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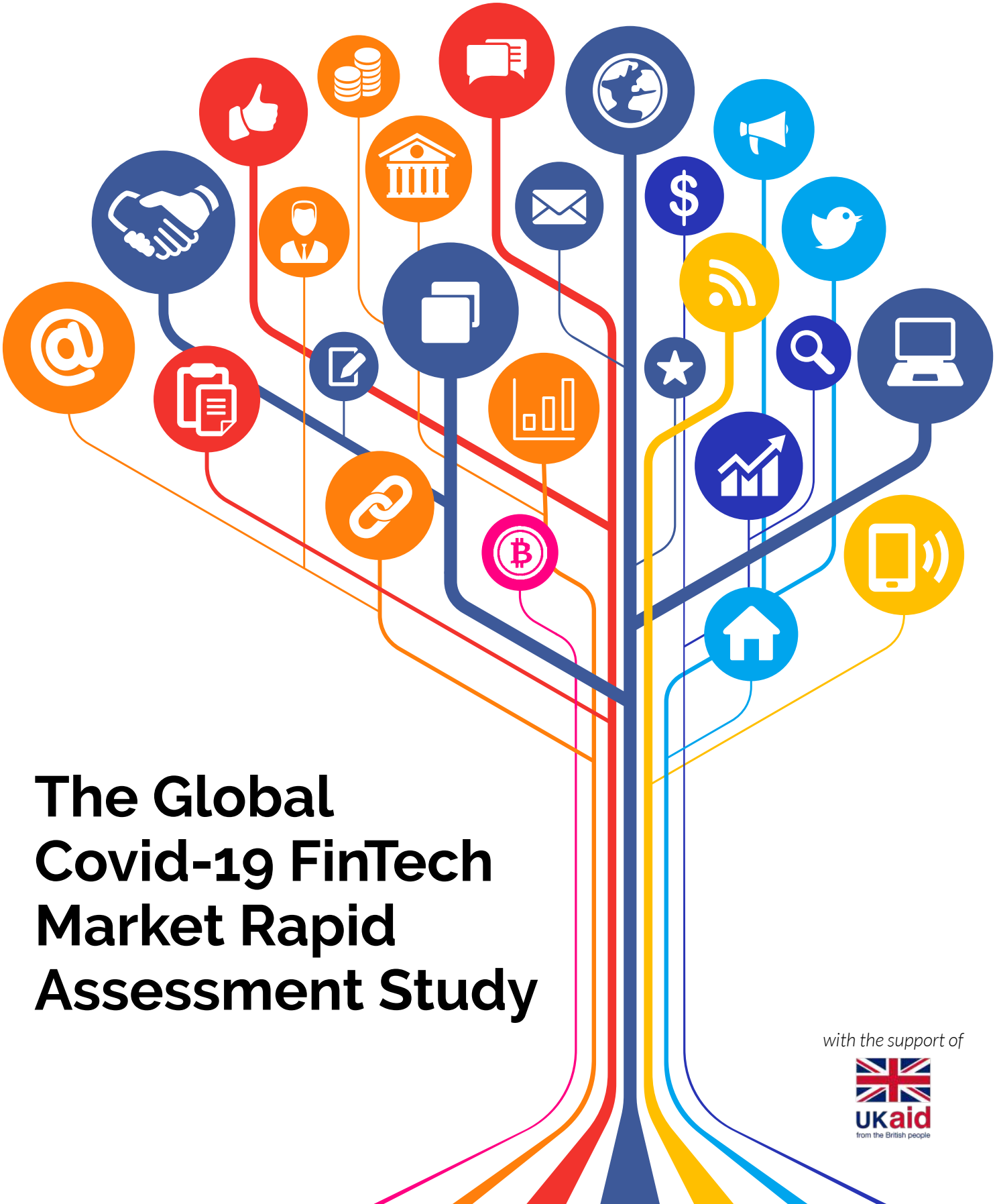

# The Global Covid-19 FinTech Market Rapid Assessment Study

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# The Global Covid-19 FinTech Market Rapid Assessment Study

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Covid-19 has profoundly impacted financial systems across the world, including the provision of digital financial services and the functioning of FinTech markets. Recent anecdotal evidence suggests that the socio-economic shocks associated with the global pandemic have severely disrupted some FinTech sectors, created opportunities to others and introduced a state of flux for many.

As consumers and MSMEs increasingly look to digital financial channels and instruments for payments and remittances, saving or insurance solutions, as well as capital raising amid more stringent lockdown measures, there is an urgent need to gather empirical data from the FinTech markets. This can support evidence-based decision-making by the industry, investors, business communities, regulators, governments, multilateral institutions and other key stakeholders.

This is the context in which the Cambridge Centre for Alternative Finance (CCAF) partnered with the World Bank Group and the World Economic Forum to conceptualize, design and deliver the *Global Covid-19 FinTech Market Rapid Assessment Report*. This market assessment report endeavors to answer a series of pertinent questions on how Covid-19 has impacted the global FinTech industry.

For instance, how has Covid-19 impacted the global FinTech industry in terms of transaction volume, customer retention and growth? Is there uniform performance or market bifurcation? How agile and resilient have FinTech firms been across geographies and verticals? What kind of regulatory support and policy assistance are most needed? How has the FinTech industry contributed to the relief and recovery efforts through solutions for both public and private sector actors? What are some of the operational challenges and emergent risks facing the FinTech industry today?

A global study of this scale is not easy to implement, even in the best of times. It is thanks to the remarkable support of over 110 FinTech industry survey partners including Money20/20, GSMA, Innovate Finance, LendIt FinTech, Crowdfund Insider and Finextra, as well as the overwhelming response of the FinTechs across verticals and geographies, that the joint research team was able to successfully survey 1,385 unique firms operating in 169 countries.

As one of the largest empirical studies on FinTech to date, this research finds that in spite of unparalleled levels of uncertainty and rapid changes in market conditions, the global FinTech industry as a whole has been largely resilient in responding to Covid-19. It has been adaptable in adjusting business models and product offerings, and innovative in working with both private and public sectors. The evidence also reveals uneven performance of FinTechs across verticals and geographies, and a need for more regulatory and policy support as market consolidation continues and acute challenges remain.

At the CCAF, we are thankful for the opportunity to collaborate once again with colleagues at the World Bank Group and the World Economic Forum. We are particularly thankful for the leadership and foresight of Caroline Freund, Anderson Caputo Silva, Mahesh Uttamchandani, Ana Fiorella Carvajal and Harish Natarajan at the World Bank, and Matthew Blake at the Forum. We are also very grateful for the foundational funding provided by the UK Foreign, Commonwealth & Development Office (FCDO) through the Prosperity Fund Global Finance Programme to the Cambridge Alternative Finance Collaboration Network (CAFCN), which also helped support this research. We also would like to thank the Ministry of Finance of Luxembourg for their contribution.

We hope that both the global FinTech industry and the regulatory community will find this report useful in crystallizing insights on the impact of Covid-19. We hope it will contribute by laying out the challenges and opportunities for FinTechs across models and markets, and how increasingly digitalized financial services can play a pivotal role in fostering innovation, improving access to finance and driving economic recovery.

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

**Tania Ziegler**
Lead in Global Benchmarking
*Cambridge Centre for Alternative Finance*


Access to critical financial services, such as payments, savings and insurance, helps people improve their lives. But access is unequal and poor people and small firms typically have many fewer options. FinTech has shown its potential to close gaps in the delivery of financial services to households and firms in emerging markets and developing economies. Initially, such benefits were channeled via mobile money and digital payments solutions. Research conducted at country and regional level, and more recently at global level, has shown the effectiveness of such solutions for financial inclusion. Other types of FinTech firms, such as lending and capital raising platforms, are showing their potential to improve access to finance for underserved groups, including SMEs, although these platform solutions are still at an early stage in the majority of emerging markets and developing economies. Finally, firms that provide supporting services such as credit scoring or digital ID solutions are helping to expand the benefits of fintech across the entire financial sector.

The Covid-19 pandemic is accelerating the use of FinTech as it facilitates the remote provision of financial services. However, FinTech firms are not a monolithic sector, but rather comprise a range of firms, which deliver different financial services, based on different business models. For the World Bank Group, it is critical to gain a deeper understanding of the impact of the pandemic across different types of firms and also across regions, in order to better tailor the advice that it provides to country authorities.

This Global Rapid Market Survey—including responses of 1,385 fintech firms operating in 169 jurisdictions—promotes understanding of the impact of covid-19 on FinTech firms through an industry view of key issues. Respondents represented all types of financial services firms across all regions, including advanced economies, and emerging markets and developing economies.

The findings of the survey indicate that FinTech firms' operations have continued to grow. On average, FinTech firms reported a year-on-year increase in their transaction numbers and volumes of 13% and 11% respectively. However, this growth has not been without challenges, in terms of added costs, and increased risks. Furthermore, the survey provides preliminary insights as to which types of firms are more vulnerable, as well as to differences across regions. In this regard, lending platforms constitute an outlier, as they are the only type of FinTech for which, on average, firms reported a contraction in transaction volumes and numbers, also compounded by other factors such as an increase in arrears and defaults. While on average, firms in all regions reported growth, firms in the MENA regions stood out as they reported a much higher year-on-year change. The survey also points to specific regulatory actions that FinTech firms consider necessary for their growth in the short term. Particular areas mentioned include: electronic know your customer (e-KYC); simplified customer due diligence; remote onboarding, and more generally, in making supervisory processes more efficient.

The insights provided in this study, together with the Global Covid-19 FinTech Regulatory Rapid Assessment Study conducted in October of this year, can be useful to government authorities as they seek to identify what is needed to reap the benefits of FinTech across the financial sector and support the growth of FinTech firms while managing the risks that financial technology can bring to consumer protection, integrity and financial stability. The World Bank Group stands ready to continue supporting countries in these efforts.

The World Bank Group appreciates the partnership developed with the Cambridge Centre for Alternative Finance and the World Economic Forum, which has been instrumental to achieving this level of participation from the FinTech industry. It also appreciates the support of the Ministry of Finance of Luxembourg, which has contributed to the funding of this study as a donor to the World Bank Group's Joint Capital Markets (J-CAP) Program. As well, this study received support from the UK Foreign, Commonwealth and Development Office (FCDO).

**Caroline Freund**
World Bank Director for Finance, Competitiveness and Innovation


COVID-19 has taken over 1.3 million lives worldwide, while leaving economies, industries and communities ravished in its wake. Every stakeholder faces unique challenges as a result of the pandemic, and the FinTech community is no exception. Given the significance of fintech operators in today's economy, the World Economic Forum's Platform for Shaping the Future of Financial and Monetary Systems has partnered with the Cambridge Centre for Alternative Finance at Cambridge University's Judge Business School and the World Bank Group to study the impact of COVID-19 on global FinTech markets.

Over the past decade, FinTechs have fundamentally changed the way the financial services ecosystem operates by streamlining current products, providing new customer-focused solutions, transforming back-end business processes and offering remedies to outdated infrastructure. With their innovative business models, FinTechs have accelerated the pace of change across the financial services industry. At the same time, given the young age of the industry, many FinTech firms have experienced their first significant bout of economic uncertainty as a result of the COVID-19 pandemic. This research collaboration, launched in the spring of 2020 when the global pandemic was rapidly accelerating, moved quickly to grasp the challenges for FinTechs as well as the solutions these nimble businesses could potentially provide to the public. Specifically, the group looked at the impact of the pandemic on global FinTech markets, the response of the FinTech industry to COVID-19 and the immediate regulatory and policy implications arising from the economic volatility related to the pandemic.

As the International Organization for Public-Private Cooperation, the World Economic Forum is committed to convening organizations from across the globe to address the most pressing issues impacting today's society. This research collaboration directly aligns with the Forum's mission by surveying almost 1,400 firms across 169 jurisdictions. Moving forward, the Forum hopes to serve as a platform for FinTechs and other relevant stakeholders to discuss avenues for recovery from the economic impact of the COVID-19 pandemic.

The Global COVID-19 Fintech Market Rapid Assessment Study is the first step in understanding the potential of FinTech operating models to better serve the public in the aftermath of the pandemic. The World Economic Forum is grateful for the strong collaboration and deep expertise lent by the Cambridge Centre for Alternative Finance and the World Bank Group throughout the research process.

**Matthew Blake**
Head of Financial and Monetary Systems
*World Economic Forum*


Financial Technology (FinTech) is disrupting traditional financial markets and offers significant opportunity to increase the reach of financial services to the poor and financially excluded segments of the population. Technology and new sources of data make it easier, cheaper and faster to reach these populations in emerging and developing economies.

The UK is a leading global centre for FinTech, employing over 76,000 people and generating an annual revenue of around £7 billion. The UK's Fintech market is estimated to have grown by nearly 70% since 2015. This demonstrates the large opportunities FinTech provides, not only for commercial investors looking to make a financial return, but in creating jobs and contributing to a country's economy.

Emerging and developing economies are home to some of the fastest growing FinTech markets in the world. This year the combined value of FinTech start-ups in Southeast Asia is $150 billion. The growth in financial inclusion across Africa since 2011 is mainly due to the availability of mobile banking. It is estimated that 10% of all venture investment deals across the Middle East and North Africa are made in this sector.

As a former banker, I am passionate about FinTech and the revolutionary impact it can have. Covid-19 is accelerating change in how people interact with financial services. This has led to unprecedented demand from developing countries to progress their transition to secure and inclusive digital finance and away from the use of physical cash.

*The Global Covid-19 FinTech Market Rapid Assessment Study* is one of the largest empirical studies to date on the impact of Covid-19 on FinTech firms globally. It is positive to see that, despite tough economic conditions in 2020, FinTech firms are reporting on average higher growth compared to Q1-Q2 2019, especially in emerging and developing economies. The study also highlights that many FinTech firms are suffering a deterioration in their financial position and are concerned over their ability to raise capital in future. This is something that the global FinTech community should be mindful of given the significant economic opportunities that FinTech presents.

As Minister for Africa, I look forward to working with industry and regulators to harness the potential of FinTech to grow economies and alleviate poverty across the World.

**James Duddridge MP**
The UK's Minister for Africa
*Foreign, Commonwealth & Development Office (FCDO)*

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# Acronyms

**AEs:** Advanced Economies
**AI:** Artificial Intelligence
**APAC:** The Asia Pacific excluding China
**API:** Application Program Interface
**BaaS:** Banking as a Service
**BTM:** Bitcoin Teller Machines
**B2B:** Business-to-Business
**B2C:** Business-to-Consumer
**B2P:** Business-to-Peer
**CAFCN:** Cambridge Alternative Finance Collaboration Network
**CCAF:** Cambridge Centre for Alternative Finance
**CDD:** Customer Due Diligence
**DCR:** Digital Capital Raising
**DFS:** Digital Financial Services
**EMDEs:** Emerging Markets or Developing Economies
**EMEM:** e-Money Electronic Money
**FTE:** Full-Time Employees
**H1:** First Half Calendar Year (Q1-Q2)
**HQ:** Head Quarter
**IMF:** International Monetary Fund
**IoT:** Internet of Things
**e-KYC:** Electronic Know Your Customer
**LAC:** Latin America and Caribbean
**MENA:** Middle East and North Africa
**ML:** Machine Learning
**MNOs:** Mobile Network Operator
**MSME:** Micro, Small and Medium Sized Enterprises
**NA:** North America (for purpose of this study, inclusive of United States & Canada)
**NLP:** Natural Language Processing
**PoS:** Point of Sales
**P2B:** Peer-to-Business
**P2P:** Peer-to-Peer
**SaaS:** Software as a Service
**SSA:** Sub-Saharan Africa
**TSP:** Technical Service Provider
**UK:** United Kingdom
**WBG:** World Bank Group
**WEF:** World Economic Forum

# Executive Summary

**This global study seeks to assess how financial technology firms (FinTechs) have been impacted by Covid-19, and how they are responding to the resultant challenges and opportunities.** The study is a joint initiative of the Cambridge Centre for Alternative Finance (CCAF) at the University of Cambridge Judge Business School, the World Bank Group and the World Economic Forum. This research was supported by the UK Foreign, Commonwealth & Development Office, and the Ministry of Finance of Luxembourg.

**The study draws on a rapid global survey of FinTechs.** Between June 15th and August 18th, 2020, the joint research team designed an online questionnaire and successfully surveyed 1,385 unique FinTech firms operating in 169 countries. This unique dataset provides insights on global FinTechs' i) market performance, ii) responses to Covid-19, iii) regulatory needs and policy support requests, and iv) operational challenges and risks. This study represents one of the largest studies to date on the impact of Covid-19 on FinTechs globally.[1] This report seeks to provide timely data to a broad set of decision makers. To this end, this study focuses on summarizing the key findings stemming from information and views provided by the respondents, as this can provide preliminary but valuable insights to industry and policy makers. Future research will seek to analyze the impact of Covid-19 and related policy and regulatory implications in a more comprehensive and deeper manner.

**FinTech is defined as encompassing advances in technology and changes in business models that have the potential to transform the provision of financial services through the development of innovative instruments, channels and systems.** For the purposes of this study, FinTech refers to a set of activities (which may be either regulated or unregulated, according to each jurisdiction) contributing to the provision of financial services facilitated predominately by entities emerging from outside of the traditional finance system (such as the banking industry or capital markets). Therefore, within this study, FinTech is narrower in scope than digital financial services (DFS). A major contribution of this study is further standardization towards a commonly acceptable taxonomy when discussing an array of differentiated FinTech activities both for market analysis and regulatory context. According to our working taxonomy of FinTech activities, the survey respondents were from 13 different primary verticals, and 103 sub-verticals representing both retail-facing and market-provisioning activities. To further contextualize responses, FinTech verticals were grouped into Retail Facing (i.e. providing financial products and services with a focus on consumers, households and MSMEs, and more likely to be B2C) and Market Provisioning FinTechs (i.e. those which enable or support the infrastructure or key functionalities of FinTech and/or DFS markets, thus more likely to be B2B).

**This study finds that, overall, FinTechs operations across the globe have grown, albeit subject to several operational challenges.** 12 out of 13 surveyed FinTech verticals reported growth on average in Q1-Q2 2020, compared with the same period in 2019. FinTechs were nimble and innovative in adapting to market conditions by both tweaking existing products and services and launching new ones. However, they still face significant headwinds in operations and fundraising, and seem to be in need of further government and regulatory support.

## FinTech market performance in general during Covid-19

**Despite Covid-19, FinTechs continue to grow globally.** On average, FinTech firms reported a year-on-year increase in their transaction numbers and volumes of 13% and 11% respectively in Q1-Q2 (used interchangeably with H1 throughout the report). This is consistent with reported improvements in other key market performance indicators such as new customer acquisition and customer retention.

**However, the impact of Covid-19 on market performance is not uniform across FinTech business verticals or geographic jurisdictions.** Except for Digital Lending, all verticals reported an increase in

transaction volume, however the rate of growth varied significantly. Digital Asset Exchanges, Digital Payments, Digital Savings and WealthTech all reported year-on-year growth in transaction volume in excess of 20% in Q1-Q2, whereas Digital Banking, Digital Identity and RegTech sectors reported more modest year-on-year increases of around 10% in Q1-Q2. Conversely, Digital Lending firms reported an 8% year-on-year contraction in Q1-Q2 globally in transaction volume and numbers of transactions, as well as a 6% decrease in the number of new loans issued. This situation was compounded by a 9% rise in defaults on outstanding loans. All geographic regions reported growth by transaction volume, but with pronounced variations among them, with the highest increase reported in the Middle East and North Africa (40%), followed by North America (21%) and Sub-Saharan Africa (21%).

**FinTech markets with more stringent Covid-19 lockdown measures reported higher growth in transaction volume.** With OxCGRT dataset[2], countries in the FinTech survey sample were grouped into low, medium and high stringency quantiles according to the lockdown stringency of government responses to Covid-19. On average FinTech transaction volume growth in high stringency markets was 50% higher than those in low stringency jurisdictions. This trend was most evident for Digital Payments, where FinTechs in high stringency jurisdictions reported a 29% growth, twice the average growth of Digital Payments providers in low stringency jurisdictions during the same period. The demand for Market Provisioning FinTechs also followed this trend, with transaction volume growth of 20% for high stringency jurisdictions compared to just 2% for low stringency jurisdictions.

**FinTechs in emerging market and developing economies (EMDEs) reported higher growth that those in advanced economies (AEs).** EMDE FinTechs reported an average H1 growth in transaction volume and numbers of 12% and 15% respectively – more than the 10% and 11% reported by firms from AEs. FinTechs from EMDEs also reported higher growth in new customers and higher customer retention than firms from AEs. While FinTechs from EMDEs were able to grow their customer base and transactions during Covid-19, they also reported larger increases in operational challenges, costs and risks than firms from AEs, as will be explained further below.

## FinTechs' Responses to Covid-19

**FinTechs have responded to Covid-19 by implementing changes to their existing products, services and policies.** Two-thirds of surveyed firms reported making two or more changes to their products or services in response to Covid-19, and 30% reported being in the process of doing so. The most prevalent changes across all FinTech verticals were 'fee or commission reductions and waivers', 'changes to qualification/ onboarding criteria' and 'payment easements'. For instance, 36% of surveyed Digital Payment firms implemented fee or commission reductions, while 53% of Digital Lending firms made changes to their qualification or onboarding criteria and 49% introduced payment easements.

**FinTechs have launched a range of new products and services.** 60% of surveyed firms reported launching a new product or service in response to Covid-19, with a further 32% planning to do so. The most prevalent change for Digital Payments firms was the development and deployment of additional payments channels (38% of firms). For Digital Lending it was an increase in value-added non-financial services (e.g. information services, introduced by 35% of firms). For Digital Capital Raising it was hosting Covid-19-specific funding campaigns (introduced by 35% of firms).

**To date, there is limited involvement by FinTechs in the delivery of Covid-19 related relief, despite significant willingness by firms.** More than a third of surveyed FinTech firms reported a willingness to participate in the delivery of one or more Covid-19 related relief measures or schemes. This demonstrates strong interest, yet the participation rates of FinTech firms in relief schemes are still relatively low. Only 13% of the surveyed FinTechs have contributed to the delivery of the Government Job Retention Measures, 7% participated in the delivery of stimulus funding for MSMEs and a further 6% involved in the delivery of stimulus funding for households. FinTech firms were most likely to indicate interest in the delivery of industry-led relief measures (32% of firms), government match-funding schemes (32%) and government-based stimulus funding to MSMEs (30%).

These findings hold a similar pattern, when analyzed by level of lockdown stringency and income level.

## FinTech operations and fundraising challenges during Covid-19

**Covid-19 is posing operational challenges to FinTechs, which are also experiencing higher costs.** Overall, FinTechs reported a 5% average increase in agent or partner downtime and a 7% increase in the number of unsuccessful transactions, queries or access requests compared to the same period in 2019 (Q1- Q2). FinTechs also reported an 8% rise in onboarding expenses and an 11% increase in data storage expenditure. They also indicated an average of 4% decrease in revising their fiscal year 2020 turnover target.

**FinTechs also reported an increase in risks, in particular cybersecurity.** FinTechs globally reported a 17% year-on-year increase in cyber-security risk perception. Digital Asset Exchange, Digital Banking and Digital Payments firms reported the largest perceived increase in cyber-security risks, up 32%, 20% and 19% respectively. In line with this perception, 28% of surveyed firms reported introducing enhanced fraud or cyber-security features, and a further 12% reported being in the process of doing so. FinTechs also reported that they perceived an increase in liquidity (17%) and foreign currency exposure risks (12%).

