High stringency	EMDEs	61.5k	0.0k	–100

Appendix 9: Top three countries per region by number of respondents: digital lending

Region	Country/jurisdiction	Number of observations
China	China	105
United Kingdom	United Kingdom	57
North America (US and Canada)	United States	53
APAC	India	53
APAC	Indonesia	33
APAC	Australia	22
Europe	Netherlands	28
Europe	Italy	27
Europe	Germany	24
LAC	Brazil	39
LAC	Mexico	35
LAC	Colombia	29
SSA	Kenya	22
SSA	Nigeria	11
SSA	Uganda	9
MENA	United Arab Emirates	7
MENA	Israel	6
MENA	Egypt	5

Appendix 10: Top three countries per region by number of respondents: digital payments

Region	Country/jurisdiction	Number of observations
United Kingdom	United Kingdom	18
North America (US and Canada)	United States	17
North America (US and Canada)	Canada	9
LAC	Brazil	11
LAC	Colombia	10
LAC	Mexico	10
APAC	India	11
APAC	Indonesia	9
APAC	Australia	9
SSA	Nigeria	10
SSA	Uganda	9
SSA	Kenya	6
Europe	Spain	7
Europe	Italy	6
Europe	Turkey	6
Europe	France	6
MENA	United Arab Emirates	5
MENA	Saudi Arabia	5

Appendix 11: Top three countries per region by number of respondents: digital capital raising

Region	Country/jurisdiction	Number of observations
Europe	Germany	48
Europe	Italy	42
Europe	France	41
North America (US and Canada)	United States	41
United Kingdom	United Kingdom	40
APAC	India	32
APAC	Australia	21
APAC	Indonesia	19
APAC	Malaysia	19
LAC	Mexico	25
LAC	Brazil	20
LAC	Guatemala	12
LAC	Chile	12
SSA	Kenya	18
SSA	South Africa	13
SSA	Uganda	10
SSA	Ghana	10
SSA	Rwanda	10
MENA	United Arab Emirates	16
MENA	Morocco	7
MENA	Jordan	7

Appendix 12: Top three countries per region by number of respondents: insurtech

Region	Country/jurisdiction	Number of observations
United Kingdom	United Kingdom	12
North America (US and Canada)	United States	10
APAC	Indonesia	7
APAC	Singapore	6
APAC	Thailand	5
Europe	Spain	7
Europe	Italy	6
Europe	Germany	4
LAC	Mexico	5
LAC	Dominican Republic	3
LAC	Brazil	2
SSA	Uganda	5
SSA	Kenya	4
SSA	Nigeria	3

Appendix 13: Top three countries per region by number of respondents: enterprise technology provisioning

Region	Country/jurisdiction	Number of observations
United Kingdom	United Kingdom	55
North America (US and Canada)	United States	10
North America (US and Canada)	Canada	28
APAC	Singapore	34
APAC	Australia	25
APAC	India	21
China	China	11
Europe	Switzerland	24
Europe	Spain	20
Europe	Italy	19
Europe	France	19
Europe	Germany	19
LAC	Mexico	20
LAC	Brazil	18
LAC	Colombia	16
MENA	United Arab Emirates	17
MENA	Israel	11
SSA	Nigeria	8
SSA	South Africa	6
SSA	Kenya	5