**Some of these challenges appear more severe for FinTechs in EMDEs.** In particular firms in EMDEs reported higher increases in costs related to onboarding and storage. However, FinTechs in EMDEs, on average, indicated that they will retain their Fiscal Year 2020 Turnover Target and grew their full-time equivalent employees (FTEs) by 8% on a year-on-year basis. Concerning risks, cybersecurity concerns were also higher for firms in EMDEs, which reported a 19% increase over the same period.

**FinTechs operating in countries with more stringent Covid-19 lockdown measures may face more operational challenges and incur more costs.** FinTech firms in high stringency markets reported an average 5% increase in agent or partner downtime, compared to -3% in low stringency markets. This trend held for growth in onboarding expenditure with firms in high stringency jurisdictions reporting an 11% increase compared to low stringency jurisdictions reporting no increase. Perceived cyber-security risks were also positively correlated with lockdown measures, with firms in high stringency markets reporting an 18% increase for this risk compared to 8% for low stringency markets. FinTechs in low stringency jurisdictions reported higher expected fall in their fiscal year 2020 turnover target (8%) than FinTechs from high stringency jurisdictions (unchanged). FinTechs in low stringency jurisdictions also reported a significant fall of an average 19% in the number of full-time equivalent employees (FTEs), in contrast, FinTechs in higher stringency jurisdictions reported an average of 10% increase in FTEs.

**In line with these challenges, the financial position of FinTechs has deteriorated during Covid-19, with mixed views on the prospect of future fundraising.** More than half of FinTechs reported that Covid-19 negatively impacted their capital reserves, with 21% of firms reporting a significant impact and 30% reporting a slight impact. About 40% of firms reported that Covid-19 had a significantly negative (14%) or slightly negative impact (26%) on their firms' valuation. On the future fundraising outlook, firm responses were more mixed, with 34% reporting negative impacts, 21% reporting positive impacts and 30% of firms reporting no change or saying it was too soon to tell. Overall these findings hold irrespective of the income level or lockdown stringency level of the jurisdiction where the firms are located.

## Regulatory responses and support for FinTechs during Covid-19

A limited number of firms were benefitted from government interventions, but much more firms consider them urgent. In this regard, 13% of the firms reported the use of job retention scheme, and 10% were making use of a tax relief/subsidy. In general, however, most firms indicated that they have yet to receive any government support and 'urgently needed' a variety of governmental interventions. In particular, 38% of firms reported urgently needed access to liquidity facilities, 31% reported urgently needed access to tax relief or subsidies, and 30% needed urgent inclusion in a fiscal stimulus package.

**Early regulatory responses to Covid-19 have provided relief to some FinTechs, but firms consider that more regulatory support is also urgently needed.** FinTechs benefited from both regulatory measures and regulatory innovations initiatives. The regulatory support that most firms reported to be using were regarding to e-KYC (17% of respondents), working with a FinTech Innovation Office (14%), simplified customer due diligence - CDD (13%), and support for remote onboarding (12%). FinTechs have utilized these measures differently. Digital Payment and Digital Lending were more likely to report benefiting from e-KYC, simplified CDD and remote onboarding support measures over other respondents. Similarly, FinTechs from MENA, APAC and SSA reported higher rate of utilization of these regulatory measures than other regions.

**However, FinTechs indicated that they urgently need more regulatory support.** Overall, FinTechs were more likely to report an urgent need for regulatory responses related to the regulation and supervision of FinTech (e.g. licensing, permissions and reporting) than those related to regulatory innovation initiatives. Indeed, the measures that most firms reported as urgently need were faster authorization for new activities (36% of firms), streamlined product or services approvals (31%), simplified CDD (30%), regulatory support for remote onboarding (28%) or less burdensome supervisory or reporting requirements (26%). Nevertheless, certain verticals, in particular Market Provisioning FinTechs (and within it RegTech and Enterprise Technology providers), were more likely to consider the admission to FinTech innovation offices and regulatory sandboxes, as well as participation in hackathons and Techsprints, as urgently needed, likely because many of their activities are not regulated. Overall, the urgent need for additional regulatory support measures was more acute for FinTech firms from SSA, MENA and LAC respectively.

**FinTechs from EMDEs tend to have utilised more regulatory support than firms in AEs. Nevertheless, FinTechs from EMDEs were also more likely to report an urgent need for regulatory support than FinTech firms from AEs.** This trend held for all regulatory response measures tracked in this study. Nearly half of FinTechs from EMDEs reported urgently needing faster authorization or licensing for new activity. This was followed by an urgent need for streamlined product or services approvals (40%) and regulatory support for e-KYC (39%).

**The need for regulatory support is higher in firms located in countries with more stringent Covid-19 lockdown measures.** 21% of firms in high stringency jurisdictions reported currently benefiting from regulatory support for remote onboarding (compared to 15% in low stringency jurisdictions). Yet a further 45% of firms in high stringency jurisdictions reported that they urgently needing this support (compared to 27% in low stringency jurisdictions). This trend held across all regulatory support measures tracked in this study, including support for e-KYC, simplified CDD and faster authorization and licensing. Respondents in high stringency jurisdictions were also more likely to report that they have already utilised regulatory support than firms in low stringency jurisdictions.

# 1. Introduction

# Chapter 1. Introduction

## Research Objectives

This Global Covid-19 FinTech Market Rapid Assessment Report seeks to capture, analyze and understand the following:

- **Changes in FinTech market performance.** How has Covid-19 impacted market dynamics and affected firm performance?
- **Specific Covid-19 responses by FinTech firms.** How have FinTech firms adapted, or how do they plan to adapt their product offerings and service agreements in response to Covid-19?
- **Regulatory intervention or policy assistance.** What assistance or interventions have FinTechs received, and what will they require from government institutions as a result of Covid-19?
- **Operational challenges.** How has Covid-19 impacted the daily operations of FinTechs?

This report seeks to provide timely data to a broad set of decision makers. To this end, this study focuses on summarizing the key findings stemming from the information and views provided by the FinTechs that answered the survey, as this can provide preliminary but valuable insights to industry and policy makers. Future research will seek to analyze the impact of Covid-19 or the related policy implications in a more comprehensive and deeper manner.

## Rationale for Study: Existing evidence of the impact of Covid-19 in FinTech

Over the past decade, FinTech has significantly transformed financial services, by adding innovative instruments and channels to reach customers, and by improving the systems used by firms to deliver services to customers. As a result, FinTechs may not only deliver efficiencies to the financial sector but also contribute to financial inclusion, especially in EMDEs.[3] Given the opportunities associated with FinTech, in 2018 the World Bank Group and the International Monetary Fund (IMF) launched the Bali Fintech Agenda. This Agenda provides a high-level framework for policy authorities to enable them to harness the opportunities arising from FinTech while ensuring that risks to the integrity of the financial system, consumer protection and financial stability remain well managed.[4]

The Covid-19 pandemic has disrupted the way in which humans interact with one another and their surrounding environments. As a result, it is also impacting the ways in which financial services and products are accessed and used. In the first prolonged economic downturn since the 2008 Global Financial Crisis, FinTechs – many of which have been founded during a period of relatively sustained economic growth – are being tested both on the strength of their operating models in times of stress and the ways in which they can contribute to relief and recovery efforts.

The empirical evidence on the impact of the pandemic on FinTechs is scarce. To some extent this is because the pandemic is still ongoing. Still, the difficulties of collecting reliable FinTech market data at a global level hamper any effort to get a comprehensive view of the impact of Covid-19 on FinTech.

The anecdotal evidence suggest that the pandemic is affecting FinTechs unevenly across different business models. For payments, the pandemic is likely to accelerate the pace of digitalization as digital payments allow people to conduct financial services while adhering to social distancing. Furthermore, there is evidence that governments in EMDEs are taking measures to accelerate the use of digital payments.[5,6] Along these lines, the pandemic has accelerated customers' use of mobile applications to access their finances across many countries, both AEs and EMDEs alike.[7] Much less research exists concerning the impact of Covid-19 in other important FinTech verticals, such as Digital Lending. Anecdotal evidence from specific platforms suggests that, contrary to digital payments, lending platforms might have been negatively impacted by the pandemic.

But even in the cases where some research is available, such research does not allow a full view

of how Covid-19 is impacting different aspects of the operations of FinTechs at a global level, appreciating the diversity and differentiations between various FinTech business models within and across verticals . These aspects range from the volume of transactions and the number of clients or customers to operational challenges that they may be encountering, such as increased downtimes, or to challenges related to their fundraising activities. Along the same lines, beyond cyber-security risks – which seem to have been amplified by Covid-19 – there is limited information on how other risks have evolved. [8, 9] Finally, there is limited information about the extent to which government authorities have used FinTechs to deliver their relief packages to households and companies. That said, the existing evidence does indicate that some governments have leveraged FinTechs, including in EMDEs.[10] But how widespread their use has been is an open question.

The World Bank Group, the CCAF and the World Economic Forum have taken steps to improve the understanding of the impact of Covid-19 in Fintech. In March of this year, the Forum held a series of virtual discussions to examine the impact of Covid-19 on the global financial system.[11] A key conclusion was that Covid-19 could have a negative effect on FinTechs, which in turn could be a major blow to financial inclusion. More recently, the CCAF and the World Bank Group partnered for the Global FinTech Regulatory Rapid Assessment Study,[12] which assessed how financial regulators and central banks are responding to the challenges of Covid-19, especially as they relate to FinTech. This study also examined the impact of Covid-19 on regulatory innovation initiatives. Regulators from EMDEs, in particular, perceive that the pandemic has resulted in an increase in the usage and offering of digital payments and remittances.

Even with these additions, the information available is not yet sufficient. In this light, the Global FinTech Market Rapid Assessment Study conducted jointly by the CCAF, the World Bank Group and The World Economic Forum provides important insights to compare and contrast against existing research, with a view to better understand the opportunities and challenges for FinTech during Covid-19 and beyond.

## Methodology

The following section outlines key aspects and considerations relating to the methodology of the study, including the data source, data collection procedures, data handling and quality control measures.

### Data Source

The primary dataset used in this study was collected through the *Global Covid-19 FinTech Market Rapid Assessment Survey*, developed jointly by the CCAF, World Bank Group and World Economic Forum research teams and administered by CCAF. This 18-question survey was distributed both as a stand-alone online survey, and as an additional survey module appended to the annual *Global Alternative Finance Industry Benchmarking Survey*, which collects time-series data focusing on Digital Lending and Digital Capital Raising verticals.

The *Global Covid-19 FinTech Market Rapid Assessment Survey* captured data from active FinTechs that undertake at least one FinTech activity as defined in the taxonomy in Table 1. The research team compiled a database of FinTechs to enable outreach activities. This database of 9,431 FinTechs was compiled from participants in previous CCAF surveys, contacts provided by Survey Partners, third-party FinTech registries and desk-based research.

### Data Collection

FinTechs were encouraged to respond to the survey through a phased and multi-pronged outreach campaign. This included social media and press activities to raise awareness of the study, and direct outreach[13] from the research team and 110 global, regional and national Survey Partners.

The survey consisted of 18 questions, of which 7 were compulsory. To reduce the length of the survey, the research team made use of logic-based questions, presented as sub-sets within an overarching question theme. Firms thus received only sub-set questions applicable to their selected FinTech activity. For example, a Digital Lending firm was asked to respond on defaults while an InsurTech firm reported on claims.

To reach global FinTech markets and enhance accessibility, the survey was translated into

12 languages (English, French, Italian, Spanish, Portuguese, German, Japanese, Thai, Bahasa Indonesia, Simplified Chinese, Korean and Arabic). It was live for 7 weeks between June 15th and August 18th 2020.

### Data Sanitization, Verification and Analysis:

Sanitization and verification of the raw data were conducted between 4th August and 10th October 2020 by the Cambridge-based research team. In compliance with the EU General Data Protection Regulation (GDPR) and University of Cambridge data controller and protection rules, all personal or firm-level identifying information was stripped and securely removed from the database. Analysis was performed against an anonymized file and reported at an aggregate level (i.e. by vertical or geographical jurisdiction).

In total, the research team received 1,546 unique survey entries. During data verification and sanitization processes, 161 responses were removed as they did not meet the criteria of the study. Overall, 1,385 unique responses were retained and form the basis of the analysis for this study.

Survey respondents reported the location of their firm's headquarters (HQ), additional countries in which their firms operate and the FinTech activities that they facilitate, both at a vertical level (e.g. Digital Lending) and a sub-vertical level (e.g. Peer-to-Peer Business Lending within Digital Lending). Firms were able to select all the applicable FinTech activities they undertake, or to include additional activities in a text box to best describe their activities. During the analysis the team attributed responses to FinTech verticals and geographic regions. Two data manipulations and features are worth noting:

- **Each respondent was assigned a primary vertical.** The majority of surveyed respondents selected more than one FinTech vertical. To allow the research team to analyze each FinTech vertical independently, each respondent was assigned a primary FinTech vertical. This was done by reviewing each recorded survey entry, re-contacting respondents and conducting a desktop review of the firm's product offering. For 4% of the firms, two primary verticals were assigned. This data verification process increased the total number of firm level observations from 1,385 to 1,428, which is the empirical dataset that the research team used in analysis for this report.
- **Regional analysis is based on the HQ of the FinTech firm.** 43% of the surveyed firms reported operations in more than one country or jurisdiction. On average, these multi-country firms had operations in 4.5 countries. Since firms could indicate their HQ and operational countries, one limitation of this study is an inability to sufficiently attribute firm-level responses to a unique country. As such, analysis was conducted on an overarching geographical region (e.g. Asia-Pacfic) or key national market (e.g. United Kingdom) based on the firm's indicated HQ. For 93% of the dataset, all operational countries reported by firms corresponded to the assigned HQ region.

When interpreting the results of this study, it is important to note that the responses were not weighted to account for the turnover of firms nor their relative market share. This study aims to rapidly assess broad directional changes in FinTech markets in light of Covid-19, not to collect precise transaction volume data, especially given the considerable lag in financial reporting and empirical data collection. In 2021, the joint research team aims to conduct a follow-on study, to collect full-year transaction data from all of the FinTech verticals for 2020 in order to comprehensively examine the impact of Covid-19 on the industry.

For this study, the research team identified and targeted FinTech firms by vertical and by jurisdiction, to ensure that the data collection was representative of the FinTech activities reviewed in this study. In addition to direct communication from the research team, external partners provided further assistance on outreach to FinTechs. As special attention was taken to obtain input from a robust panel of firms across different verticals and regions, this study encapsulates the largest primary dataset of FinTech firms globally. Nevertheless, the results presented in this study are representative only of those firms which responded to the survey and not reflective of the entire FinTech ecosystem.

The research team undertook a number of steps during analysis and data collection to account for unknown factors respective of missing responses at a geographical or vertical level. Where analysis

was based upon response averages, to account for potential response bias, results were checked against a normal distribution and significant outliers were excluded where appropriate. To mitigate against selection bias in advance of analysis, the research team made every attempt to capture a robust sample of firms from across each vertical, and within each country, during data collection. Firms of all sizes and stages of development were targeted to ensure that the final sample was not biased against an unbalanced distribution of firm-types.

Analysis was done for all FinTechs within the sample in aggregate, and at a unique vertical or regional level. It is important to note that transaction volume in this study aims to capture the 'value of flow', which is different to the number of transactions. For instance, for digital lending, transaction volume refers to the *value* of new loans issued and the the number of transactions denote the *number* of new loans issued. For digital payments, transaction volume refers to the value of payments facilitated, which is different to the number of payment transactions made.

To address confounding effects on the reported findings, additional analysis was undertaken to account for the stringency of Covid-19 related lockdowns and the level of economic development of the countries in which respondents were headquartered. For the former, the analysis benefited greatly from the utilisation of the Oxford COVID-19 Government Reponses Tracker (OxCGRT), which provided a common Lockdown Stringency Index according to governments' policies and measures in response to the coronavirus outbreak. The jurisdictions within the survey sample were analysed as three stringency groups (low, medium and high stringencies) to identify data patterns and correlate analysis. For the latter, the jurisdictions within the sample were divided and analysed according to their income level, as per World Bank classification. In both cases this analysis was performed at a vertical and region-specific level for survey-questions related to market performance indicators, operational indicators, perceived risks, government intervention and regulatory support measures needed by FinTechs. Where these results provided additional insights, they were reported in the document. A list of these countries and their respective World Bank income designation can be found in appendix A and B.

Finally, the analysis and write-up of this report were subject to extensive peer review both within the three authoring institutions and externally.

## Developing a Working Taxonomy for FinTech

Defined broadly, FinTech encompasses advances in technology and changes in business models that have the potential to transform the provision of financial services through the development of innovative instruments, channels and systems. This study focuses on the analysis of market trends of major FinTech verticals (by their distinctive business models) and in key regional and national markets.

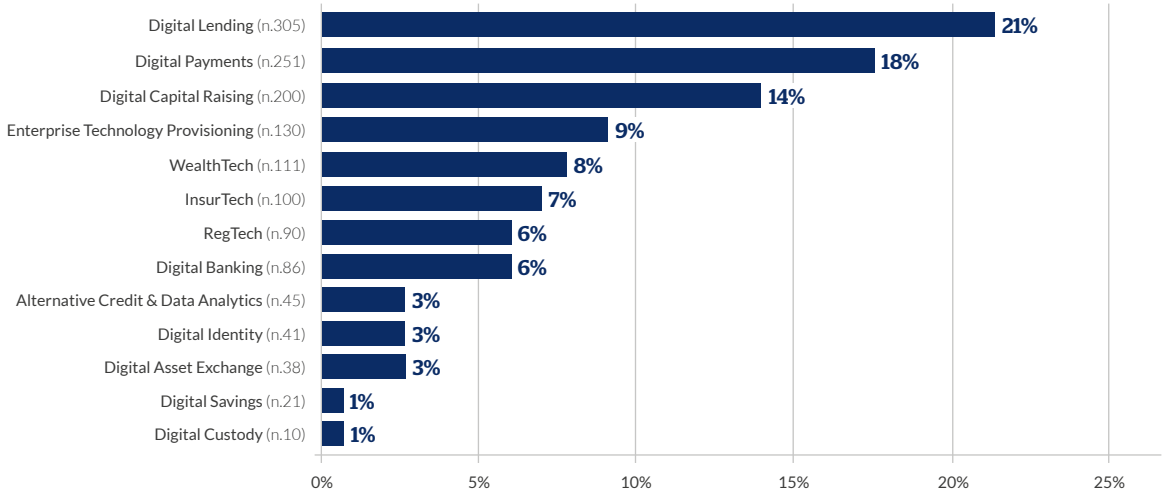
This study developed a working taxonomy that brings together a coherent conceptualization of FinTech activities, whilst appreciating the sectors diversity and differentiated business models. This includes thirteen discrete primary FinTech verticals and 103 sub-verticals. These have been further categorized into two overarching groups – *Retail Facing* (i.e. providing financial products and services with a focus on consumers, households and MSMEs, and more likely to be B2C) and *Market Provisioning* (i.e. those which enable or support the infrastructure or key functionalities of FinTech and/or DFS markets, thus more likely to be B2B). Table 1 below summarizes the taxonomy. An overview for each of the primary FinTech vertical and associated sub-verticals can be found in Appendix C.

**Table 1: FinTech Taxonomy and Classification**

| Category | FinTech Vertical/ Business Model | Sub-verticals/Business Models included in each Vertical |
|---|---|---|
| Retail Facing (Consumers, Households & MSMEs) # of respondents 1,122 | Digital Lending | P2P/Marketplace Consumer Lending, P2P/Marketplace Business Lending, P2P/Marketplace Property Lending, Balance Sheet Consumer Lending, Balance Sheet Business Lending, Balance Sheet Property Lending, Debt-based Securities, Invoice Trading, Crowd-led Microfinance, Consumer Purchase Financing/Customer Cash-advance, Digital Merchant-cash Advance Solutions |
| | Digital Capital Raising | Equity-based Crowdfunding, Real Estate Crowdfunding, Revenue/Profit Share Crowdfunding, Reward-based Crowdfunding, Donation-based Crowdfunding |
| | Digital Banking | Fully Digitally Native Bank (Retail), Fully Digitally Native Bank (MSME), Marketplace Bank (Retail), Marketplace Bank (MSME), Banking as a Service (BaaS), Agent Banking (Cash-in/ Cash-out) |
| | Digital Savings | Digital Money Market/Fund, Digital Micro Saving Solutions, Digital Savings Collective/Pool, Savings-as-a-service (SaaS) |
| | Digital Payments | Digital Remittances (Cross Border-P2P), Digital Remittances (Domestic-P2P), Money transfer (P2P, P2B, B2P, B2B), eMoney Issuers, Mobile Money, Acquiring services providers for merchants, Points of access (PoS, mPoS, on-line PoS), Bulk Payment Solutions - Payroll, Grants, etc., Top-ups and refill, Payment gateways, Payment aggregators, API Hubs for Payments, Settlement and clearing services providers |
| | Digital Asset Exchange | Order-book, DEX relayer, Single dealer platform/OTC trading, Trading bots, HFT services, Advanced trading services, Brokerage services, Aggregation, Bitcoin Teller Machines (BTM), P2P marketplaces, Clearing |
| | Digital Custody | Software Wallet (Mobile Wallet/Tablet Wallet/Desktop Wallet), Web Wallet (eMoney Wallet), Vault services, Key management services, Hardware Wallet |
| | InsurTech | Usage-based, Parametric-based, On-Demand Insurance, Peer-to-Peer Insurance, Technical Service Provider (TSP), Digital Brokers or Agent, Comparison Portal, Customer Management, Claims & Risk Management Solutions, IoT (including telematics) |
| | WealthTech | Digital Wealth Management, Social Trading, Robo-Advisors, Robo Retirement/Pension Planning, Personal Financial Management/Planning, Financial Comparison Sites |
| Market Provisioning # of respondents 306 | RegTech | Profiling and due diligence, Blockchain forensics, Risk Analytics, Dynamic Compliance, Regulatory Reporting, Market Monitoring |
| | Alternative Credit & Data Analytics | Alternative Credit Rating Agency, Credit Scoring, Psychometric Analytics, Sociometric Analytics, Biometric Analytics |
| | Digital Identity | Security & Biometrics, KYC Solutions, Fraud Prevention & Risk Management |
| | Enterprise Technology Provisioning | API Management, Cloud Computing, AI/ML/NLP, Enterprise Blockchain, Financial Management and Business Intelligence, Digital Accounting, Electronic Invoicing |

## Overview of Survey Respondents

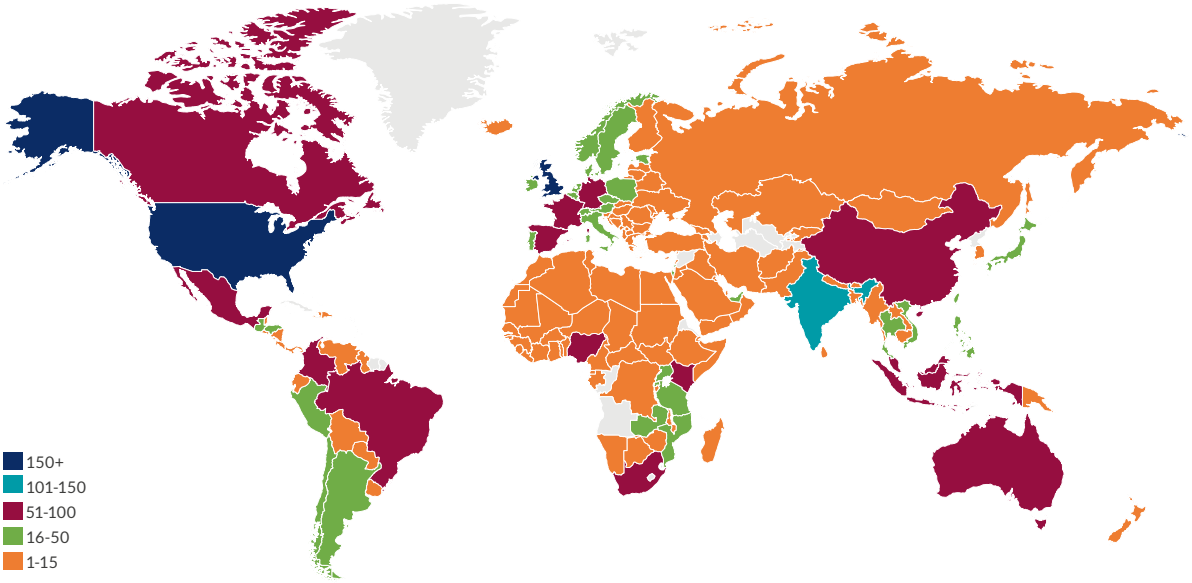
**Figure 1: Survey sample composition according to Primary FinTech Vertical** (total number, % of total)




By primary FinTech vertical, the survey dataset contains 1,428 firm-level observations. Figure 1 above provides a snapshot of the sample by primary vertical. Digital Lending, Digital Payments and Digital Capital Raising firms make up more than half of the sample size. Most of the respondent

FinTech firms were classified as conducting 'Retail Facing' activities, representing 79% of the sample. The remaining 21% of firms undertake 'Market Provisioning' activities, including those that are engaged in Enterprise Technology Provisioning (9%), RegTech (6%), Alternative Credit & Data Analytics (3%) and Digital Identity (3%).

**Figure 2: Geographic location of survey respondents** (by HQ & Operational Countries and Jurisdictions)




The 1,428 firm-level respondents were headquartered in 119 jurisdictions operating in 169 countries at the time of the survey (figure 2). The countries with the largest number of respondents were the United Kingdom (UK), the United States, India and Singapore.

In the remainder of this study, responses are reported against eight regional or national FinTech markets where applicable and appropriate. These FinTech markets are the Asia Pacific region or Asia-Pacific (excluding China), China (Mainland), Europe (excluding the UK), the United Kingdom, Latin America and the Caribbean (LAC), Middle East and North Africa (MENA), North America (the United States and Canada) and Sub-Saharan Africa (SSA). A list of jurisdictions included in each region can be found in Appendix D.

Table 2 provides a distribution of the sample by regions. 22% of surveyed respondents were headquartered or operational in Europe (excluding the UK). This was closely followed by the APAC region (excluding China) with 21% of respondents.

**Table 2: Representation of Respondents by Region** (% of sample, % of country in region represented in sample)

| Regions | # of responses | % of sample by region (HQ+OP) | % of region covered |
|---|---|---|---|
| APAC | 303 | 21% | 71% |
| China | 73 | 5% | 100% |
| Europe | 316 | 22% | 96% |
| LAC | 202 | 14% | 63% |
| MENA | 46 | 3% | 100% |
| North America (US & Canada) | 142 | 10% | 100% |
| SSA | 171 | 12% | 89% |
| United Kingdom | 175 | 12% | 100% |
| **Total** | **1428** | | |
| **Total Countries of sample** | **169** | | |
| **% of sample by countries** | **86%** | | |

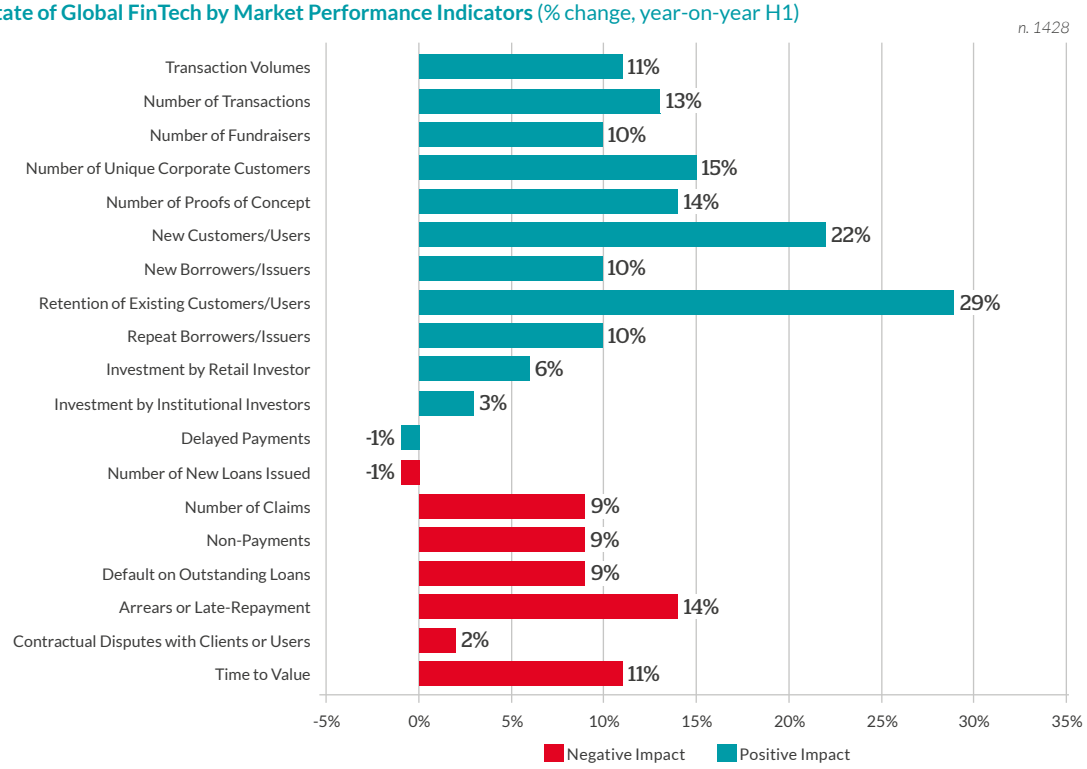
# 2. Global overview of the FinTech industry

# Chapter 2. Global overview of the FinTech industry

## Market performance of the global FinTech industry in light of Covid-19

An overview of the global FinTech market performance, during the first two quarters of 2020, was derived from asking respondents to specify the approximate directional change of several key market performance indicators, as they compared to the same period in 2019. While the research team took measures to solicit responses from a broad range of FinTechs across size, geography and market activities (see Chapter 1), responses were not further weighted to account for the size or relative market share of responding firms.

**Figure 3: State of Global FinTech by Market Performance Indicators** (% change, year-on-year H1)

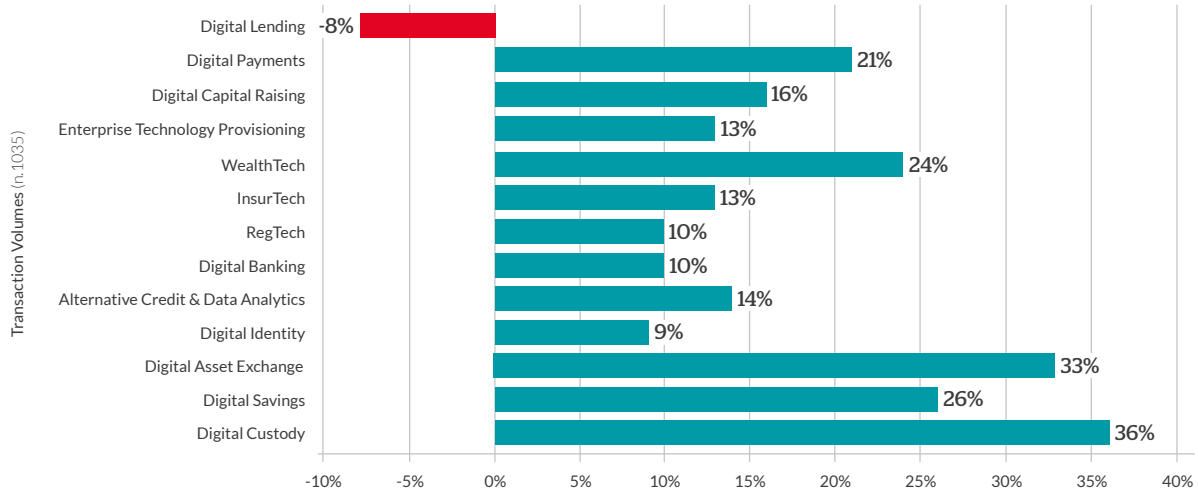



The averaged responses, across verticals or regions, provide a snapshot of the state of the global FinTech industry during Covid-19 (see Figure 3). Of the nineteen key performance indicators tracked in this study, twelve (shown in green) improved year-on-year during Q1 and Q2 of 2020.

Overall, the global aggregate FinTech industry grew in 2020, with respondents reporting an average growth in transaction volume of 11% and an average growth in number of transactions of 13%.[14] When considering market performance indicators relating to customer growth, all relevant indicators (including the number of unique corporate customers, the number of new customers, and the number of new borrowers) increased year-on-year. The most significant positive change was reported in customer retention or renewal, which increased by 29% compared with Q1 and Q2 in 2019.

However, Covid-19 also had a negative impact on the global FinTech industry, as illustrated by the nine market performance indicators in red. These include a 14% increase in arrears or late repayments, an 11% increase in Time-to-Value (the time lag between client introduction to onboarding time), and a 9% rise in the number of claims, non-payments, and defaults on outstanding loans relative to Q1 and Q2 2019.

**Figure 4: Transaction Volumes, All FinTech Verticals** (% change, year-on-year H1)

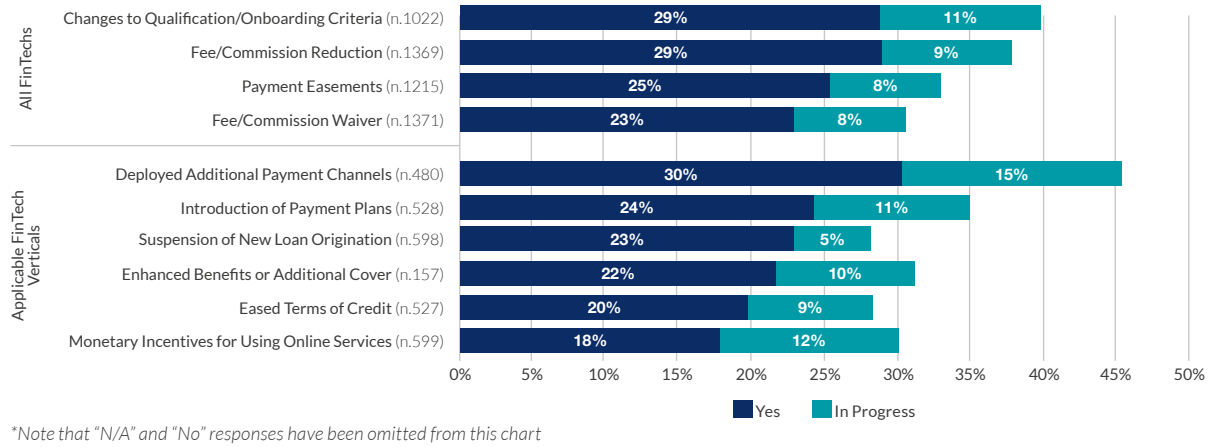



When isolating specific verticals, noticeable differences emerge when considering transaction volume change. Of note, Digital Lending (also the largest represented vertical in this sample) is the only primary vertical to contract, with a drop of 8%. All the other verticals reported an average H1 year-on-year increase. Furthermore, nine FinTech verticals saw above-average increases in transaction volume, with the most significant increase reported in Digital Custody (36%), Digital Asset Exchange (33%), Digital Savings (26%), WealthTech (24%) and Digital Payments (21%) (see Figure 4).

## FinTech Changes in Policies, Products and Services as a Response to Covid-19

FinTech firms have responded to Covid-19 by implementing changes to their existing terms, products and service agreements. Two thirds of surveyed firms reported making two or more changes to their existing products or services, and 30% indicated being in the process of implementing changes. Whilst firms have been responsive across the board, the ways in which products, services and policies have been changed varied among respondents.

**Figure 5: Top 10 Changes to Existing Products & Services, All FinTech Verticals** (% of respondents; yes, in progress)




**Note that "N/A" and "No" responses have been omitted from this chart*

When considering the entire FinTech industry, certain changes were more prevalent across the dataset. Figure 5 represents the top ten changes implemented by firms (indicated as 'Yes') or in the process of being implemented (indicated as 'In Progress') as a result of Covid-19.[15] Please note, response options were based upon logic implemented throughout the survey. As such, several options were only visible to appropriate and applicable respondents, based upon their Primary Vertical.

Over a third of FinTech firms had either made changes to or were in the process of adjusting their 'qualification or onboarding criteria'. For FinTech firms, adjusting how they engage with clients during onboarding has been important, especially when considering the growing number of new clients that began using FinTech services in Q1-Q2 of 2020 (up 22% against Q1-Q2 2019). Digital Lending firms and Digital Banks were most likely to report changes to their onboarding criteria, with reported changes at 53% and 35% respectively.

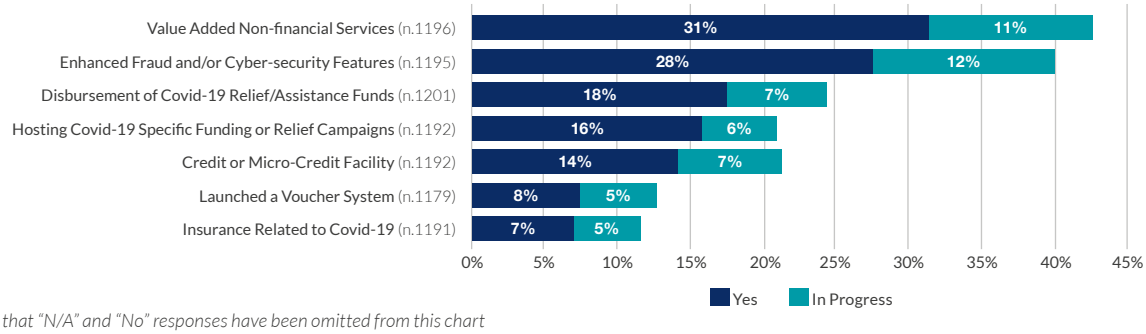
Several FinTechs implemented pricing and payment-related changes. Changes to the way firms are paid indicate that FinTechs have been required to be more flexible, adjusting to constraints that their customers or clients may be facing because of Covid-19 accordingly. Some of the changes captured were fee or commission reductions (with 29% of firms having already implemented this), payment easements (25%) and fee/commission waivers (23%).

When considering specific FinTech verticals, fee reductions occurred to varying degrees. 40% of Digital Banking firms, for instance, had already applied a fee or commission reduction to their pricing, with 5% in the process of doing so. Furthermore, 36% of Digital Payment firms had also made this change and an additional 9% were in the process of doing so, making fee reduction the most common change for Digital Payments providers.

Similarly, fee and commission waivers were applied by 23% of firms, while 8% were in the process of doing so. Payment easement, described to respondents as 'payment based upon affordability' has been introduced by 25% of the surveyed firms, with an additional 8% in the process of applying this change.

Overall, FinTech firms have been responsive to Covid-19 with many adjusting their products, services or policies in recognition of potential changes in their customers' circumstances. The addition of alternative payment channels (applicable only to respondents from Digital Payment and Digital Custody) was the most adopted change for that vertical segmentation.

**Figure 6: New or Updated Products/Services/Features, All FinTech Verticals** (% of respondents; yes, in progress)




**Note that "N/A" and "No" responses have been omitted from this chart*

When asked to indicate whether they had launched new or updated products and services, or introduced new features to support their activities or internal processes as a result of Covid-19, the results show 60% of surveyed firms had implemented or introduced new products or services, and a further 32% reported being in the process of doing so. As shown in Figure 6, value added non-financial services (i.e. informational services) were amongst the most readily introduced products or services (31%), with an additional 11% of respondents working towards this introduction. The introduction of value-added non-financial services was most common among Digital Savings firms with more than 57% committing product launches. Table 3 below provides additional examples of new or updated products launched by FinTechs.

Firms also introduced new internal features to support their FinTech activities, with Enhanced Fraud and Cyber-security Features indicated as an important change for firms during Covid-19 (with 28% having launched such features). FinTechs from Digital Payment (38%), Digital Banking (38%), and Digital Asset Exchange (29%) had already adopted such new features, while Digital Lending (13%) and Digital Savings (30%) indicated being in the process.

The disbursement of Covid-19 relief and assistance funds was also prevalent among respondents.

18% of the survey respondents launched such a service and 7% were in the process of doing so. Unsurprisingly, this was more prevalent for firms in the Retail Facing verticals such as Digital Banking (30%), Digital Payments (22%), and Digital Lending (21%), than for firms engaging in Market Provisioning activities.

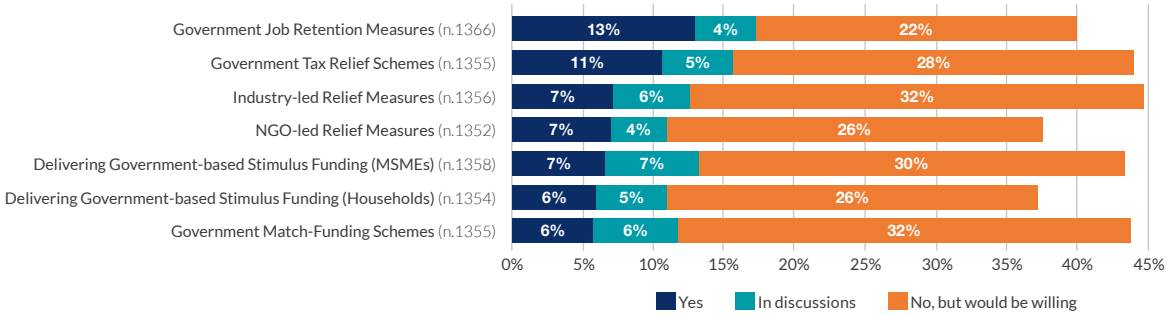
**Table 3: Examples of New or Updated FinTech Products Launched in response to Covid-19**

| Model | Region or Market | Change to existing/ New or updated | Example from the field |
|---|---|---|---|
| Digital Lending | APAC | Value-added | A Digital Lending platform in India has recently created an add-on portal to help low-income female entrepreneurs understand the financial products that the platform offers, and how best to use them. |
| Digital Lending | APAC | Eased Terms of Credit | P2P Digital Lending firms across India provided an interest rate moratorium to the borrowers as directed by the Reserve Bank of India. |
| Digital Lending | SSA | New Products and Services | A lending platform in Uganda created a website to connect unemployed professionals to SME owners. |
| Digital Lending | LAC | Credit or micro-credit facility | A Digital Lending platform and a Food Delivery Service collaborated to offer a loan facility to restaurants in Mexico. |
| Digital Lending | SSA | Value-Added Non-financial service | A Digital Lending Firm in Uganda created an SME Network to help connect unemployed professionals to SME owners that need professional help. |
| Digital Payment | UK/SSA | Fee/Commision Waiver | A Digital Payment Provider based in the UK segmented its SSA customers (mobile money agents) into two segments. For mobile money agents which were closed, the FinTech waived all late repayment penalties and worked with mobile money agents to ensure repayment. For those mobile money agents which were able to keep their shop open, new products were offered with reduced fees and additional risk mitigation. |
| Digital Payment | NA | Fee/Commission Waiver | A global digital payment provider with seat in North America launched a short-term interest-free buy-now-pay-later instalment offering for merchants in the US. |
| Digital Payments | China | Products and services | A Chinese payment service provided a faster payment channel for medical institutions, foundations and other charities. During the Covid-19 pandemic, the company opened more than 400 special accounts for hospitals, organizations and foundations to ensure the smooth medical work and fundraising process. |
| Digital Payments | SSA | Fee Commission Waivers | Two telecom providers from Liberia partnered with the Central Bank of Liberia to suspend all mobile payment transactions fees to encourage customers to shift to digital payments, while minimizing the use of cash. |
| Digital Capital Raising | Europe | New Products and Services | A Digital Capital Raising platform in Switzerland launched a Covid-19 related campaign called "Join the Fight" which reached over 100% of funding. |
| Digital Capital Raising | SSA | Launched a voucher system | A Donation-based Crowdfunding platform in Kenya partnered with a bank and provided vouchers to low-income families to address food shortages caused by the pandemic and provide essential goods to vulnerable families. The vouchers can be redeemed at nearby shops with no transaction fees charged. |
| Digital Capital Raising | Europe | Launched a voucher system | An equity-based Crowdfunding platform in Sweden added a donation-based functionality to provide a voucher-service for SMEs. |
| Insurtech | LAC | New Products and Services | An InsurTech from Chile introduced a new product called "insurance per kilometer" to address the changing mobility habits of citizens in Chile during Covid-19. |
| InsurTech | APAC | Changes to Existing Products and Services | An InsurTech based in Malaysia introduced an online claims survey service to minimize face to face interaction during the pandemic. |
| InsurTech | SSA | Insurance Related to Covid-19 | An InsurTech firm in Uganda put together a hospitalization and life insurance product that costs only $2/month, specifically for COVID-19 patients. |
| Market Provisioning | Europe | Value-Added Non-financial service | A front-end fintech connector service launched an 'eligibility checker' to help customers determine whether they are eligible for government financial aid. |
| Market Provisioning | Europe and North America (US & Canada) | Fee/Commision Waiver | European and North American connector services made their Open Banking API available free of charge during the coronavirus. |
| RegTech | UK | Fee/Commision Waiver | A RegTech start-up launched a new service to provide the Covid-19 regulation updates for free. |
| Digital Asset Exchanges | UK | New products and services | A DLT provider launched a new product to enable non-profit organizations to join as miners on the network. In return, the proceeds from the mining were given as donation to the non-profit organization. |

## Participation in Covid-19 Relief Measure(s) as a delivery partner

Governments across the world have responded to the pandemic with a myriad of policy measures. To support the various Covid-19 related socio-economic relief measures, FinTechs may be playing or have played an active role as delivery or implementation partners. This study aims to show the extent to which FinTech firms have engaged in these supportive activities, and their willingness to do so.

**Figure 7: Implementation or Delivery Partner in Covid-19-related Relief Measures or Schemes, All FinTech Verticals**
(% of respondents)




**Note that "N/A" and "No, not interested" responses have been omitted from this chart*

As shown in Figure 7, the survey finds that most FinTechs did not participate as a delivery or implementation partner in Covid-19 relief measures, but there was indication of interest in doing so: 22% to 32% of surveyed FinTechs were willing to support one or more schemes. This shows the untapped potential for FinTech's to serve as a delivery partner. Among those who have participated, 13% reported taking part in government-based job retention measures while 11% helped facilitate government tax relief measures. Table 4 provides additional examples of the type of relief measures in which FinTech participated.