Appendix 14: Fintech firms that participated in the study


AUDITcapital
AUREUS ANALYTICS
AUSTREME
auxmoney
AVANCE
axe trading
AXIAFUNDER
AYOMI
azima
BABEL FINANCE
BABYLOAN
backabuddy
BACKTOWORK
B.IN Bancoin
INCLUSÃO SOCIAL
BANCRYP
banhji
banjo
BDO
bdq
BETTER DATA QUALITY
beacon
BeAgil
BeCloud
Technologies
BeeBonds
BUILD TOGETHER
bee for deal
beehive
beesfund
beeyodo
BELBIM
Teknoloji Üretir
belvo.
BPLUS
benfeitoria
Bequest
BERGFÜRST
BetaSmartz
Betriax
betterplace.org
BTO
BezoMoney
Bflows
bfs
BiD Capital Partners
bidra.no
bigdatacorp.
billease
BILLEX
billion loans
loans made simple
Billpocket
Billy
birchal
BIRGER.
BITBUY
BitOasis
bizbaz
INTELLIGENT FINANCE
bizum
BLACK MANTA
CAPITAL PARTNERS
BlazePortfolio
Blazon
BLEND
THE BUSINESS LENDING NETWORK
blender
the new way to finance
BLOCKCHAIN
FOUNDERS FUND
Blocksure
bloom
blossom
bloxs
Blue Bees
BLUEWAVE
INSURANCE • EASIER • BETTER
BoleroCrowdfunding
bom pra crédito
Bond180
B/O/O/O
MERANG
CROWDFUNDING
BOOZT24
fast forward financing
BORUSAN MANNESMANN
BORZA TERJATEV
BOWPI
bien para bien
BR DGE
BRIDGE
IT CONSULTING
BrightPensioen
BrikApp
briq.mx
BRITISH PEARL


broadfactor
broota
INVERSIONES
bsurance
Be The Bank,
BUDDY
CAPITAL·FINANCE·CREDIT
Buddy Loan
buddy bank
BUILD AROUND
Bukas
BULLION
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Bumers
BuonaCausa.org
BorsadelCredito.it
equence
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cacao | paycard solutions
CACHE
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Cultura Bank
Cambia FX
cambio
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capbay
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Technologies
Capital Cell
CAPITAL FUNDING LAB
CAPITAL PARTNERS
CROWDFUNDING ZA NEKRETNINE
CAPITALIA
FINANCING BUSINESSES
CAPITALRISE
CapitalStackers
capitual
cap·rate
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cap·table
A plataforma de investimento em startups
.StartSe
CARDANO
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CashCredit
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Borrow Quick. Lend Smart.
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GET PAID INSTANTLY
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cermati.com
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clockwork
Club Deal Online
CLUBFUNDING
Assets
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COBROTECH
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CoFundy
COGNICOR
CoinDCX
COLECTUAL:
COLENDI
collbox
COLLECTIM
colleo
the fundraiser that cares
Colin Crowdfund
meer dan geld alleen
COMDINHEIRO
The Community Shares Company
COMPANISTO
ComplyCube
comviva
CONDA
zero2i
conio
consolid8
coop
CROWDFUNDING
CORL


CorreNet
CowryWise
creaLsa
CRECE ECUADOR
CREDIBLY
CrediFace
Credify
CREDIMI
CrediMotion
CREDiPORT
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CROWDFUNDING INMOBILIARIO
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Juntos, hoy es posible
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First Circle
fivana
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flexa
Flexfin
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FNALITY
FolkFunding
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fondify
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ForwardLine
FOUR EYES
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CROWD INVESTING
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FundingBox
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Fundary
fundaztic
P2P
FundedByMe
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Funder Nation
Fundfina
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FUNDKISS
FUNDNEL
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EngagementZentrum
Spenden-Plattform (Crowdfunding)
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GA
GEN ADVISORY
GERU
GESTELL
GFI
GHL
GINGER
GIVAHOY
GIVE&FUND
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INDIA
givengain
GIVINGHARBOUR


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GLOBALRISK AND DATA AUTHORITY
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GoFundHer
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iSTOX
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JazzCash
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JOOYCAR
JUANCHO TE PRESTA
judo bank
JULO
JUMO
Jumpstarter
Vanguard | Just Invest
Kabbage
an American Express company
KAIRA TECHNOLOGIES
KALEA
Crédito Inteligente
kameo
kamoney
Kapilendo
KAPITAAL OPMAAT
KAROLINA FUND
كاشا
تمويل بشكل مختلف
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KAPITAL TRIFFT MITTELSTAND
Kavod
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KindGeek
Kitabisa
kitafund
Kite Loans
Kiu
klear
KlickOwn
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komaytee
Komunal
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LARES
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LeihDeinerUmweltGeld
LEND
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Lendar
Mejores préstamos juntos
Lendbox
LENDEN club
Lender & Spender
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Lending CROWD
LendingClub
LendingCrowd
LENDINGKART
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LoanTap
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LOANXCHAIN
loggro
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LOOK&FIN
L-PESA LOANS AND CREDIT LIMITED
LUNO
luova DIGITAL
LYDIA.ai
lymo
M-Changa
M··ESKUDO
M²CROWD
machi-ya
MADISTON Digital Banking & Capital Markets
Mama Money More Money Home
MAMACROWD
منافع Manafa
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MappRisk
MAREIGUA
Marketlend
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MatchPlace
MATH VENTURE PARTNERS
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Milaap
BIMA
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monego.com
Money&Co.
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MoneyFellows
MONEYMATCH
MONEYTAP
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Crowd
MoolahSense
MOTUSQUO
MOUGANO INVESTMENT
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MTN
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music securities
musoni
Mutual
MYBILIO
mycause
myelen.com
mymoneyhelp.fr
cpf
CENTRUM PRE FILANTROPIU
NADAČNÍ FOND POMOCI
nadi
reports for funds
NAIRAEX
Naked
NAMASTE CREDIT
NamasteDirect
nbl
NaranjaX
NAYAF
NEO Finance
Netbank
NetM
NEWLIFE TECHNOLOGIES
newshore
NEWSY STOCK
NEXOOS
nextequity
nextpay
nimbla
NIOK
NIUM
NOMAD
norbloc
NORDSTREET
Novel Patterns Redefining Limits
noverde
NoviCap
NOVO BANCO CROWDFUNDING
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Ocapital
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Ingeniería de Negocios
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Crop Assurance
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Pay with Cash. Anywhere!
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OnMarket
ONYEN
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OSIGU
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OVAMBA
OXYLOANS
Lend · Borrow · Invest
Oxymon
OYA MICRO-CREDIT
Oyster.
Pacemakers
paganza
pagatodo
PAGOS360
PagueloFacil
J ventures
PAH


PALI
Presta al Instante
PANACRÉDITO
Pango FINANCIAL
papara
Pasar KTA
PASKOLŲ KLUBAS
patasente
Patronicity
PAXFUL
PAY1
Dukandaron Ka Network
PAYCODE
PayDo
paydunya
Paylend
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PERX
PESAKINANS
PesaKit
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Payments
PIXELPAY
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TECHNOLOGIES INC.
pensumo
roger
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Plenti
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PPL
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prazo.pt
precipita
ACTIVANDO LA CIENCIA COLECTIVA
Desarrollado por FECYT
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Pretmex
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Probity
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Project Imagine
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Prometeo
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Proplend
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PuntoSeguro.com
QPQ
QUANTIFEED
The wealthcare experts
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QuantDART
QuickCash
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Financial Technologies
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RAI CAPITAL
MSMEs Financing Platform
Raise Green
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THE INVESTMENT CIRCLE
RangDe
RapiCredit
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RateSetter
RE-LENDER
real^x
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earth system risk
≠Rebel


recaudia
RedCapital
regcompass
REGEA
REGMIND
Regtify
Rendimentoetico
Repay Solutions
Replace
REPUTATION TRANSFER
reset
rezolve instant salesware
ripio
Rnwl
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ROBOCASH INVESTMENT ROBOT
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Robowealth
瑞保網科 ROBO WEB TECH
ROCKTECH
Röntgen.
รู้ใจ Roojai.com
ROUILLON CONSULTING
Rupee Redee
RupeeCircle.com Borrow Better, Lend Smarter
Safaricom
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SaludFácil FINANCIAMOS TU SALUD
SFB
SANA FINANCE
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.Sharein Raise capital your way.
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SIMPLE CROWDFUNDING
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MYGiving
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Social Bank
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SociosInversores by SEGOFINANCE
SOISY
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SparkRaise
SPECTRUM MESSAGE SERVICES
SPINANALYTICS
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spotii
SprintHive
Squirrel
SS&C INTRALINKS
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#STACS Designed for Finance
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Startskudd
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STARTUPXPLORE
StashAway
StockCrowd IN
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Stonestep
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SUMARINVERSIÓN CROWDFUNDING INMOBILIARIO
SUNRATE
SVEA
SwiftDil
SWISSLENDING
swisspeers
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Syber Pay
symbid
Aracar Group
Symfonie
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FINANCIAL SERVICES
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ZAL. 2012
ZOPA
zrzutka.pl
ZUMO
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Endnotes