**Table 4: Examples of FinTechs' Participation in Covid-19 Relief Measure(s)**

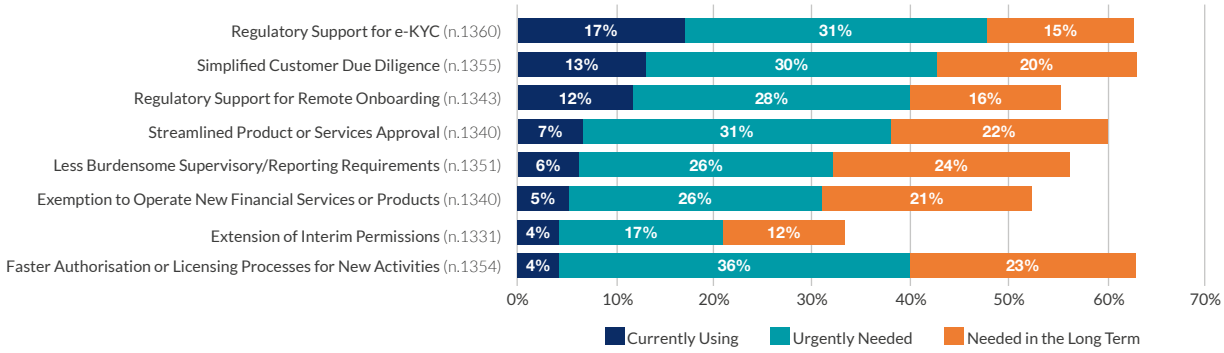
| Model | Region or Market | Change | Example from the field |
|---|---|---|---|
| Digital Banking | North America (US & Canada) | Delivery of Government Intervention | A US-based banking solution provider helped to ease government disbursement of funds by digitizing and automating the application and processing of US government relief package. Businesses affected by the pandemic applied to the Fintech, the Fintech then partnered with Digital Lending firms to automate the requests, collect required documents, perform all the underwriting, and close the loans. |
| Digital Banking | APAC | Delivering Government-based Stimulus Funding | During the pandemic, a digital bank in Hong Kong launched an initiative to get the government stimulus check to people earlier in form of fee-free and interest-free loans. |
| Digital Capital Raising | Europe | Industry-led relief options | Several equity-based German Crowdfunding platforms held joint fundraising rounds for Covid-19-startups, combining their investor base and thus increasing the overall financing volume. Beforehand, they synchronized their term sheets and investment contracts. |
| 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", which made it possible for startups with earlier equity-based Crowdfunding to obtain a convertible loan at reduced interest rates. |
| Digital Custody | LAC | Participation in Covid-19 related relief measures | The governments of Colombia and Paraguay partnered with digital wallets to distribute Covid-19 related stimulus. |
| Digital Lending | NA | Delivering Government-based Stimulus Funding | With the federal Covid-19 relief measures not being available to SMEs, a US-based Digital Lending firm entered into a partnership with a state-wide Covid-19 relief recovery fund to disburse loans to this segment. |
| Digital Pension | Europe | Industry-led relief measure | A Spanish Fintech provides digital pension services to retail customers. As part of a Covid-19 relief measure for local shops, the FinTech clients received credits to their pension account when shopping at local companies. |
| InsurTech | MENA | Implementation or Delivery Partner | A Tunisian Fintech serving as intermediary between the national social security system and rural women. During COVID-19 they worked with a mobile communication company to disburse government social aid packages during the lockdown to rural women. |

| Model | Region or Market | Change | Example from the field |
|---|---|---|---|
| InsurTech | UK | Participation in Covid-19 related relief measures | A UK-based InsurTech stated they had worked with the UK government on a Trade Credit Reinsurance Scheme. The UK government created the £10 billion (US$12.5 billion) reinsurance scheme to help businesses during the Covid-19 pandemic by guaranteeing transactions insured by trade credit insurers. |
| RegTech | Europe | Delivering Government-based Stimulus Funding | An Austrian company highlighted its role as RegTech firm for government loan models to speed up relief measures by supporting the vetting process and helping avoidance of fraud. |

## Regulatory Responses and Policy Needs during Covid-19

This section provides insight on the regulatory measures or interventions that FinTech firms are currently using or in need of. Regulatory responses have been broadly categorized into either regulatory supervision, which includes licensing, permissions and reporting, or regulatory innovation initiatives such as FinTech innovation offices, regulatory sandboxes and hackathons.

**Figure 8: Regulatory Responses & Interventions, All FinTech Verticals Usage & Needs** (% of respondents)




*Note that "N/A" and "Unsure" responses have been omitted from this chart*

Figure 8 provides a snapshot of the type of regulatory measures which FinTechs have benefitted or consider necessary. Some FinTech firms reported benefitting from measures related to their client/customer onboarding processes, with 17% of firms have utilized regulatory support for e-KYC, 13% for simplified customer due diligence (CDD) processes, and 12% for remote onboarding. Table 5 below provides examples of the type of regulatory measures introduced.

These findings are in line with the results from the *Global FinTech Regulatory Rapid Assessment Study*, which finds 49% of surveyed regulators have undertaken regulatory measures relating to e-KYC, AML and digital identity, mostly as part of the financial services sector-wide responses. In the regulatory study, it also finds 37% of the responding regulators have undertaken at least one measure targeting one or more specific FinTech activities or sectors, with considerably more measures directed at the digital payments and remittances activities than any other areas.[16]

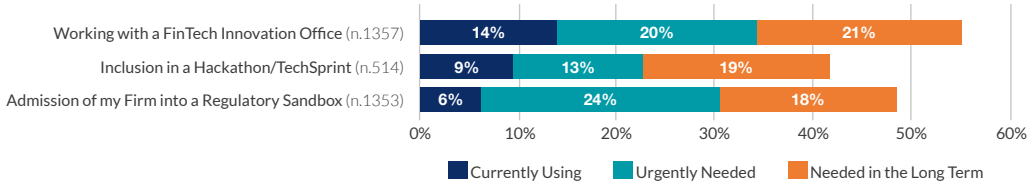
While some FinTechs reported benefitting from existing measures, about half reported the need for regulatory measures that support simplified CDD (30% urgently in need and 20% needing in the longer term), 44% support with remote onboarding and 46% with e-KYC. The order in which these regulations were deemed a priority or need was similarly reflected by regulators in responses to the World Bank-CCAF Global Covid-19 FinTech Regulatory Rapid Assessment Study. The most commonly undertaken measures by regulators in both EMDEs and advanced economies were related to e-KYC, followed by economic relief, business continuity, cyber-security, and employment and talent. Analysis with regards to stringency level shows that 43% of firms in high stringency markets urgently need e-KYC support compared to the FinTech average of 31%. Similarly, regulatory remote onboarding was urgently needed by 45% of firms in high stringency markets compared to the average of 28% across all firms.

In many cases, firms indicated that they 'urgently needed' support or assistance from their regulator(s). For instance, 36% of surveyed firms indicated that they urgently needed 'faster authorization or licensing processes for new activities', while 31% firms needed streamlined product or services approvals and regulatory support for e-KYC. Digital Payment firms also indicated their pressing need towards faster authorization or licensing processes for new activities (54%).

**Table 5: Examples of FinTechs use of Regulatory Responses during Covid-19**

| Model | Region | Regulatory responses | Example from the field |
|---|---|---|---|
| Digital Capital Raising | LAC | Regulatory support for remote onboarding | CVM Brazil facilitated rules for fundraising, allowing equity-based CF companies to relax onboarding criteria for MSME due to Covid-19. |
| Digital Lending | Europe | Regulatory support for remote onboarding | A Digital Lending firm in Greece indicated that their government took measures that made customer onboarding easier for them (electronic PoAs and e-signatures) during the pandemic. |
| Digital Lending | APAC | Regulatory Responses | Based on Suggestions by the Fintech Industry in Thailand, the Central Bank of Thailand issued approved the application for digital loan business licenses which used alternative data, such as utility bills and online shopping information. |
| Digital Banking | APAC | Regulatory support for e-KYC | An Indonesian Bank worked with the government of Singapore to use a face verification technology for digital banking services. The face verification technology, used for citizen to interact with government services, can be used for the online sign-up process at the bank. Instead of using PINs, customers register with a selfie which is matched with a photo entry in the governments database. |
| Digital Payments | MENA | Regulatory support for remote onboarding & amendments to transaction limits | The Central Bank of Egypt launched an eKYC solution to facilitate the electronic opening of bank accounts, while at the same time, increasing transaction limits for mobile payments. |
| Digital Payments | SSA | Amendments to transaction limits | The Central Bank of Kenya increased the transaction and balance limits for mobile money by over 100% in March, and reporting that this has led to increased levels of mobile money usage in the country during Covid-19. |

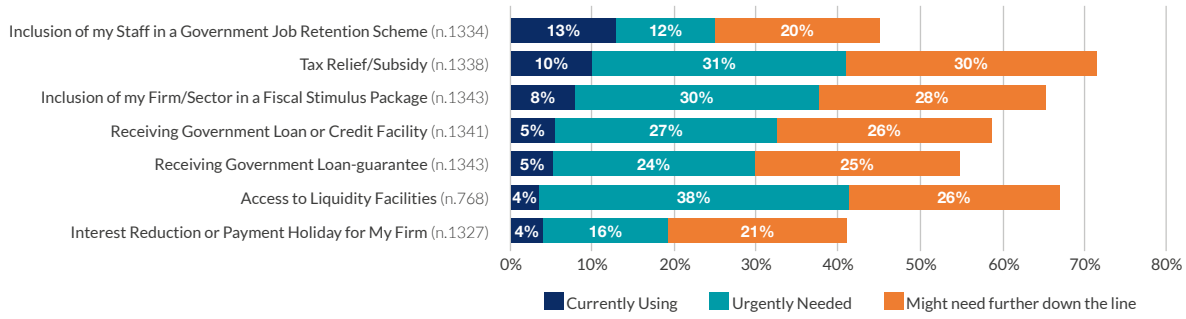
**Figure 9: Regulatory Innovation Initiatives, All FinTech Verticals Usage & Needs** (% of respondents)




*Note that "N/A" and "Unsure" responses have been omitted from this chart

As shown in Figure 9, with respect to regulatory innovation initiatives, 14% of the FinTechs reported that they were making use of a fintech innovation office, but about 20% more considered that such offices are urgently needed. Of the RegTech, Alternative Credit & Data Analytics, Digital Identity, InsurTech and Enterprise Technology verticals, 9% reported already making use of 'Inclusion in a Hackathon/TechSprint', while 13% considered them urgently needed. Finally, 6% of FinTechs were currently using a Regulatory Sandbox, and 24% considered them urgently needed.

**Figure 10: Government Interventions, All FinTech Verticals** (% of respondents; currently using, urgently need, might need further down the line)

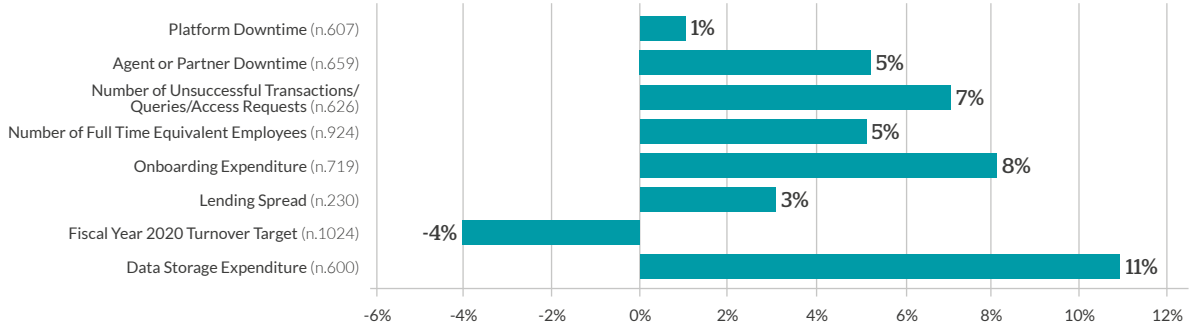



*Note that "N/A", "Not Needed" and "Unsure" responses have been omitted from this chart

When asked which government-based interventions, if any, FinTech firms were utilizing or might need, 13% of the surveyed firms reported that they were currently using a government job retention scheme, and 10% were making use of a tax relief/subsidy. In general, however, most firms indicated that they have yet to receive any government support and 'urgently needed' a variety of governmental interventions. In particular, 38% of firms reported urgently needed access to liquidity facilities, 31% reported urgently needed access to tax relief or subsidies, and 30% needed urgent inclusion in a fiscal stimulus package. However, for certain Fintech verticals the need for such support appears more acute. In particular, for Digital Lending firms, the most urgently needed interventions reported were access to liquidity facilities (48%)[17], government loans or credit facilities (41%), and inclusion in a fiscal stimulus package (40%) (See Figure 10).

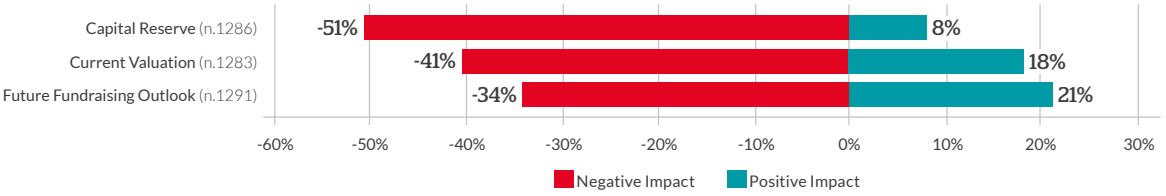
## Financial Position and Operational Challenges to the Global FinTech Industry

**Figure 11: Operational Performance and Costs Indicators, All FinTech Verticals** (% change, year-on-year H1)



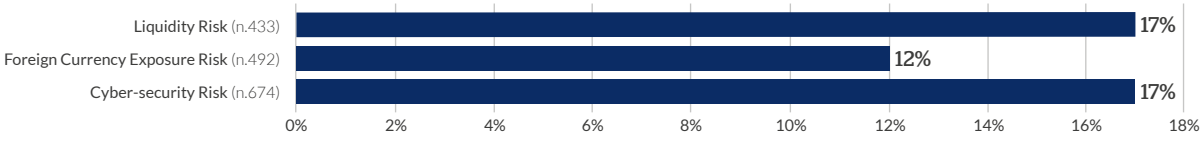

As FinTech firms deal with day-to-day operational challenges, this study sought to understand how such endogenous factors have been impacted by the pandemic, and how firms have adapted accordingly. In aggregate, FinTech firms noted slight increases in platform downtime, agent or partner downtime, and the number of unsuccessful transactions, queries and access requests. In addition, they reported having increased their headcount (i.e. FTEs) by 5% year-on-year. At the same time, they revised their 2020 revenue targets downward by 4% amidst an increase in costs related to onboarding (8%) and data storage (11%) year-on-year (See Figure 11).

**Figure 12: Impact of Covid-19 on the Financial Position, All FinTech Verticals** (% of respondents)




The study suggests that Covid-19 has negatively impacted FinTechs' financial position. As shown in Figure 12, 51% of surveyed firms indicated a negative impact on their capital reserves (21% significantly, and 30% slightly). This was particularly large for Digital Savings (70%), InsurTech (62%), Digital Lending (59%) and Enterprise Technology Provisioning (55%). 40% of surveyed firms have also experienced a negative impact on their current valuation, while 34% have indicated a negative impact on their future fundraising outlook.

**Figure 13: Risk Indicators, All FinTech Verticals** (% change, year-on-year H1)

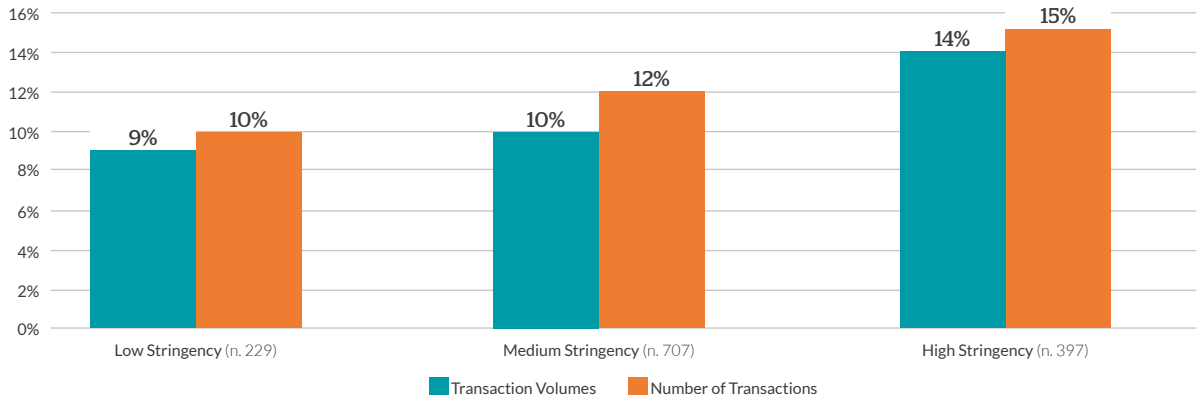


When considering external factors that might impact their operations, firms identified several key risk factors. As shown in Figure 13, among the highest perceived risks were liquidity (17%) and cyber-security (17%). It is notable that the parallel *Global Covid-19 FinTech Regulatory Rapid Assessment Study* also finds that 78% of surveyed regulators regarded cyber-security risk among their top 3 increasing risks in light of Covid-19.[18]

## The impact of Covid-19 lockdowns on FinTechs

As governments worldwide respond to Covid-19, it is worth understanding how the FinTech ecosystem has been impacted by the varying severity of lockdown measures enacted within each market.[19] To enable this analysis, the research team assigned FinTechs to low, medium and high lockdown stringency groups based on the severity of lockdowns in their headquartered jurisdictions.[20] Jurisdictions were assigned into three equal-sized groups based on their respective score on the Oxford Covid-19 Government Response Tracker (OxCGRT).[21]

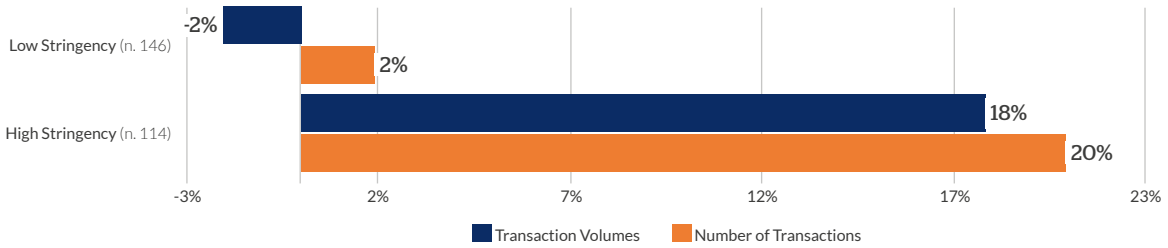
**Figure 14: Transaction Volumes & Number of Transactions under low, medium and high Covid-19 lockdown stringencies, All FinTech Verticals** (% change, year-on-year H1)




As shown in Figure 14, the study reveals that FinTechs in markets with more stringent Covid-19 lockdown restrictions reported larger growth in transaction volume and number of transactions. On average, volume and number of transactions for firms headquartered in high stringency jurisdictions was 50% higher when compared to firms in the lowest quantile. This suggests that demand for FinTech services increased as more stringent restrictions on movement and economic activity were imposed: the higher the Covid-19 stringency, the higher the transaction volume, leading to increased adoption of FinTech services in these jurisdictions. Similarly, when accounting for other key market performance indicators, such as 'new customer acquisition', it was observed that firms within high stringency markets reported a 28% year-on-year H1 increase, compared to all FinTechs (a 22% increase).

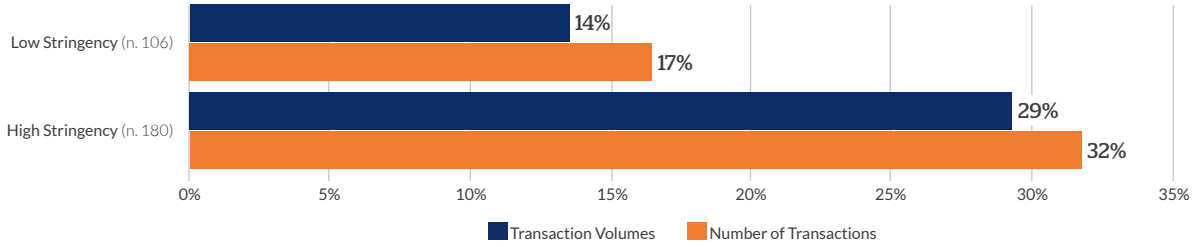
The demand for Market Provisioning FinTechs (i.e. Digital Identity, Alternative Credit & Data Analytics, RegTech, and Enterprise Technology Provisioning) also followed this trend, with an average transaction growth of 20% for high stringency jurisdictions compared to 2% for low stringency jurisdictions (see Figure 15).

**Figure 15: Transaction Volumes & Number of Transactions under low, medium and high Covid-19 lockdown stringencies, Market Provisioning FinTechs** (% change, year-on-year H1)



A hallmark of Market Provisioning FinTech activities is that they provide infrastructure and support to financial services. As lockdown stringency increases, a reliance on digitalization goes hand-in-hand. It is not surprising to see that in these higher-stringency jurisdictions, FinTech activities have served to support the digitalization of financial services, spurring their growth.

**Figure 16: Transaction Volumes & Number of Transactions under low, medium and high Covid-19 lockdown stringencies, Digital Payments** (% change, year-on-year H1)

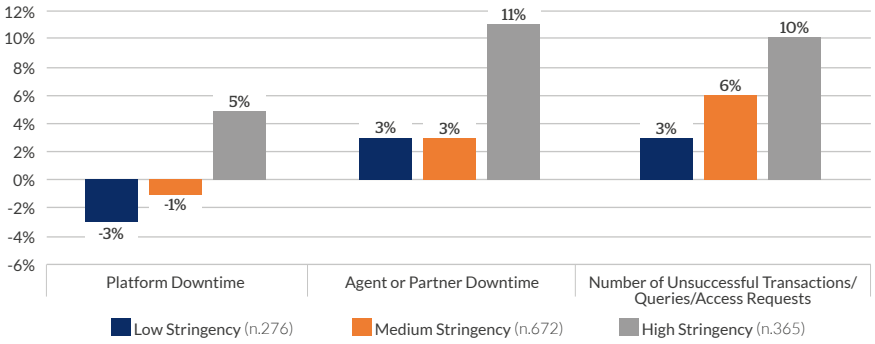



As noted, there is a positive correlation between stringency levels and market performance indicators such as transaction volume and the number of transactions. This trend becomes more apparent when looking at specific verticals. Through vertical-specific analysis, the established trend is most acutely observed in Digital Payments, with high stringency markets reporting a 29% growth – twice the average growth of Digital Payments providers in low stringency markets (see Figure 16).[22]

## Lockdown Stringency Impact on Operational Indicators

While FinTechs in high stringency markets tend to experience higher growth than those in low-stringency markets, they have not been immune to the operational impact of Covid-19 lockdown measures.

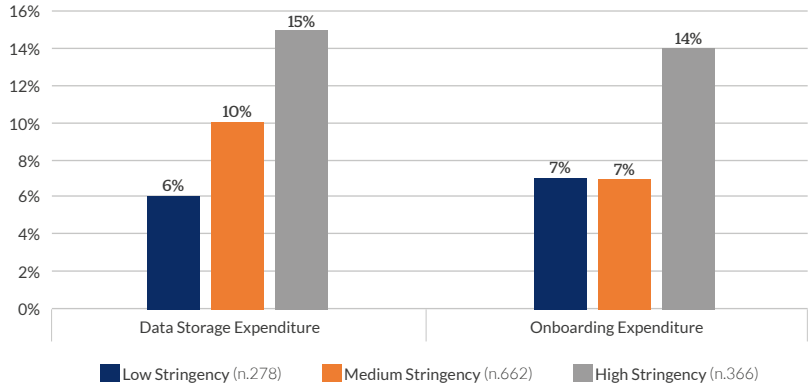
**Figure 17: Operational Performance Indicators under low, medium and high Covid-19 lockdown stringencies, All FinTech Verticals (% change, year-on-year H1)**




When considering indicators of operational performance such as platform downtime, agent or partner downtime, and unsuccessful transactions, firms in higher stringency jurisdictions have experienced a more negative impact.