Endnotes

1. To facilitate the data collection process and ensure a robust fintech panel, the research team compiled a database of relevant firms to enable outreach activities. This database included 10,375 unique fintech firms operating in 192 countries or territories and was compiled from: (1) participants in previous CCAF surveys, (2) contacts provided by survey partners, (3) third-party fintech registries, and (4) desk-based research. The database includes firms from 12 primary verticals and 103 sub-verticals/models that are representative of both retail-facing and market-provisioning activities according to the taxonomy developed by the CCAF.
2. For example, of a bank or a broker or an exchange
3. Examples of traditional banks and payment services providers include HSBC, Barclays, and Mastercard.
4. BIS (2020) *Fintech and big tech credit: a new database*, page 3
5. This research relies on a robust panel of fintech firms, *The Covid-19 FinTech Market Impact and Industry Resiliency Study* relied on data collection from three key interconnected data collection sources. A total of 840 unique respondents replied to a stand-alone Covid-19 impact and resiliency survey, which was principally used to collect firm-level responses from fintech verticals that were new to the CCAF taxonomy. Additionally, 571 digital lending and digital capital raising firms were brought forward from *The 2nd Global Alternative Finance Benchmarking Report*, which captured unique time-series data for the CCAF's long-standing benchmarking research module. The firm-level responses from *The 2nd Global Alternative Finance Benchmarking Report* were integrated into the overarching analysis database by matching respondents against their Covid-19-specific responses using anonymized IDs to match respondents across the benchmark database and the Covid-19-specific database. An additional 37 firms were included through data scrapping and authenticated through one-on-one firm-level verification. As such, this panel provides a strong timestamp of the global fintech market activities and highlights key trends at both vertical and jurisdiction levels.
6. McKinsey & Company. 2021. *The 2021 McKinsey Global Payments Report* and Senant, Y. 2021. *Global Payments 2021: All In for Growth*. Boston Consulting Group.
7. CCAF. 2021. *The Global Covid-19 FinTech Market Rapid Assessment Study*, page 25
8. As of October 22, 2020, the Covid-19 government responses stringency index, developed by the Blavatnik School of Government (BSG) at the University of Oxford, contained 17 indicators, after which two more indicators on facial coverings and vaccination policy were added (on December 8, 2020). The index ranges from 1–100, measuring the prevalence and severity of these responses. It should be noted that a higher index does not necessarily mean a more effective government response.
   In *The Rapid Assessment Study*, the analysis team used data from Q2 representing the stringency index scores following the WHO's official recognition of the Covid-19 outbreak as a global pandemic on March 11, 2020. Therefore, the team calculated the averages for the second quarter of 2020 based on the daily indices of each country. In this study, the team also analyzed the daily indices for each country from Q2–Q4 of 2020 to determine the average 2020 stringency index scores. Additionally, the analysis was standardized according to the 165 operational countries and the number of observations in the dataset when considered at the sub-vertical level (6,084). The analysis team then created the CCAF index based on three new groups: low, medium, and high stringency (the relative strictness of lockdown policies based on their average stringency scores between March 11, 2020, when Covid-19 was officially recognized as a global pandemic and the end of December 2020). From the sample, each grouping contained more than 1,500 observations and countries with similar stringency scores were grouped together, as shown in the table below.

CCAF index	Number of countries	Number of responses
Low stringency	60	1,534
Medium stringency	44	1,856
High stringency	61	2,694
Total	**165**	**6,084**

   The CCAF index categorizing the countries was then measured against questions relating to regulations, government support, operational and market performance, and customer reach to provide insight on the correlation between strict government restrictions and the fintech industry's perception of Covid-19's impact

9. Defined broadly, fintech encompasses advances in technology and changes in business models that have the potential to transform the provision of financial services through developing innovative instruments, channels, and systems. This study analyzes market trends of major fintech verticals (by their distinctive business models) in key regional and national markets.
10. The first round of financing, which extended into a second round, ended on August 8, 2020. As per the data provided by the United States Small Business Administration (SBA), fintechs were responsible for disbursing over USD6 billion of PPP loans in 2020. In the third round, which covered the first half of 2021, the contribution of fintechs towards PPP funding was USD22 billion in 2021. This brings fintechs' lending contribution to the PPP scheme (2020–2021) to around USD28 billion, contributing 3.5% of the total USD799 billion.
11. Fintechs reported a 7% increase in the number of unsuccessful transactions for the first half of 2020 against the first half of 2019 (page 35)
12. In *The Global Covid-19 Fintech Market Rapid Assessment Study*, when comparing the first half of 2020 against the first half of 2019, fintechs noted an 11% increase in data storage costs/expenditure, and an 8% increase in onboarding costs/expenditure (page 35).
13. Revenue is defined as money that firms earn by selling their products and/or services, while fiscal year turnover is defined as net sales/average total sales.
14. Fintechs that participated in *The Global Covid-19 FinTech Market Rapid Assessment Study* noted a 17% increase in cybersecurity risks during the first half of 2020 against the first half of 2019 (page 35).
15. CCAF, World Bank and World Economic Forum (2020) *The Global Covid-19 FinTech Market Rapid Assessment Study*, University of Cambridge, World Bank Group and the World Economic Forum (page 32)
16. CCAF, World Bank and World Economic Forum (2020) *The Global Covid-19 FinTech Market Rapid Assessment Study*, University of Cambridge, World Bank Group and the World Economic Forum (page 33)
17. CCAF (2021) *The 2nd Global Alternative Finance Market Benchmarking Report* (page 166)
18. https://www.jbs.cam.ac.uk/wp-content/uploads/2021/03/2020-ccaf-global-covid-fintech-market-rapid-assessment-study-v2.pdf
19. CCAF (2021) *The 2nd Global Alternative Finance Market Benchmarking Report* (page 42)
20. To calculate the total funding attributed to business, the values from the following models – P2P/marketplace business lending (off-balance-sheet), on-balance-sheet business lending, invoice trading, debt-based securities, and merchant cash-advance – alongside relevant volumes, specifically attributed to businesses by platform's operating P2P/marketplace consumer and property lending, consumer and property on-balance sheet lending, were considered.
21. http://www.microsave.net/2021/01/28/can-the-oft-criticized-p2p-fintech-platforms-in-indonesia-solve-the-lack-of-diversity-in-msme-loan-programs/
22. On average, platforms reported a 9% increase in defaults (AEs: 4%; EMDEs: 12%) and a 13% increase in arrears (AES: 11%; EMDEs: 13%) in the first half of 2020 against the first half of 2019 (page 48).
23. Some governments gave moratorium as a relief measure resulting in increased loan arrears.
24. The digital lending ecosystem, and models attributed to the vertical, have evolved continuously over the years. When describing model types, the language used to explain the various functions of fintech platforms can sometimes be confusing regarding the underlying originator or lending entity. In terms of balance-sheet lending (sometimes called portfolio lending), a digital lending platform or actor provides a loan note (either wholly or partially) directly to an individual consumer or an MSME/business borrower. The term 'balance sheet' has been widely accepted to describe this type of digital lending fintech model, despite deviating from the traditional understanding of balance-sheet-based loan origination where a loan is originated against the funds held directly on a firm's balance sheet. There are a few key differences between a traditional P2P lending model and the balance-sheet lending approach. While the P2P model functions only as an intermediary (with loan origination coming from retail or institutional investors), the balance-sheet model typically originates loan portfolios that are resold to investor cohorts. As the digital lending arena has evolved, fintech platforms can often be found in the credit space that operates a hybrid model of both P2P and balance-sheet lending components. This blended approach allows firms to meet increasing demands from both institutional and retail investors. In the discussion related to institutional investors, it is important to note that firm responses regarding the origination make-up

(by either retail or institutional investment cohort) relate to this commonly accepted language associated with balance-sheet lending and refers to how these funds are syndicated against investor type.