For example, platform downtime increased by 5% for firms within high stringency markets, while it reduced for those in low stringency markets. FinTech firms in high stringency markets reported an 11% increase in agent or partner downtime, compared to 3% in low stringency markets. Similar trends can be seen for the number of unsuccessful transactions (see Figure 17). This suggests that the changes required due to more severe lockdown measures might have increased operational risks.

**Figure 18: Operational Costs Indicators under low, medium and high Covid-19 lockdown stringencies, All FinTech Verticals** (% change, year-on-year H1)



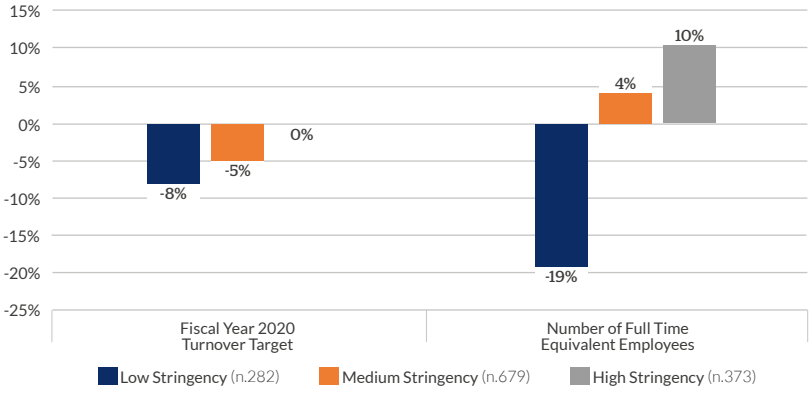

When considering operational costs, both data storage expenditure and onboarding expenditure increased to a greater extent for firms in high stringency markets. Onboarding expenditure for firms in high stringency jurisdictions reported a 14% increase, compared to the discernible change evidenced in low stringency markets (see Figure 18).

**Table 6: Cyber-security Risk Indicators under low, medium and high Covid-19 lockdown stringencies, All FinTech Verticals** (% change, year-on-year H1)

| Stringency Quantile | Cyber-security Risk Average | Observations |
|---|---|---|
| Low Stringency | 8% | 275 |
| Medium Stringency | 15% | 660 |
| High Stringency | 17% | 364 |

Perceived cyber-security risk was also positively related to lockdown measures, with firms in high stringency markets reporting a 17% increase compared to 8% for low stringency markets. (see Table 6). Firms in medium stringency markets also saw high levels of cyber-security risk.

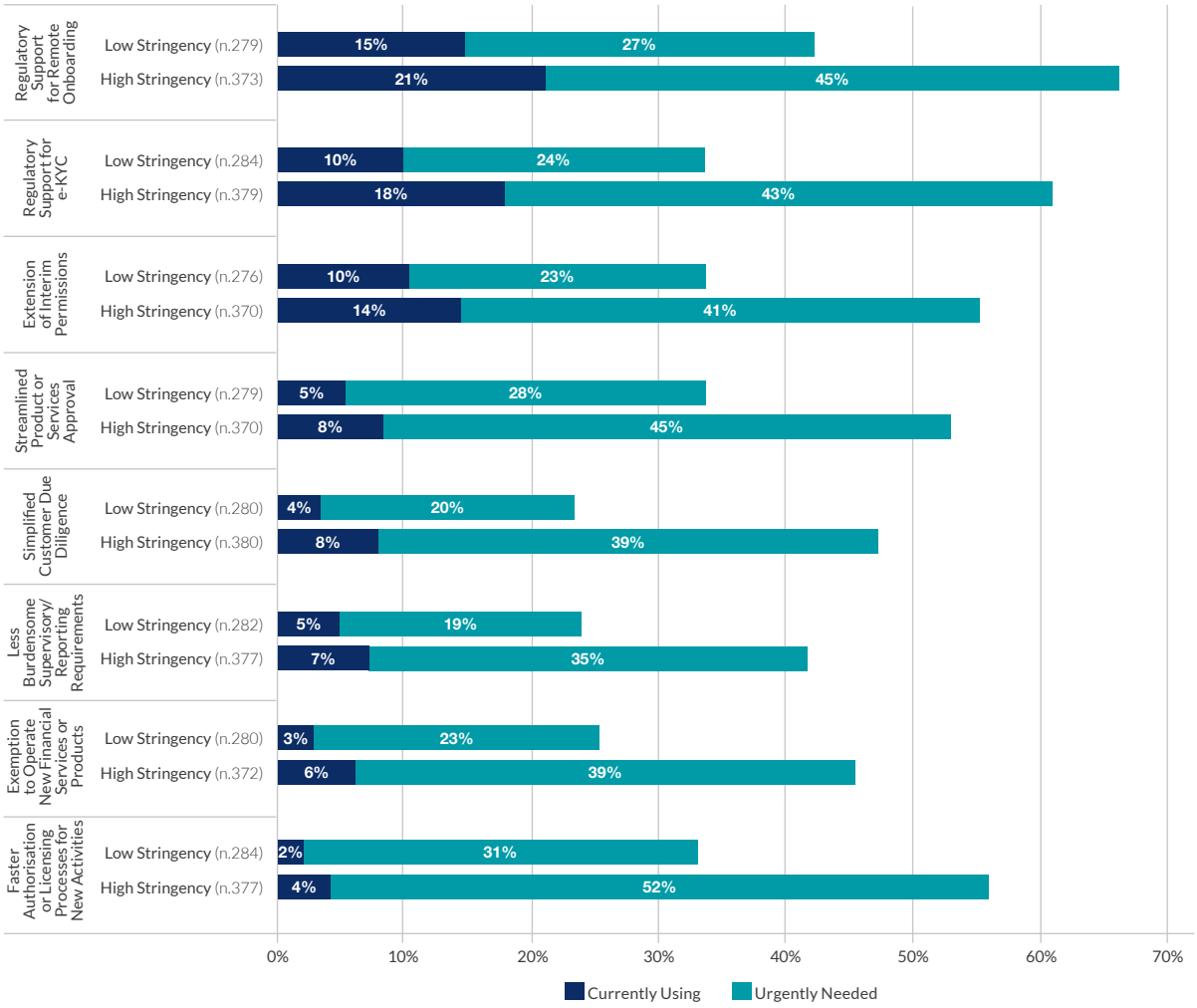
**Figure 19: Turnover Targets and FTE under low, medium and high Covid-19 lockdown stringencies, All FinTech Verticals (% change, year-on-year H1)**




In general, firms in high stringency jurisdictions reported a negligible change in fiscal year revenue targets for 2020, compared to the 8% drop reported by FinTechs in low stringency markets. FinTechs in high-stringency markets reported a higher level of FTEs than those from low stringency markets (see Figure 19).

Perhaps unsurprisingly, FinTechs' demand for regulatory support tended to be higher in countries with higher-stringency lockdown. FinTechs in high stringency jurisdictions were more likely to report benefiting from regulatory support measures than firms in low stringency jurisdictions. This suggests that regulators were more likely to extend support measures in countries where lockdown measures were more severe.

**Figure 20: Regulatory Responses by high, low Covid-19 lockdown stringencies, All FinTech Verticals (% of respondents; currently using, urgently needed)**



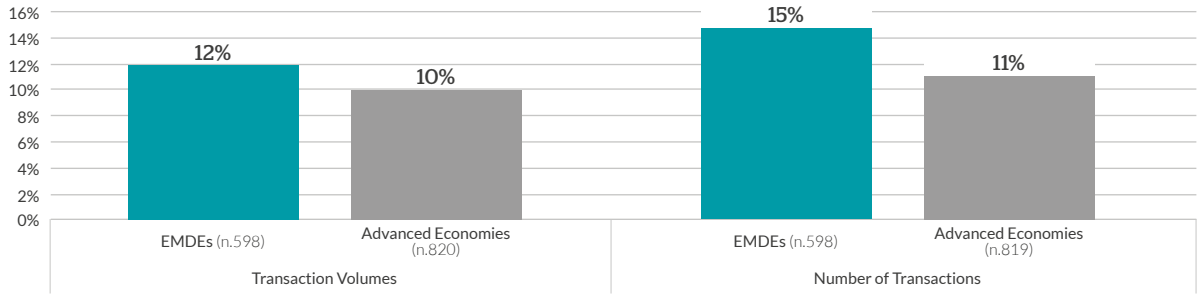

**Note that "N/A", "Needed in the Long Term" and "Unsure" responses have been omitted from this chart*

Overall, FinTechs desire more regulatory support than they have received. While 21% of firms in high stringency jurisdictions reported receiving regulatory support for remote onboarding (compared to 15% in low stringency jurisdictions), another 43% of firms in high stringency jurisdictions reported urgently needing this support (compared to 27% in low stringency jurisdictions). This trend was evident across all regulatory support measures, including support for e-KYC, Simplified CDD and Faster Authorization and Licensing (see Figure 20).

## FinTech markets by World Bank income groups

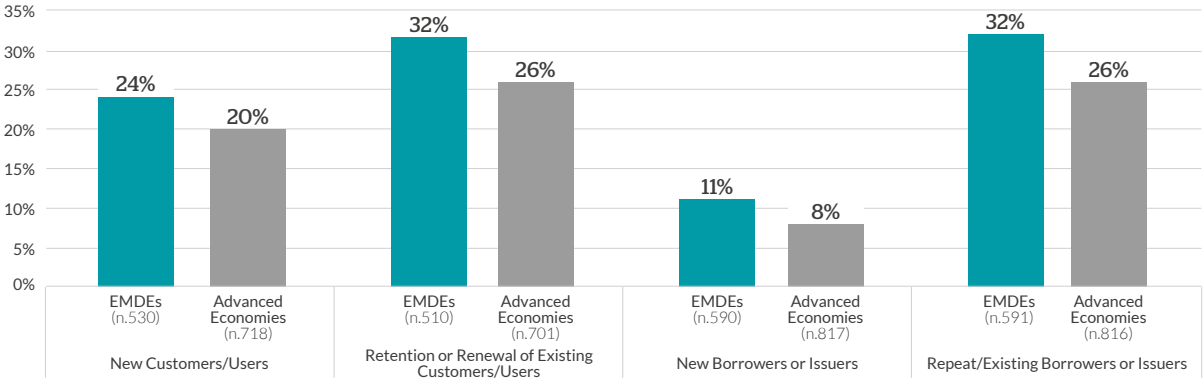
FinTech markets may differ by the level of economic development. To assess how FinTechs have been impacted in Covid-19 depending on the level of economic development in their HQ countries, survey respondents were assigned to either EMDEs, which includes low-income, lower-middle income and upper middle-income countries or territories, or (AE) group AEs which comprises high-income countries or territories.[23]

**Figure 21: Transaction Volumes and Number of Transactions by World Bank income groups, All FinTech Verticals** (% change, year-on-year H1)



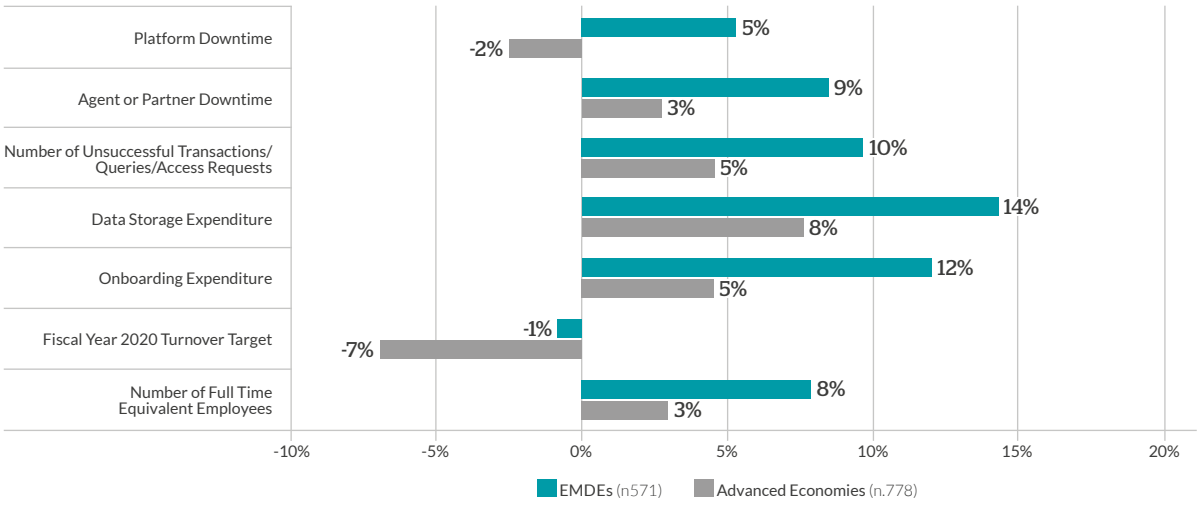

On average, FinTech firms from EMDEs reported higher year-on-year growth both in total transaction values and volumes than respondents from AEs (see Figure 21). This growth was more prominent for the number of transactions, with 11% averaged growth for FinTechs in AEs compared to 15% for FinTechs in EMDEs.

**Figure 22: Selected Market Performance Indicators by World Bank income groups, All FinTech Verticals** (% change, year-on-year H1)



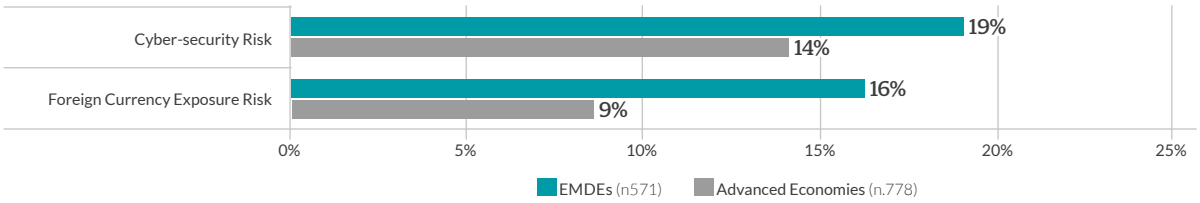

FinTechs from EMDEs further reported higher year-on-year growth of new customers/users and improvements in customer retention than firms from AEs. With respect to new customers or users, EMDE FinTechs reported a 24% year-on-year increase (versus 20% of firms in AEs), with a 32% year-on-year increase in retention or renewal of existing customers (versus 26% in AEs). Equally, for EMDE-based respondents, the number of new borrowers or issuers rose by 11% year-on-year, compared to 8% from AEs, and borrower or issuer retention grew by 32% against the 26% noted by firms in AEs (see Figure 22).

**Figure 23: Operational Performance and Costs Indicators, All FinTech Verticals** (% change, year-on-year H1)



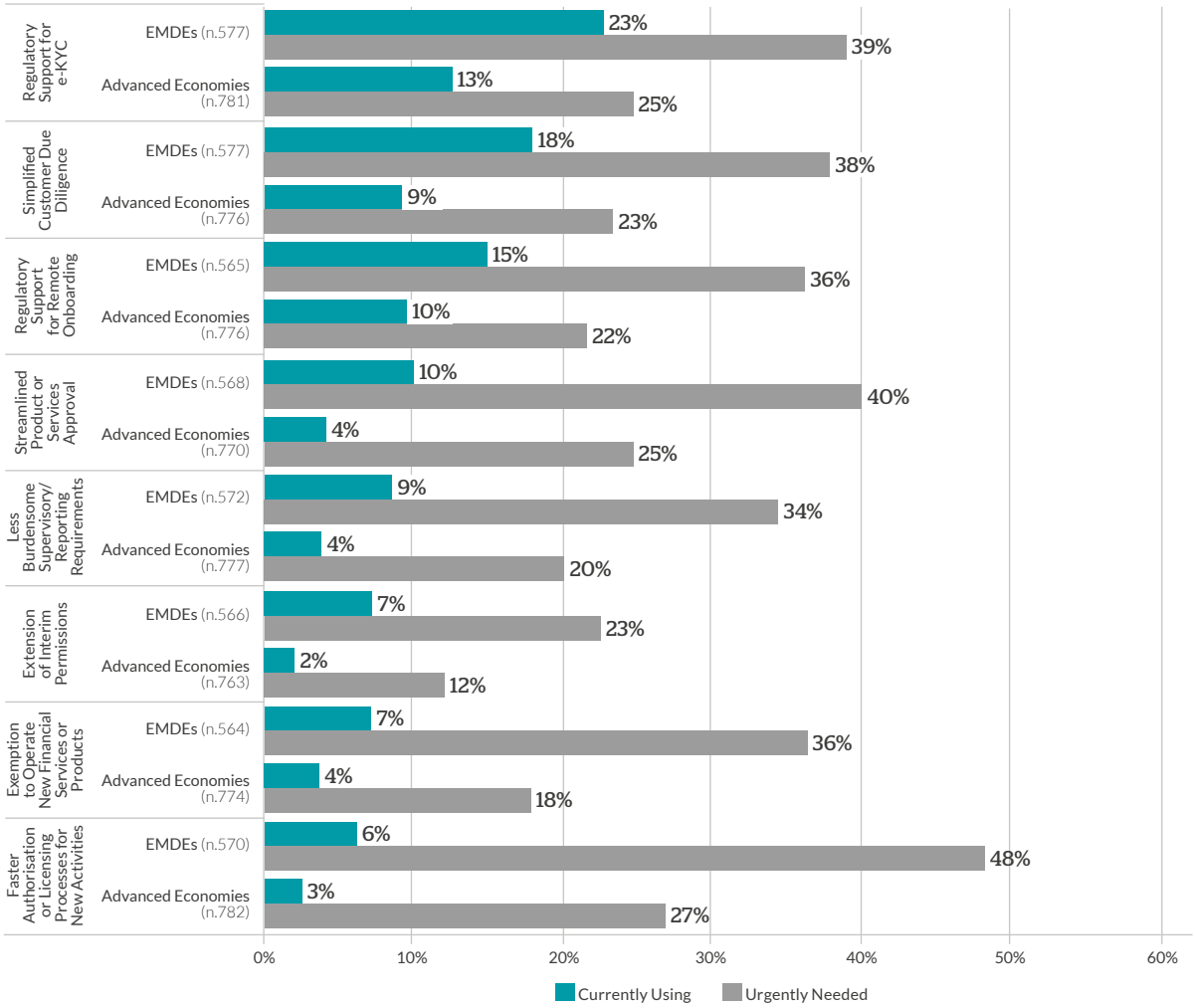
FinTechs from EMDEs on average also reported larger increases in operational expenditure, related to client onboarding and data storage, and a more challenging operational environment with larger increases in platform downtime, agent or partner downtime and number of unsuccessful transaction/ queries than firms from Advanced Economies. Despite these challenges, FinTechs in EMDEs, on average, retained their pre-Covid-19 Fiscal Year 2020 Turnover Target and grew their FTE by 8% on a year-on-year basis (see Figure 23).

**Figure 24: Risk Indicators, All FinTech Verticals (% change, year-on-year H1)**




Firms in EMDEs also reported larger increases in Cyber-security and foreign currency exposure risks than firms from AEs, when considering external operational risk factors (see Figure 24).

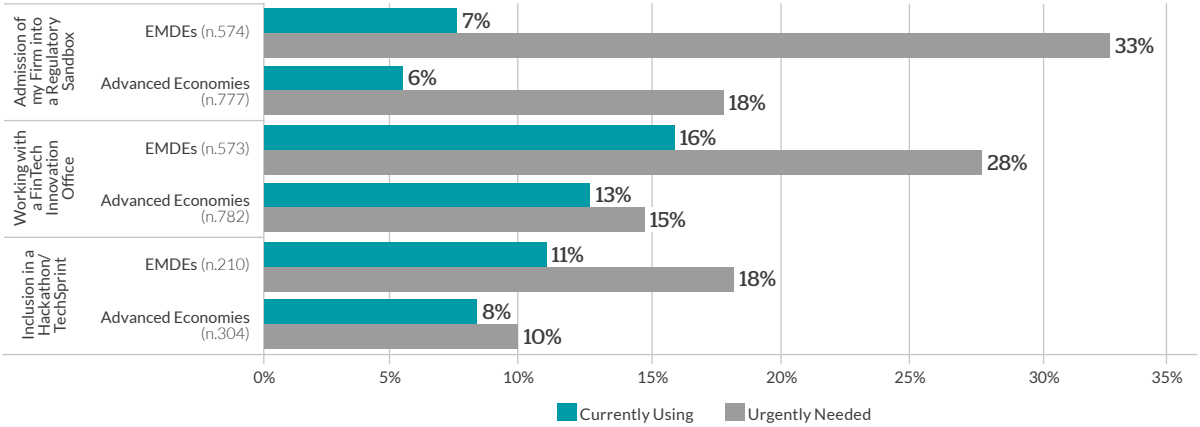
**Figure 25: Regulatory Response measures by World Bank income groups, All FinTech Verticals**
(% of respondents; currently using, urgently needed)




**Note that "N/A", "Needed in the Long Term" and "Unsure" responses have been omitted from this chart*

As shown in Figure 25, firms from EMDEs were more likely to report an urgent need for regulatory support than FinTech firms from AEs. The most cited urgent need was faster authorization or licensing for new activities, followed by streamlined product or services approvals and regulatory support for e-KYC. Firms in EMDEs were also more likely to have used one or more Covid-19 related regulatory response measures. Regulatory support for e-KYC was cited as one of the most utilized regulatory measures by firms from both EMDEs and AEs. EMDEs firms reported the use of regulatory interventions or support mechanisms (such as streamlined product or service approvals, or faster authorization or licensing processes for new activities) at a higher frequency than those in AEs.

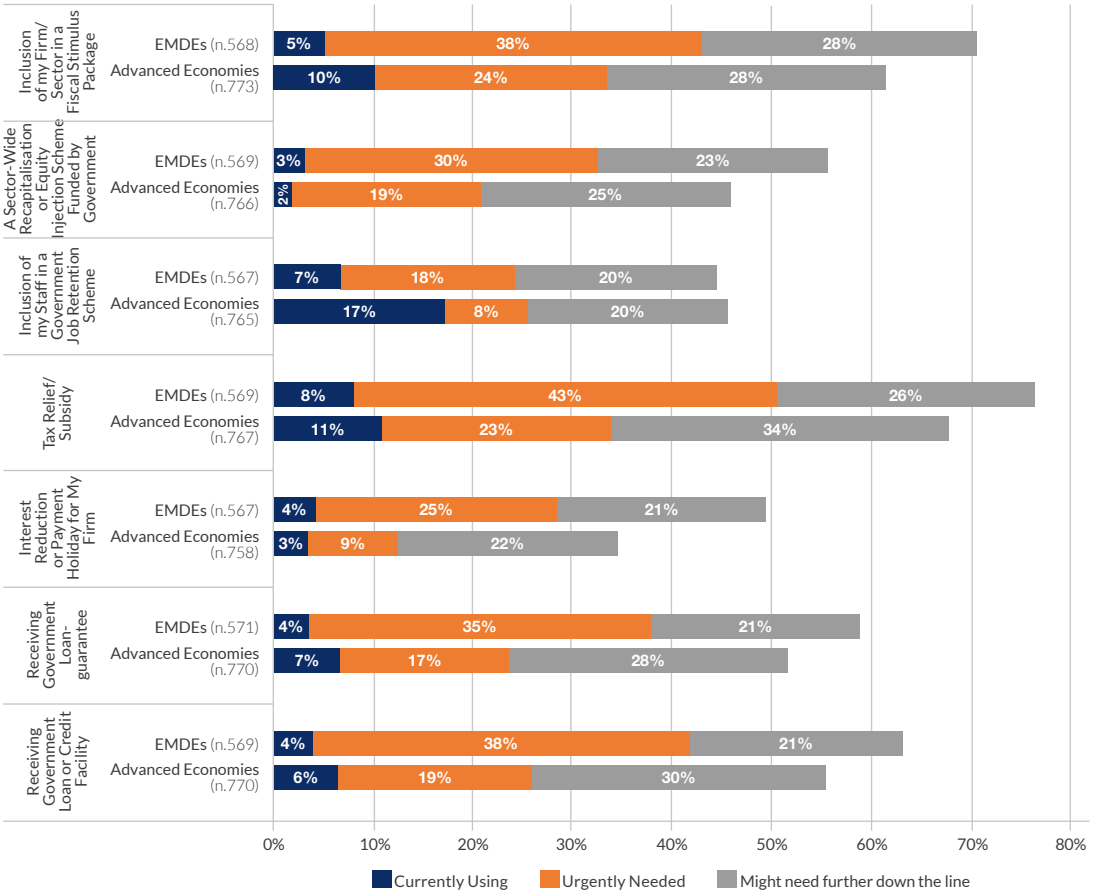
**Figure 26: Regulatory Innovation Initiatives by World Bank income groups, All FinTech Verticals** (% of respondents; currently using, urgently needed)




**Note that "N/A", "Needed in the Long Term" and "Unsure" responses have been omitted from this chart*

Firms from EMDEs were also more likely to report that they were benefiting from a regulatory innovation initiative, or that they were urgently needing such type of initiatives; but the percentages were much higher for the latter. For example, while current participation in a regulatory sandbox was roughly similar between EMDEs and AEs, 33% of firms in EMDEs reported urgently needing them compared to 18% in AEs (see Figure 26)

**Figure 27: Government Interventions to Support FinTech activities by World Bank income groups, All FinTech Verticals**
(% of respondents; currently using, urgently needed, might need further down the line)




**Note that "N/A", "Not Needed" and "Unsure" responses have been omitted from this chart*

Overall, firms from AEs have utilized government-based schemes to a higher degree than those in EMDEs. In contrast, EMDE firms tended to indicate a more urgent need for assistance (see Figure 27).

# 3. Impact of Covid-19 on selected FinTech Verticals

# Chapter 3. Impact of Covid-19 on selected FinTech Verticals

This chapter provides an overview of the key findings for selected Retail-facing FinTech verticals including Digital Lending, Digital Payments, Digital Capital Raising, and Insurtech. These four verticals collectively account for 60% of the survey sample. This chapter also includes analysis of Market Provisioning FinTech verticals, which include Enterprise Technology Provisioning, Digital Identity, Alternative Data and Credit Analytics, and RegTech, accounting for 21% of survey responses.

## Digital Lending

### Selected vertical highlights

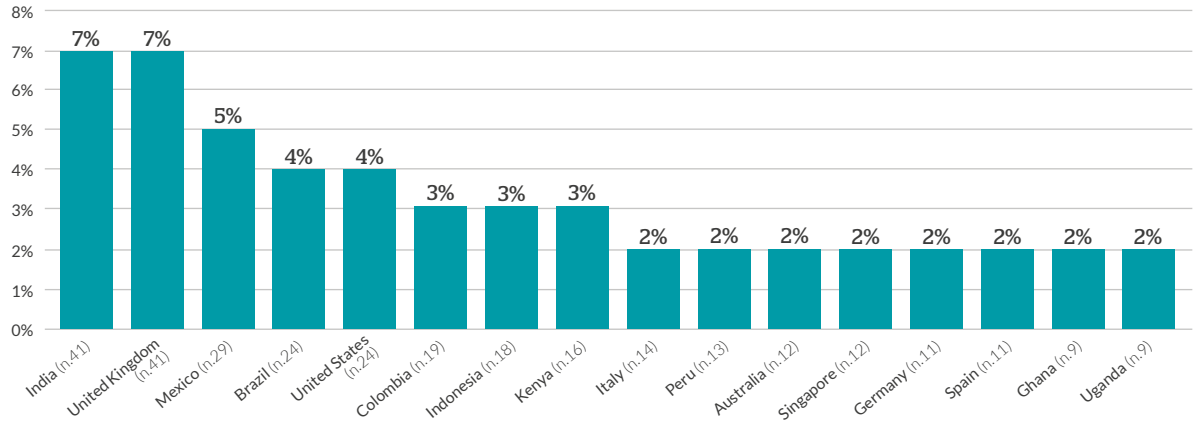
- Digital lending firms reported a contraction in almost all market performance indicators, including contractions in transactions by volume and number. Firms from higher stringency lockdown jurisdictions experienced these contractions in a more pronounced manner, while there were few discernable differences between EMDEs and AEs. This drop in activity makes this vertical an outlier, as no other FinTech vertical reported a year-on-year H1 decline in their growth.
- This was compounded by increases in arrears and defaults, with firms operating in EMDEs or in high stringency jurisdictions seeing above average increases for both indicators. Operational costs increased for Digital Lending firms, particularly for those in high stringency markets.
- A decline in market performance for Digital Lending firms and increase in operational complexity and costs was mirrored by a 14% downward revision of 2020 fiscal year turnover target. They also reported downward revisions to their profitability.
- Significant regional variation exists when considering retail investment shifts. Retail-led investment has, on balance shrunk, except in LAC and in North America. In contrast, institutional investment increased across most regions, but shrunk in APAC, SSA, and the UK.
- More than half of Digital Lenders have made changes to their onboarding criteria or have introduced payment easements in response to Covid-19. Half of Digital Lenders have either already introduced enhanced fraud and/or cyber-security features or where in the process of introducing this feature.
- Digital Lending firms most urgently need regulatory support measures for 'faster authorization for new activities', followed by 'less burdensome supervisory/reporting requirements', 'regulatory support for e-KYC' and 'simplified CDD'.

### Overview of Respondents

Digital Lending accounted for the largest number of responses to the survey, with 305 firm-level responses globally, representing 21% of the total database. Firms in Europe (excluding the UK) accounted for 30% of firms, followed by 23% of firms representing APAC, 19% representing LAC, 13% representing SSA, 5% representing North America and 2% representing MENA. It is important to note that these percentages refer to the number of respondents and do not account for nor attempt to qualify the size or market share of a unique firm.

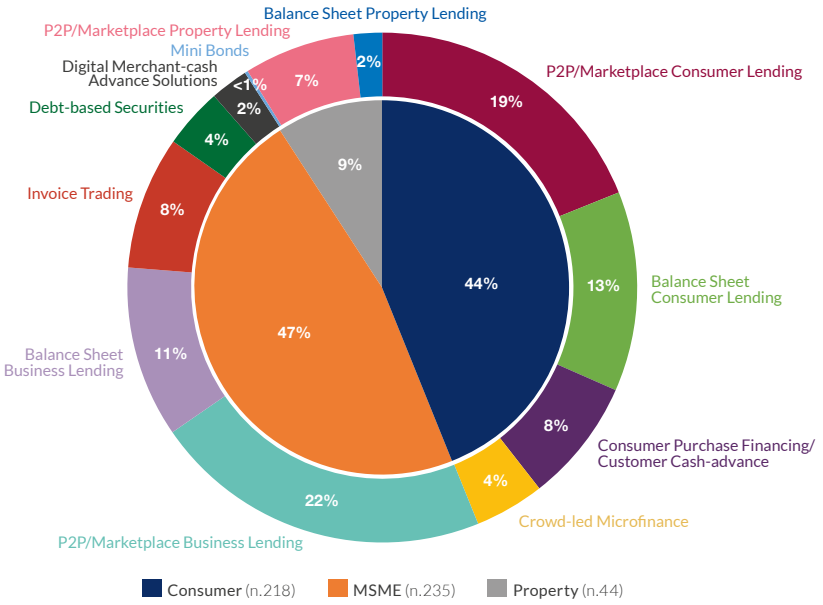
At an individual country level, both India (7%) and United Kingdom (7%) reported the highest concentration of firms (see Figure 28). Interestingly, most Indian firms were focused on servicing their domestic market, while firms with Headquarters in the United Kingdom were more likely to report operations in several countries, mostly concentrated in Europe. On average, 30% of Digital Lending firms were operating in 2 or more countries, exemplifying the internationalization of FinTech activities.

**Figure 28: Top 15 countries (by HQ & countries of operation), Digital Lending** (number of respondents)




When considering the top 15 countries, or 53% in this dataset, we note that within LAC, Mexico (5%) and Brazil (4%) are the most represented countries in terms of both HQ and operational activity. Colombia, Peru and Chile had ten or more operational firms, despite not having a local headquarter. In Europe, Italy, Germany, and Spain reported some of the highest numbers of respondents, across both HQ and operational activity. In SSA, Kenya, Nigeria, Ghana, and South Africa reported high concentrations in firm-level HQ and operations, which are also served as critical spring-board countries, with firms operating in a number of surrounding countries, albeit at smaller levels. In APAC, India, Indonesia and Singapore saw significant concentrations of activity. Firms in Australia and India tended to focus on servicing their domestic economies, with limited examples of multi-jurisdictional firms. On the other hand, Singapore served as a critical spring-board country, with firms operating in a number of additional ASEAN countries.

**Figure 29: Distribution of Digital Lending Respondents by sub-vertical** (% of total)



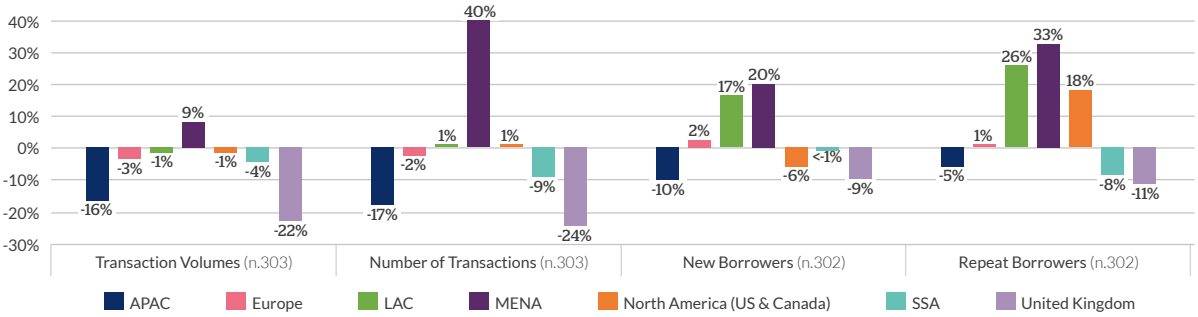

The Digital Lending vertical included 12 different models referred to henceforth as sub-verticals. These can be broadly assembled into three groups; those which primarily serve 1) household and consumer borrowers, 2) MSMEs or other business entity borrowers, and 3) property or real-estate markets to either MSMEs, households or corporates. This provides an indication of whether

Digital Lending firms, in general, catered to business customers or consumers. This comparison is useful in understanding both now, and in the future, where Digital Lending is most valued and throughout which customer group growth is more achievable.

As shown in Figure 29, nearly half (47%) of Digital Lending firms that responded the survey were classified as MSME-focused, with P2P/Marketplace Business Lending firms making up 22% of the dataset, followed by Balance Sheet Business Lending (11%), and Invoice Trading (8%). It is worth noting that it is not uncommon for firms to select more than one sub-vertical, particularly within this vertical. Digital Lending firms with a consumer-finance focus made up 44% of the dataset, with P2P/Marketplace Consumer Lending accounting for 19% and Balance Sheet Consumer Lending accounting for 13%. Property Lending includes lending activities with a property or real estate focus. It was not possible to determine the correct borrower-category for firm-respondents, as property-lending could apply to both MSME/Corporate borrowers, as well as household and residential mortgages. As such, this group was separately ring-fenced for analysis.

## Market Performance Indicators

**Figure 30: Market Performance Indicators by Region (Volumes, Number of Transactions, New Borrowers & Repeat Borrowers), Digital Lending** (% change, year-on-year H1)




Covid-19 has had an observably negative impact on the Digital Lending vertical, especially as related to transaction volume and number of transactions, with an average decline of 8% year-on-year in Q1 and Q2 2020 for both indicators. From a regional perspective, drops in transaction volume and number of transactions were most prevalent in APAC (a 16% and 17% decline respectively), and in the United Kingdom (22% and 24%). The only exception was MENA, where transaction volume grew by 9% and the volume of transactions by 40% (see Figure 31).

When accounting for lockdown stringency, Digital Lending firms in High stringency markets noted a 10% decrease in both transaction volume and number of transactions, followed by low stringency markets (with an average decrease of 9%) and medium stringency markets (with an average decrease of 7%). There was no significant difference between EMDE or AE firms, as both were within a percentage point of each other (EMDEs showing an average decrease of 8% in both transaction volume and number, while for AEs this was an average decrease of 9%).

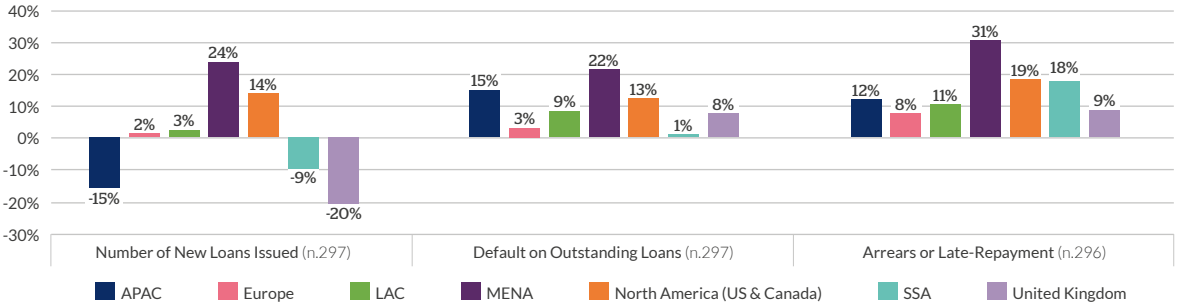
However, observations on the number of new borrowers and repeat borrowers in specific regions were in contradiction to the volume and number of transaction performance. An increase in new borrower activity was reported in Digital Lending firms across MENA (20%), LAC (17%), and Europe (2%). Declines were noted, however, in APAC, North America, and the United Kingdom. These disparate findings were more pronounced when observing changes in repeat or existing borrower activity, with increases reported in MENA, LAC, and North America, and declines in APAC, SSA, and the United Kingdom (see Figure 30).

**Table 7: Market Performance Indicators for Consumer & MSME-focused Digital Lenders** (% change, year-on-year H1)

| | Consumer-focused Lending | MSME-focused Lending |
|---|---|---|
| Transaction Volume | -9% | -4% |
| Number of Transaction | -7% | -5% |
| New Borrowers | 5% | 1% |
| Repeat/Existing Borrowers | 10% | 4% |

After the breakdown by consumer-focused and MSME-focused digital lending, consumer-lending activities reported larger declines in volume and number of transactions despite relatively higher customer acquisition and retention rates (see Table 7). This suggests that while there were more borrowers participating in the consumer space, the value of new loans had likely decreased relative to prior years.

**Figure 31: Market Performance Indicators by Region (Number of New Loans, Default on Outstanding Loans & Arrears or Late Repayment), Digital Lending** (% change, year-on-year H1)




Digital Lending firms reported a year-on-year H1 average decline of 6% in the number of loans issued, in addition to a 13% rise in arrears/late-repayment, and a 9% increase in defaults. MENA saw an increase of 22% in defaults, while APAC and North America reported a 15% and 13% increase in defaults, respectively. SSA and Europe saw a more modest increase in defaults, although coupled with the rise in late repayments in SSA, the regional default risk may be poised to increase (see Figure 31)The number of defaults on loans increased to 11% for firms in the high stringency index. Firms operating in EMDEs saw an increase in defaults on loans of 12%, whilst those in AEs saw only 4%.

There were important differences in the number of new loans by region, by income level and by level of lockdown stringency. When comparing regionally, the number of new loans issued increased significantly for firms in MENA (24%) and in North America (14%), while firms in LAC and Europe reported a modest 3% and 2% rise respectively. In contrast, firms in the United Kingdom and APAC observed a notable decline in the number of loan issued (20% and 15% respectively) (see Figure 31).

New loans for MSME-specific Digital Lending saw a more modest 2% decline in the number of new loans issued. [24]

When comparing by income level, firms in AEs reported larger decreases of new loans (at -7%) than the average for the vertical. Important differences can also be observed depending on the level of lockdown stringency. Firms located in high stringency jurisdictions on average reported a 6% decrease in new loans. In contrast, firms in low stringency jurisdictions reported a near 17% increase in new loans issued.

An increase in arrears was reported by firms across all regions, income level and level of lockdown, although the percentages vary. Firms across regions indicated a rise in arrears or late repayment of loans (13% vertical average), with the largest increase reported in MENA (31%), followed by North America (19%), and SSA (18%). . In high stringency jurisdictions, arrears grew to 14%, while in low stringency jurisdictions reported a 9% increase. Finally, EMDEs firms reported a 13% increase, and AEs 11%%.

**Table 8: Transaction Volumes, Digital Lending by Sub-verticals** (% change, year-on-year H1)

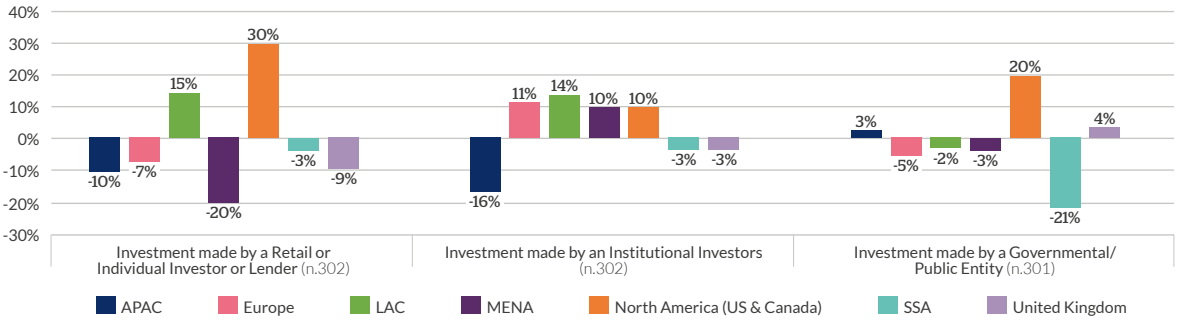
| Sub-Vertical (% of firms) | Transaction Volumes |
|---|---|
| P2P/Marketplace Consumer Lending (18%) | -8% |
| P2P/Marketplace Business Lending (22%) | 4% |
| P2P/Marketplace Property Lending (7%) | -11% |
| Balance Sheet Consumer Lending (12%) | -7% |
| Balance Sheet Business Lending (11%) | -18% |
| Balance Sheet Property Lending (2%) | 9% |
| Debt-based Securities (Debentures/Bonds) (3%) | 4% |
| Invoice Trading (9%) | -6% |
| Crowd-led Microfinance (5%) | -3% |
| Consumer Purchase Financing / Customer Cash-advance (8%) | -6% |
| Digital Merchant-cash Advance Solutions (2%) | -7% |
| **Vertical Average** | **-8%** |

Above vertical average
Below vertical average

Analysis according to sub-vertical shows that some sub-verticals, specifically Balance Sheet Property Lending firms, P2P/Marketplace Business Lending and Debt-based Securities firms, reported an increase in their transaction volume by 9%, 4% and 4% respectively. Overall these results show that while Digital Lending as a whole contracted, there were a handful of sub-verticals that outperform the vertical average (see Table 8).

## Change in Investor Activity

**Figure 32: Market Performance Indicators by Region (Retail, Institutional and Government Investments), Digital Lending** (% change, year-on-year H1)




For many Digital Lending firms, the supply of finance is linked to investment from a variety of stakeholders, namely Retail, Institutional, and/or Government investors. This study sought to understand how these different stakeholder groups engaged in the provision of funding for digital lending firms have changed their lending activities as a result of Covid-19.

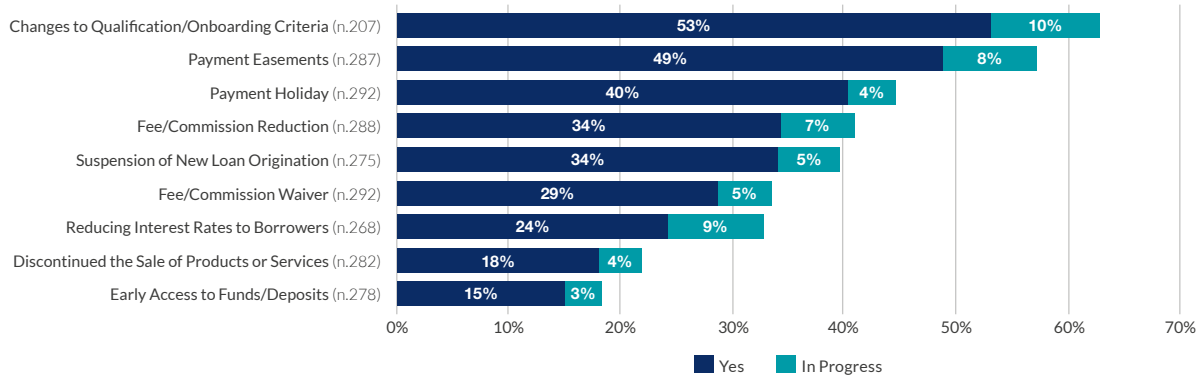
Looking at the year-on-year change in retail investment activity (down 2% on average) in the first half of 2020 only Digital Lending firms in North America (30%) and LAC (15%) indicated growth in retail-led investments, suggesting alternative finance as an increasingly option of investments during the pandemic within these regions. All other regions experienced a decline. At the negative end of the spectrum, MENA observed a sizeable decline of 20% in retail investor activity, with a smaller but still significant decline for APAC (10%), UK (9%), Europe (7%) and SSA (3%) (see Figure 32).

Regarding institutional investor-based lending, Digital Lending firms reported an averaged increase of 1% across; but there were differences on investors' behavior across regions. An increase was reported in LAC (14%), Europe (11%), North America (10%), and MENA (10%), while a decline was observed in APAC (16%), United Kingdom (3%) and SSA (3%) (see Figure 32).

Finally, in terms of investments by governmental and public entities (down 2% on average), North American firms reported a significant rise in investor activity (20%), while the UK (4%) and APAC (3%) indicated more modest growth. Other markets experienced a decline in investment. SSA (21%) and China (18%) indicated larger declines in Government-based investment, whereas Europe (5%), MENA (3%) and LAC (2%) reported smaller declines (see Figure 32).

## Changes to Existing Products and Services

**Figure 33: Changes to Existing Products & Services, Digital Lending** (% of respondents; yes, in progress)




*Note that "N/A" and "No" responses have been omitted from this chart

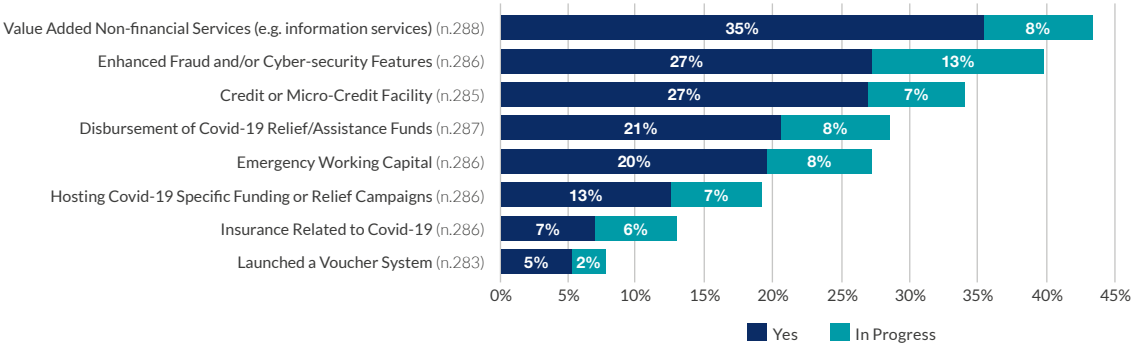
For more than half of Digital Lending firms, changes to qualification/onboarding criteria was a top measure implemented, with 53% having already implemented this change and an additional 10% in the process of doing so (See Figure 33). Given that many Digital Lending platforms have a two-sided market model (lenders vs. borrowers), these changes may relate not only to the onboarding of borrowers but also to investors.