25. CCAF (2021) *The 2nd Global Alternative Finance Market Benchmarking Report* (page 53)

26. It should be noted that because it was not compulsory to answer this question, the number of observations related to sustainability initiatives is relatively small. However, when considering the universe of firms that did respond to this question, particularly those from the digital lending vertical, it is useful to provide summary statistics as discussions around sustainability and fintech become more important in terms of how the fintech ecosystem continues to evolve.

27. Examples of big techs and traditional payment services providers include Facebook, Apple Pay, Visa, and Mastercard.

28. *The 2021 McKinsey Global Payments Report* derived global payment revenues from their Global Payments Map, which broadly includes over 200 data sources from the traditional banking sector as well as fintechs. It does not specify how they define fintechs nor the number of fintechs included and the values derived specifically from those fintechs. https://www.mckinsey.com/industries/financial-services/how-we-help-clients/panorama/our-offerings/global-payments-map

29. CCAF (2021) *The 2nd Global Alternative Finance Market Benchmarking Report* (page 55)

30. In *The Global Covid-19 FinTech Market Rapid Assessment Study*, payment aggregators and API hubs for payment firms reported a 20% increase in the number of transactions, while the payment gateways noted an 18% increase during the first half of 2020, against the first half of 2019 (page 56).

31. It should be noted that because it was not compulsory to answer this question, the number of observations related to sustainability initiatives is relatively small. However, when considering the universe of firms that did respond to this question, particularly those from the digital payments vertical, it is useful to provide summary statistics as discussions around sustainability and fintech become more important in terms of how the fintech ecosystem continues to evolve.

32. Greentech – an abbreviation of green technology – refers to a type of technology that is considered environmentally friendly based on its production process or supply chain. Greentech can also refer to clean energy production, the use of alternative fuels, and technologies that are less harmful to the environment than fossil fuels.

33. It should be noted that because it was not compulsory to answer this question, the number of observations related to sustainability initiatives is relatively small. However, when considering the universe of firms that did respond to this question, particularly those from the digital capital raising vertical, it is useful to provide summary statistics as discussions around sustainability and fintech become more important in terms of how the fintech ecosystem continues to evolve.

34. According to a report by Mordor Intelligence on the global insurtech market, the global Insurtech market revenue was valued at USD5.48 billion in 2019 and is expected to reach USD10.14 billion by 2025, growing at a CAGR of 10.80% during the period 2019–2025. As gross premium values reported by our panel of insurtechs totaled USD190 million in 2019, we approximated the proportion that our panel of insurtechs represents from revenue values presented in the report by Mordor Intelligence. It is important to note that the report was based on the top 18 value-driving insurtechs globally, of which, one was captured in our survey. https://www.mordorintelligence.com/industry-reports/global-insurtech-market

35. It should be noted that because it was not compulsory to answer this question, the number of observations related to sustainability initiatives is relatively small. However, when considering the universe of firms that did respond to this question, particularly those from the insurtech vertical, it is useful to provide summary statistics as discussions around sustainability and fintech become more important in terms of how the fintech ecosystem continues to evolve.

36. Market provisioning firms reported increases in cybersecurity risks during the first half of 2020 against the first half of 2019: regtech (16%), enterprise technology provisioning (14%), digital identity (13%) and, alternative credit and data analytics (11%).

37. It should be noted that because it was not compulsory to answer this question, the number of observations related to sustainability initiatives is relatively small. However, when considering the universe of firms that did respond to this question, particularly those from the market provisioning verticals, it is useful to provide summary statistics as discussions around sustainability and fintech become more important in terms of how the fintech ecosystem continues to evolve.
38. The World Bank. 2022. *Technical Note on the Regulation and Supervision of Fintech.*
39. The forthcoming 2022 World Bank Group Report, The Fintech and the Future of Finance Overview Paper (page 13)
40. The World Bank. 2022. *Regulation and Supervision of Fintech: Considerations for EMDE Policy Makers. Fintech and the Future of Finance Flagship Technical Note.*
41. There are eight retail-facing primary verticals: Digital Lending, Digital Capital Raising, Digital Payments, InsurTech, Digital Banking & Savings, Exchange Services, WealthTech, and Digital Custody.