Many of the changes implemented relate to pricing or payment structures, reflecting the economic realities that Covid-19 has imposed upon borrowers utilizing Digital Lending. For instance, nearly half of firms had already implemented a payment easement program (with repayment based upon affordability), and a further 8% in the process of implementing such a program. Introduction of Payment Holidays, Fee/Commission Reduction and Waivers, and reduced interest rates also ranked high among Digital Lending firms. It is worth noting, fee reductions and waivers may also apply to retail investors, with some 15% have allowed for early access to funds.

Finally, in line with results observed around the reduction in transaction volume and a general decline in lending, some 34% of firms have suspended new loan origination in some of their product offerings, and some 18% have discontinued the sale of other products or services (see Figure 33).

## New Products and Services

**Figure 34: New or Updated Products/Services/Features, Digital Lending** (% of respondents; yes, in progress)




*Note that "N/A" and "No" responses have been omitted from this chart

Digital Lending firms were asked to report new products or services that they launched or introduced on their platform as a result of or in response to Covid-19. Overall, the survey indicates that in many cases, Digital Lending firms launched new products or features to combat particular challenges brought about by the pandemic.

The most common new feature introduced is value-added non-financial services, which has been implemented by 35% of respondents and was in the process of being introduced by 8%. In addition, 27% of respondents introduced enhanced fraud or cyber-security features and 13% were progressing in the addition of this feature. This is closely followed by the introduction of a credit or micro-credit facility, a measure cited by 27% of lenders. Consumer-facing lending firms were more likely to report introducing credit or micro-credit facilities (34% of firms) while MSME-focused firms were more likely to report introducing emergency working capital (25% of firms). Finally, a smaller number of Digital Lending firms hosted a Covid-19-specific funding campaign or relief fund (13%), introduced insurance related to Covid-19 (7%), or launched a voucher system (5%) (see Figure 34). Table 9 below provides examples of the types of new products and services launched.

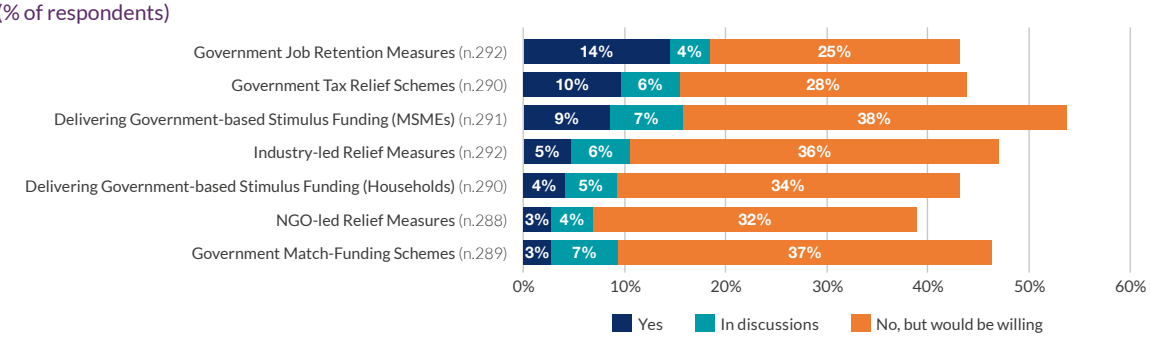
**Table 9: Examples of New or Updated FinTech Products launched in response to Covid-19, Digital Lending**

| Model | Region or Market | Change to existing/ New or updated | Example from the field |
|---|---|---|---|
| Digital Lending | APAC | New products and services | A P2P firm in India launched a new product "Anti-Lockdown Loans" to help credit-worthy businesses and individuals access credit to meet their short-term liquidity. |
| | Europe | New products and services | A Digital Bank in Europe launched a 'connected card' feature which enables a customer to give a second digital or physical card to someone to spend on their behalf, with a £200 limit. |
| | LAC | New products and services | Two Brazilian platforms joined the governments' programme to aid SMEs during the pandemic, both companies will be the intermediary and facilitators to deliver the loans. |
| | US & Canada | New products and services | A digital lender launched an online solution to streamline loan application processes to give business access to multiple lenders including government loans. |

## Participation in Covid-19 Relief Measures

While a large number of Digital Lending firms reported a clear willingness to participate in Covid-19 relief measures, only a small number of firms reported participation. Participating Digital Lending were most likely to report participation in government job retention measures (14%), followed by government tax relief schemes (10%) and delivering government-based stimulus funding to MSMEs (9%). Despite this low participation, delivering government-based stimulus funding (MSMEs) (38%), government match-funding schemes (37%), and industry-led relief measures (36%) were reported as the top schemes that these firms were willing to engage with in delivery or implementation (see Figure 35).

**Figure 35: Implementation or Delivery Partner in Covid-19-related Relief Measures or Schemes, Digital Lending (% of respondents)**

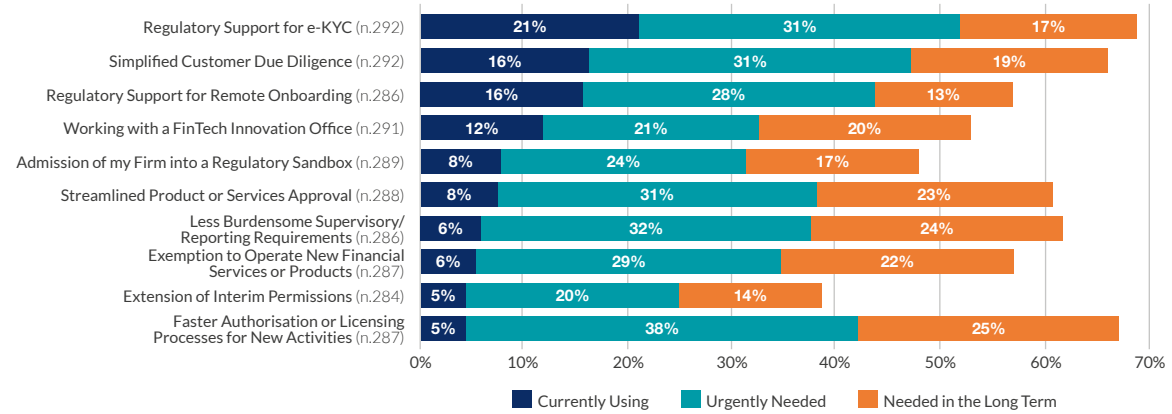



*Note that "N/A" and "No, not interested" responses have been omitted from this chart

## Regulatory Responses or Innovations

When considering the regulatory responses or innovations that would support Digital Lending firms in light of Covid-19, firms have reported relatively low usage across regulatory measures tracked in this study. Firms did however indicate significant need (either in the short or longer-term) for regulatory support (see Figure 36).

**Figure 36: Regulatory Responses & Innovations Initiatives, Digital Lending Usage & Needs** (% of respondents)




**Note that "N/A" and "Unsure" responses have been omitted from this chart*

Digital Lending firms were more likely to report using regulatory support measures for customer acquisition and onboarding. Digital Lending firms were already making use of regulatory support for e-KYC (21%), simplified CDD (16%), and regulatory support for remote onboarding (16%). However, a greater proportion of firms (about 30%) reported urgently needing their regulator to support them through such interventions.

A much more limited number of firms reported the use of regulatory response measures related to 'licensing and authorization of new products' and 'less burdensome reporting requirements'. Yet overall, these were the types of interventions that were most cited as urgently needed. In this regard, 38% of firms noted an urgent need for faster authorization or licensing processes for new activities, followed by less burdensome supervisory/reporting requirements (32%) and streamlined product or services approval (31%).

## Operational and Risk Indicators

**Figure 37: Operational Performance and Costs Indicators, Digital Lending** (% change, year-on-year H1)

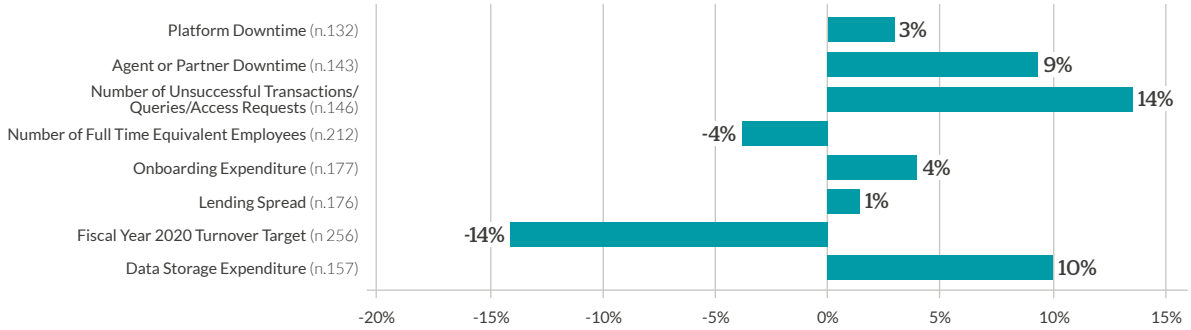


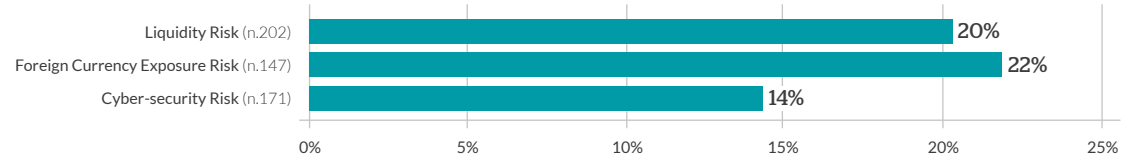

Figure 37 summarizes key operational aspects for Digital Lending firms. As shown therein, overall the decline in market performance indicators summarized in previous paragraphs was accompanied by an increase in operational costs, and a downward revision of annual revenue targets for 2020.

Operational indicators such as data storage and onboarding expenditure increased by 10% and 4% respectively. Furthermore, firms reported a rise in platform downtime (3%), agent or partner downtime (9%), and number of unsuccessful transactions (14%), this latter negative indicator stands with the significant need to regulatory support in client onboarding processes (e-KYC, CDD and Remote Onboarding) reported by Digital Lending respondents. Analysis according to World Bank Income Groups showed that EMDEs firms reported higher increases in data storage and onboarding than AEs. AEs firms reported an increase of their data storage expenditure by 7%

while EMDEs firms reported an increase of 11%. Likewise, EMDEs firms reported a 6% increase in onboarding expenditure, while AEs firms did not report an increase in such costs.

Digital Lending firms also reported a deterioration in their financial position. 59% of firms had a negative outlook with respect to their Capital Reserves and 54% reported a perceived drop in their valuation. When considering their future fundraising outlook, 43% of firms remarked that Covid-19 had a negative impact on their ability to fundraise, especially related to equity finance (58%) and debt fundraising (54%).

**Figure 38: Risk Indicators, Digital Lending** (% change, year-on-year H1)




When considering external operational challenges introduced by the Covid-19 pandemic and related lock-down measures, it is not surprising that Digital Lending firms have overwhelmingly reported an increase in key risk indicators. An average, firms reported a 20% year-on-year increase in liquidity risks and a 14% increase in cyber-security risk (see Figure 38). However, on the latter analysis according to World Bank Income Group shows important difference between AEs and EMDEs firms on their perception of cyber-security risk. 10% of AEs indicated an increase in cyber-security while a significant 17% of EMDEs indicated an increase. When accounting for Lockdown Stringency, firms in high stringency markets reported a much higher increase in cyber-security risk (18%), compared to those in low stringency markets (8%).

## Digital Payments

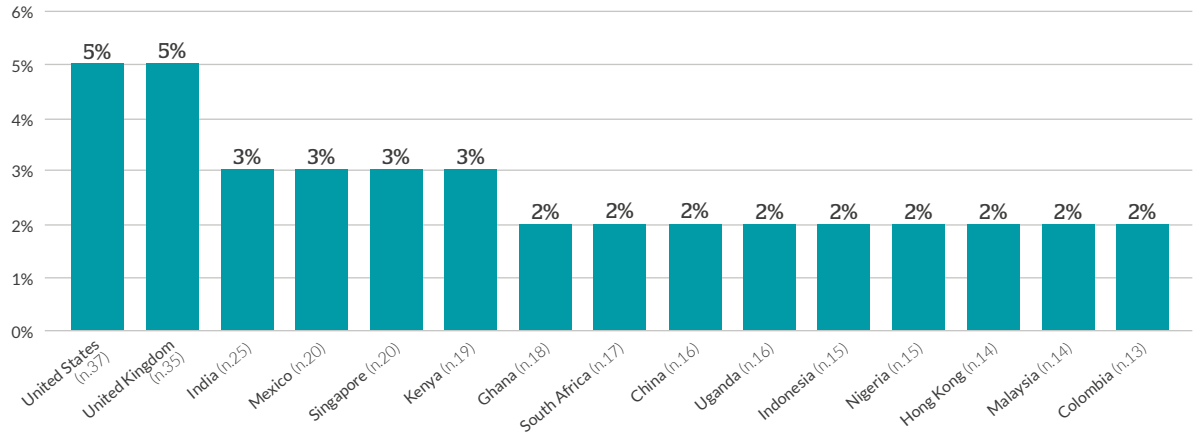
### Selected vertical highlights

- Digital Payments firms reported increases in key market performance indicators such as transaction volume, number of transactions and number of new customers/users, doubling the overall FinTech average. Firms in high stringency markets observed an even higher increase in their transaction volumes, and firms in AEs also saw more pronounced growth.
- Digital Payment firms also reported above average increases to their operational costs, in particular data and onboarding expenditures. Firms in high stringency jurisdictions saw some of the highest increases to their costs, and firms in EMDEs also saw higher than average cost hikes in 2020 H1.
- Despite these apparent increases, firms have indicated that their 2020 fiscal year turnover target had increased, with firms in high stringency markets revising upwards by 16%.
- Digital Payment firms were amongst the most active to adjusting their terms, products and services. More than half of Digital Payment firms reported that they had already introduced or were in the process of 'deploying additional payment channels', and nearly half had reported the introduction of fee or commission reductions/waivers or were in the process of doing so.
- More than half reported urgently needing regulatory support measures for faster authorization of new activities. Firms also highlighted the urgent need for simplified CDD and streamlined product or service approvals.

### Overview of Respondents

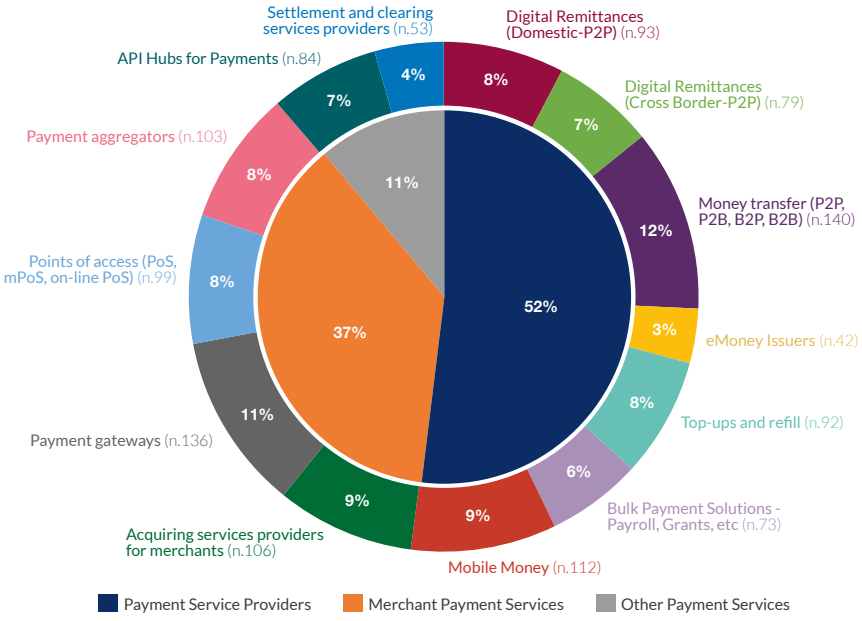
The second most prominent vertical in the dataset is Digital Payments, representing 18% of all survey respondents. Digital payments have seen a particularly large surge in demand during the pandemic.[25] These 251 firms reported operations in 164 different countries. APAC firms made up 23% of this data set, followed by SSA (21%), LAC (18%), Europe (excluding the United Kingdom) (14%), North America (8%), and MENA (6%). Key national markets, such as the United Kingdom and China, represented 8% and 2% of respondents respectively. These figures are based upon the number of respondents in a given region or national market and do not account for nor attempt to qualify the size or market share of a unique firm.

**Figure 39: Top 15 countries (by HQ & countries of operation), Digital Payments** (number of respondents)



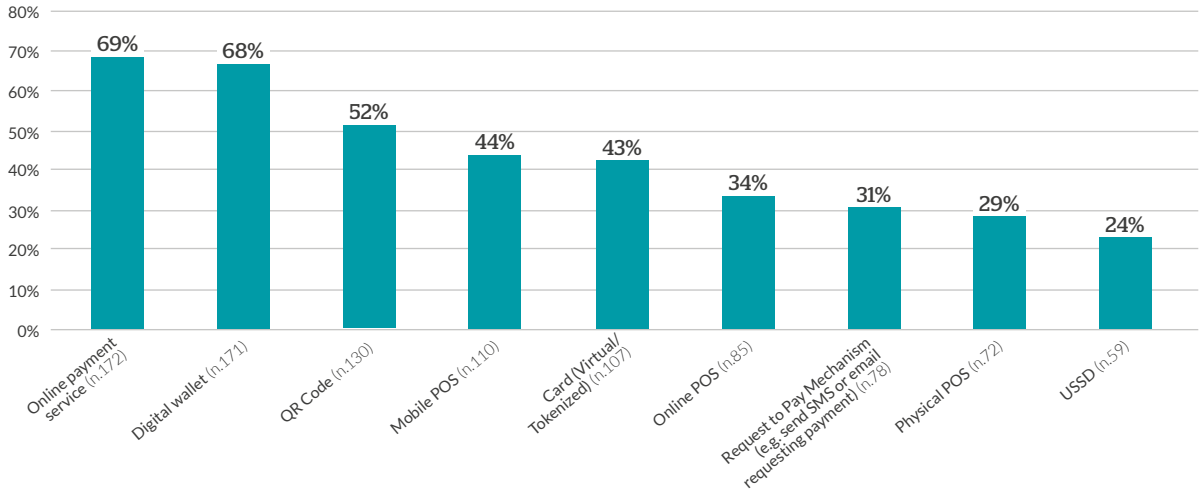

Though APAC, SSA and LAC were the largest represented regions, it is worth noting that in terms of key country concentration, the United States and the United Kingdom had the largest number of firm-based activities, in particular as this related to country headquarters. Among the top 15 countries, five are based in APAC, 5 in SSA and 2 in LAC, showing a concentration of activities predominantly in emerging markets (see Figure 39).

**Figure 40: Distribution of Digital Payments Respondents by sub-vertical** (% of total)




Digital Payments providers were further segmented into 13 sub-verticals grouped broadly into Payment Service Providers, Merchant Payment Services and Other Payment Services. More than half of respondents self-classified as a Payment Service Providers with 12% identifying under Money Transfers and 15% under Digital Remittances (8% serving domestic markets while 7% operated cross-border). Merchant Payment Services made up 37% of the dataset, which included Payment Gateways (11% of the vertical), Acquiring service providers for merchants (9%), Points of Access (8%), and Payment Aggregators (8%). Finally, Other Payment Services included API Hubs for Payments (7%) and Settlement & Clearing Service Providers (4%) (see Figure 40). See endnote for a furtherbreakdown of sub-verticals by region. [26]

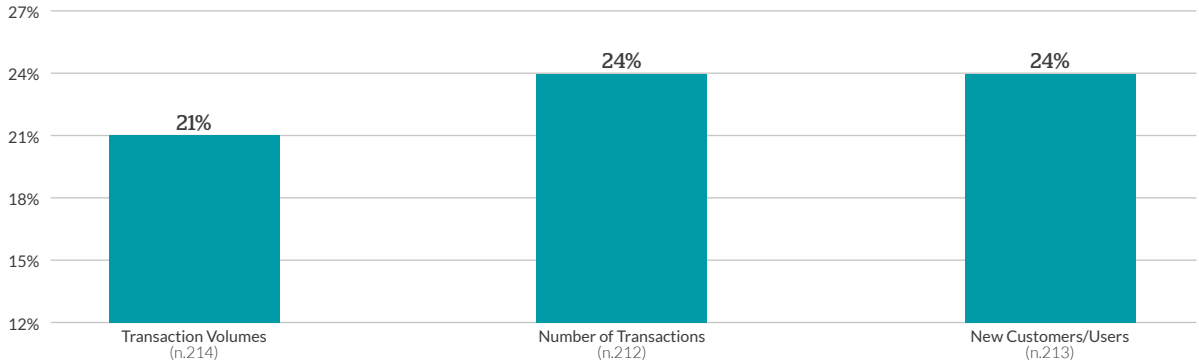
**Figure 41: Payment Instruments offered by Digital Payments Firms** (% of total responses, 251 observations)




Digital Payment firms were also asked to indicate the types of payment instruments offered by their firm. On average, firms selected four different instruments. The most prominent payment instruments offered were online payment services, followed by digital wallets (see Figure 41).

## Market Performance Indicators

**Figure 42: Market Performance Indicators** (Volumes, Number of Transactions & New Customers), **Digital Payments** (% change, year-on-year H1)




As shown in Figure 42, on average, Digital Payments respondents reported increases in transaction volume, the total number of transactions and new customers by 21%, 24% and 24% year-on-year respectively. This general trend of market growth in light of Covid-19 is also reflected across sub-verticals, with some showing above average growth and some demonstrating a more modest gain (see Table 10).[27]

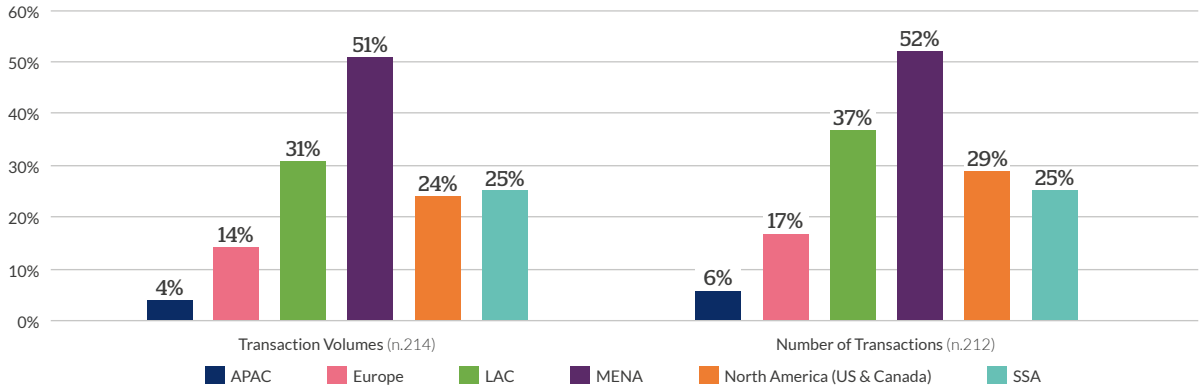
The key performance indicators for firms categorized as Payment Service Providers showed that 8 sub-verticals performed above the vertical average, with particular emphasis on new customer acquisition. In contrast, Merchant Payment Solutions and Other Payment Solutions reported more modest growths, albeit to varying degrees (see Table 10).

**Table 10: Market Performance Indicators, Digital Payments by Sub-Verticals** (% change, year-on-year H1)

| | Transaction Volume | Number of Transactions | New Customers |
|---|---|---|---|
| Digital Remittances (Cross Border-P2P) | 24% | 25% | 28% |
| Digital Remittances (Domestic-P2P) | 26% | 28% | 28% |
| Money transfer (P2P, P2B, B2P, B2B) | 23% | 26% | 29% |
| eMoney Issuers | 16% | 16% | 22% |
| Mobile Money | 24% | 25% | 29% |
| Acquiring services providers for merchants | 9% | 13% | 19% |
| Points of access (PoS, mPoS, on-line PoS) | 16% | 16% | 16% |
| Bulk Payment Solutions - Payroll, Grants, etc. | 21% | 26% | 29% |
| Top-ups and refill | 18% | 19% | 25% |
| Payment gateways | 16% | 18% | 25% |
| Payment aggregators | 17% | 20% | 22% |
| API Hubs for Payments | 15% | 20% | 26% |
| Settlement & clearing services providers | 7% | 11% | 19% |

Above Vertical Average
Below Vertical Average

**Figure 43: Transaction Volumes and Number of Transactions, by Region, Digital Payments** (% change, year-on-year H1)

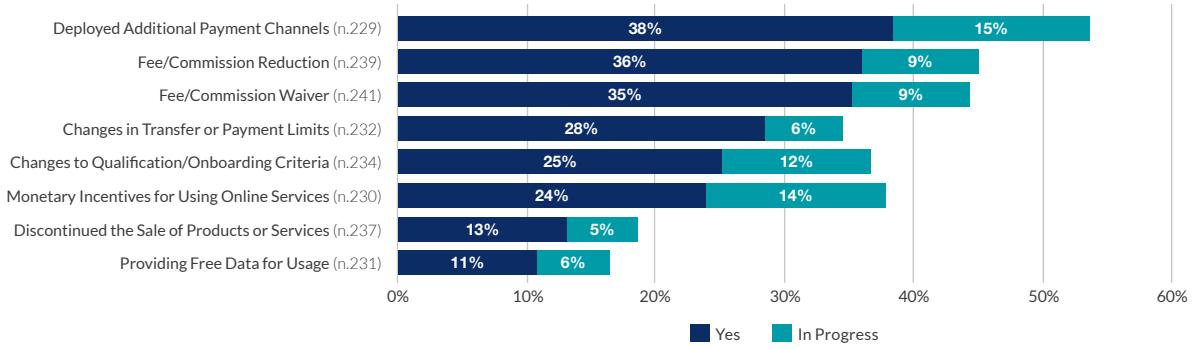



On average, Digital Payments firms reported a 21% year-on-year growth in transaction volume but with considerable regional variations. The MENA region showed the largest year-on-year growth in both transaction volume (51%) and transaction numbers (52%). Meanwhile, respondents from North America (US & Canada) and SSA reported a nearly equal average growth increase in total transaction values, with 24% and 25% respectively. Respondents from North America however reported stronger growth in total transactions by number with 29%, compared to 25% in SSA. Digital Payments providers in the APAC region reported the lowest year-on-year growth for both transaction volume (4%) and transaction numbers (6%), relative to other key markets (see Figure 43). Analysis according to stringency levels shows a significant difference between transaction volume performance in low stringency markets (an average of 14%) compared to market performance in high stringency markets (an average of 29%). When analyzing by income level, AEs showed an average 23% increase in transaction volume compared to an average of 19% for EMDEs

## Changes to Existing Products and Services

In light of Covid-19, more than half of digital payment firms reported that they had already introduced or were in the process of deploying additional payment channels, with 38% having already made this change and 15% in the process of doing so. Around a third of Digital Payments firms globally waived fees or commissions due to Covid-19, and 9% were in the process of doing so, with an additional 36% of these firms having reduced their fee or commission, and a further 9% reportedly in the process of doing so. One quarter of the firms have made changes to qualification/ onboarding criteria while 11% reported providing free data for usage (see Figure 44).

**Figure 44: Changes to Existing Products & Services, Digital Payments** (% of respondents: yes, in progress)

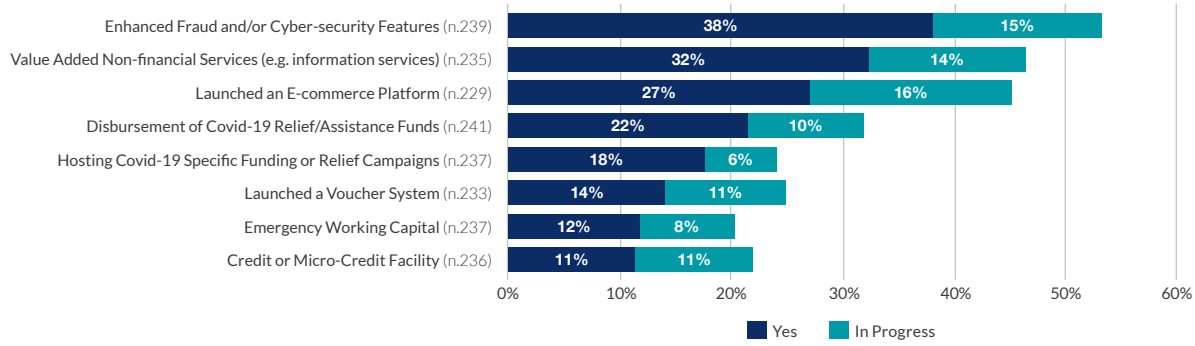



*Note that "N/A" and "No" responses have been omitted from this chart*

## New Products and Services

Digital Payment firms were asked to list the new or updated products and services they launched as a direct effect of Covid-19. Cyber-security features ranked among the highest, with 38% of firms reporting enhancements to their fraud and/or cyber-security features (see Figure 45). This is not all together surprising, when considered against the growth in new-customer onboarding noted in key performance indicators, and a move towards greater digitalization resulting from Covid-19 in most economies.

**Figure 45: New or Updated Products/Services/Features, Digital Payments** (% of respondents; yes, in progress)




*Note that "N/A" and "No" responses have been omitted from this chart*

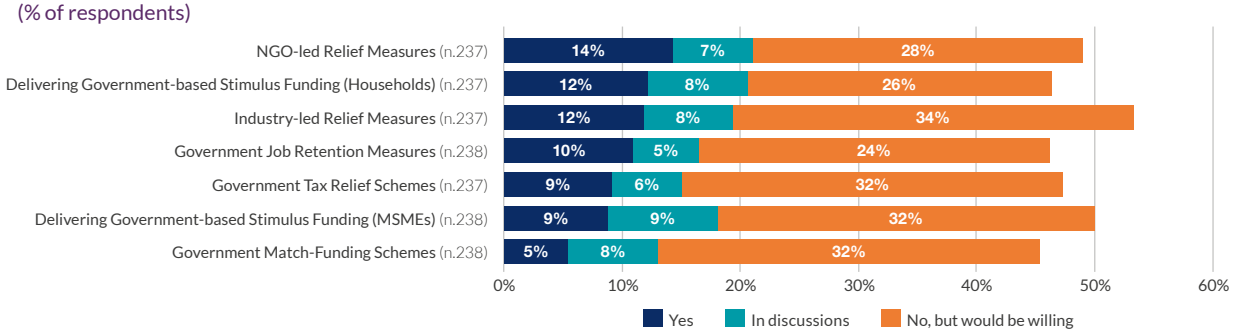
Vis-à-vis their customers, new value-added non-financial products and services were cited by the larger percentage of firms. In this regard, 32% of Digital Payment firms reported having launched such products. It is worth noting that firms responding to this particular option tended to come from the Payment Service Providers category, which tended to be household or consumer-facing. In addition, more than one quarter of the firms (27%) reported launching an E-Commerce platform while 16% are in progress of launching such a platform (see Figure 45). Table 11 below provides examples of the type of new products and services launched.

**Table 11: Examples of New or Updated FinTech Products launched in response to Covid-19, Digital Payments**

| Model | Region | Change to existing/ New or updated | Example from the field |
|---|---|---|---|
| Digital Payments | APAC | New products and services | A platform in India launched omni-channel loyalty platform 'nth Rewards': which allows users to earn 'nth' (denoting infinite possibilities) points through various bank transactions and redeem them faster on various exciting products, E-Vouchers, donations, hotel and flight bookings. |
| | LAC | New products and services | A digital payment firm greatly increased remote delivery of digital payment accounts, which link to personal loans and money market savings funds. They are not however permitted to take deposits or receive customers' salaries or state benefits directly into the account. |

## Participation in Covid-19 Relief Measures

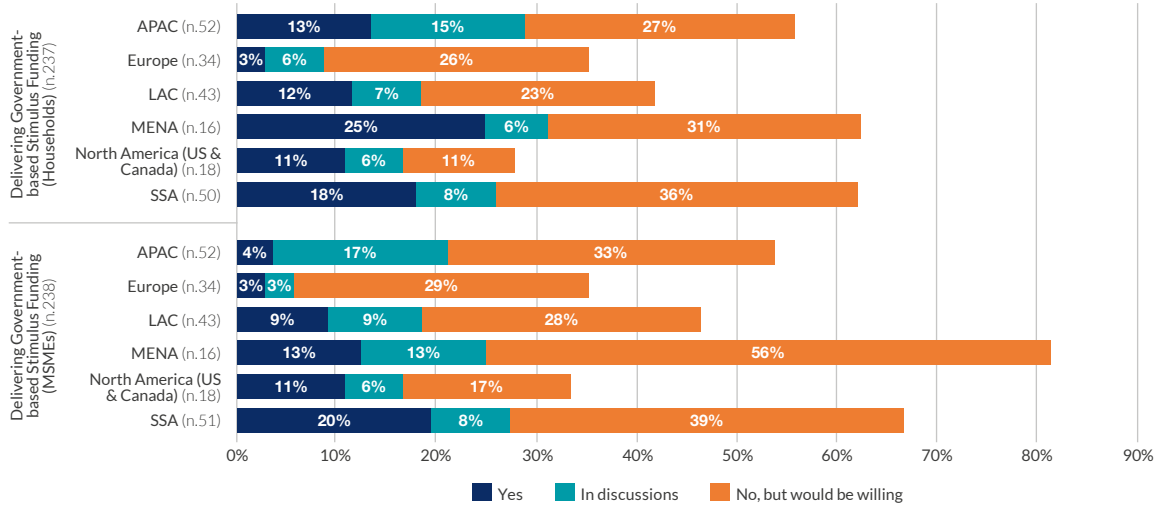
**Figure 46: Implementation or Delivery Partner in Covid-19-related Relief Measures or Schemes, Digital Payments**
(% of respondents)




*Note that "N/A" and "No, not interested" responses have been omitted from this chart

Most firms were not currently engaged in Covid-19 relief measures but indicated a willingness to participate. One third of the respondents reported their willingness to participate in the Covid-19 related measures, with 34% willing to be involved in industry-led relief measures, 32% in delivering government-based stimulus funding (MSMEs), and 32% in assisting government tax relief schemes and government match-funding schemes (see Figure 46).

**Figure 47: Delivery of Government-based Stimulus Funding to Households or MSMEs, Digital Payments, by Key Regions**
(% of respondents)



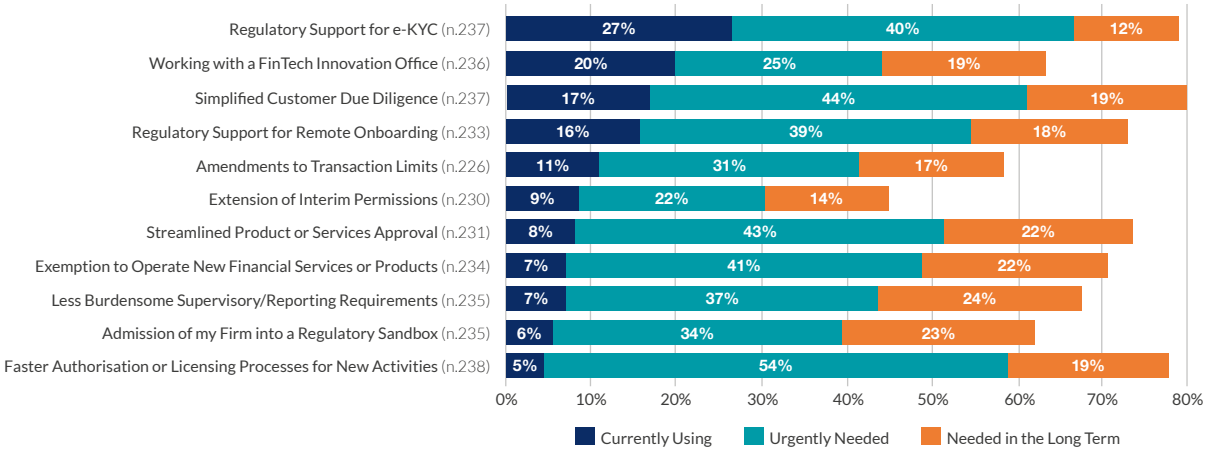

*Note that "N/A" and "No, not interested" responses have been omitted from this chart

This study assessed the regional differences in the delivery of government-based stimulus funding to consumers and MSMEs by Digital Payment firms. A quarter of firms in the MENA region participated in delivering government-based stimulus funding to consumers, while one fifth of firms in SSA participated in delivering government-based stimulus funding to MSMEs. The MENA region showed the largest proportion of firms (56%) willing to participate in delivering government-based stimulus funding to MSMEs followed by firms in the SSA region (39%) (see Figure 47).

## Regulatory Responses or Innovations

Firms were asked what regulatory responses or innovations would support their FinTech businesses to better navigate Covid-19. Less than a third of Digital Payment firms are currently receiving support from their regulator. When considering the support mechanisms these firms are already using, 27% reported that they had already obtained regulatory support for e-KYC, followed by working with a FinTech innovation office (20%) and simplified CDD (17%). When considering the areas that firms needed assistance with, the three most urgently needed regulatory responses for Digital Payments firms were faster authorization or licensing processes for new activities (54%), simplified customer due diligence (CDD) (44%) and streamlined product or service approval (43%) (see Figure 48).

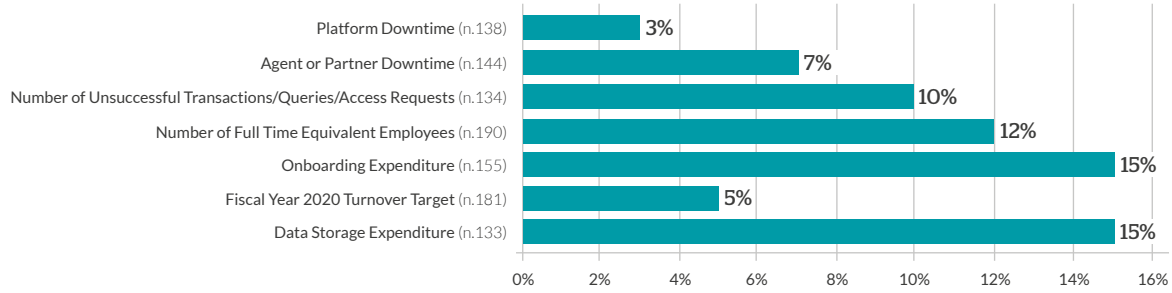
**Figure 48: Regulatory Responses & Innovations Initiatives, Digital Payments Usage & Needs** (% of respondents)




**Note that "N/A" and "Unsure" responses have been omitted from this chart*

## Operational and Risk Indicators

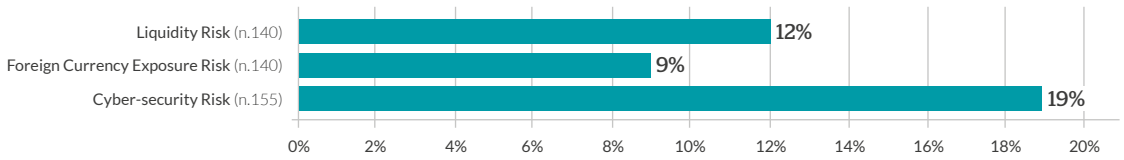
**Figure 49: Operational Performance and Costs Indicators, Digital Payments** (% change, year-on-year H1)




While Digital Payment firms have seen an increase in transaction volume, this has been accompanied by increases in operational expenditure and risks. Digital Payment firms reported an increase in their onboarding expenditure (up 15% against the previous year) and data storage costs (15%). Firms also reported slight increases in platform downtime (3%), agent or partner downtime (7%) and in the number of unsuccessful transactions (10%) (see Figure 49). Analysis according to the stringency level showed a significance difference in agent or partner downtime between levels. Firms in high stringency jurisdictions showed a 13% increase in agent or partner downtime, the highest of the three levels, low stringency showed a 5% increase in agent or partner downtime and medium stringency showed a 3% increase in agent or partner downtime, the lowest of the three.

With regards to data storage expenditure, a large difference between the three stringency levels was also shown with high stringency markets showing a 22% increase compared to a 4% increase shown in low stringency markets. For AEs, this was an 11% increase, while 17% for EMDEs. Finally, analysis according to the three stringency levels also shows significant differences for onboarding expenditure with high stringency showing a 23% increase compared to a significantly smaller increase of 8% for low stringency markets. Similarly, for AEs, firms reported a 10%, while those in EMDEs reported 18%.

**Figure 50: Risk Indicators, Digital Payments** (% change, year-on-year H1)



When considering external operational risk factors, firms reported an increase in liquidity risk (12%) and FX exposure (9%) against the previous year. Perception of cyber-security risk had the largest average year-on-year increase at 19% (see Figure 50). However, there were important differences on the perceptions of such risk depending on where the firm was located. Cyber-security is a greater external risk for firms located in high stringency jurisdictions (25%), while those in low stringency markets reported an 11% increase. Similarly, those which were located in EMDEs noted a 21% increase in cyber-security risk, as opposed to 16% noted by firms in AEs.

Despite these operational challenges, Digital Payment firms indicated that their 2020 fiscal year turnover target had increased, albeit only by 5%, (though by 16% for those in high stringency jurisdictions) and that their FTE for employees had increased by an average of 12% against the previous year. When looking at certain specific sub-verticals, 4 of the 13 models indicated the expectation that their fiscal year turnover would decline in 2020, while the remaining 9 expect to higher turnover against 2019 (see Table 12).

Regarding Digital Payment firms' financial position, 47% reported a negative outlook with respect to their Capital Reserves, and 38% noted a perceived drop in their valuation. When considering their future fundraising outlook, 34% of firms reported that Covid-19 had had a negative impact on their ability to fundraise, especially as related to equity finance (with 48% reporting a negative impact) and debt fundraising (29%). Some firms reported positive impacts of Covid-19 on their financial position with 26% of firms indicating that their current valuation would increase as a result of Covid-19, and 23% noted that their fundraising outlook had improved.

**Table 12: Annual turnover targets and FTE, Digital Payments by Sub-Vertical** (% change)

| | Fiscal Year 2020 Turnover Target | Full Time Equivalent Employees |
|---|---|---|
| Digital Remittances (Cross Border-P2P) | 7% | 16% |
| Digital Remittances (Domestic-P2P) | 4% | 15% |
| eMoney Issuers | -8% | 12% |
| Mobile Money | 2% | 12% |
| Money Transfer | 6% | 12% |
| Acquiring services providers for merchants | -1% | 5% |
| API Hubs for Payments | 9% | 12% |
| Bulk Payment Solutions | 8% | 14% |
| Payment aggregators | 10% | 14% |
| Payment gateway | 3% | 6% |
| Point of Access | -1% | 10% |
| Settlement and clearing services providers | 0% | 6% |
| Top-ups and refill | 2% | 15% |

## Digital Capital Raising

### Selected vertical highlights

- The majority of surveyed Digital Capital Raising firms operate in Europe and the United Kingdom. On average, Digital Capital Raising firms reported an increase in their transaction volumes in H1 2020, on par with the average for all FinTech verticals. However, firms categorized as 'non-investment' saw far more pronounced average transaction volume increases when compared to 'investment-based' modes such as equity crowdfunding.
- Firms in medium stringency jurisdictions saw the highest increases in their transaction volume, and EMDEs outperformed those in AEs by a significant margin (31% compared to 11%).
- In most regions, retail investment through digital capital raising platforms increased, especially regarding non-investment activities. Similarly, firms in high stringency jurisdictions reported a slightly above average increase for retail investment growth. In contrast, overall institutional investment decreased, most significantly for firms operating an investment model.
- Operational performance indicators indicated an over-all increase in costs, especially for firms in high stringency jurisdictions. Firms also revised down their fiscal year turnover targets, and FTEs dropped as well.

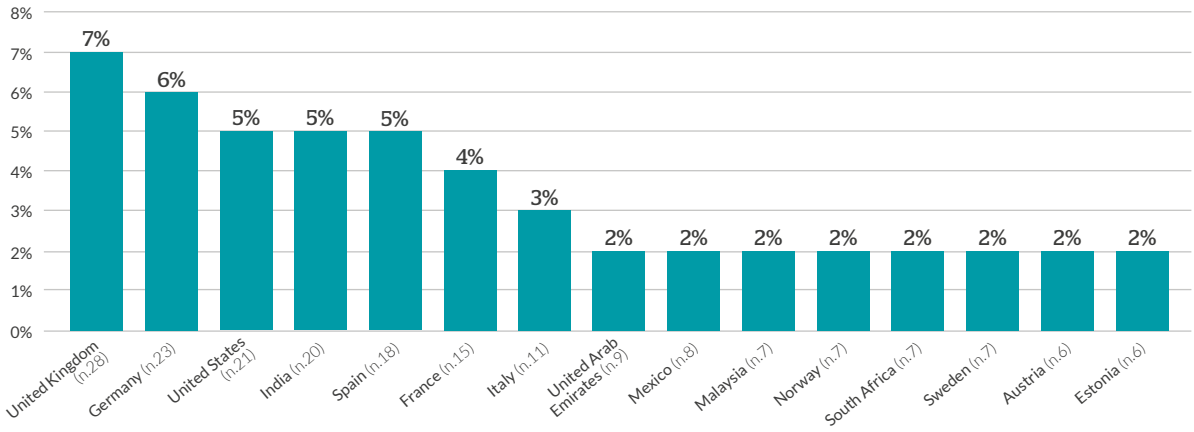
- While Digital Capital Raising firms did adjust their existing products, services and policies, their activity in this regard was not as active as other verticals. Nevertheless, nearly a third of respondents in Digital Capital Raising implemented fee/commission reductions and one-fifth of firms implemented changes to their qualification/onboarding criteria.
- Digital Capital Raising firms were most likely to report an urgent need for regulatory support for faster authorization or licensing processes for new activities, e-KYC and simplified CDD.

## Overview of Respondents

Digital Capital Raising firms accounted for 14% of the dataset. The below results reference the 200 firms identified under this vertical and includes both investment-based and non-investment-based activities most often referred to as Crowdfunding.

Unlike other FinTech verticals discussed in this report, Digital Capital Raising firms that answered the survey tended to be more highly concentrated in Europe, with 47% of the observed sample headquartered within this region, and another 11% hailing from the United Kingdom. APAC accounted for 18% of the sample, followed by 8% from North America, 7% in SSA, 7% in LAC, and 2% from MENA.

**Figure 51: Top 15 countries (by HQ & countries of operation), Digital Capital Raising** (number of respondents)

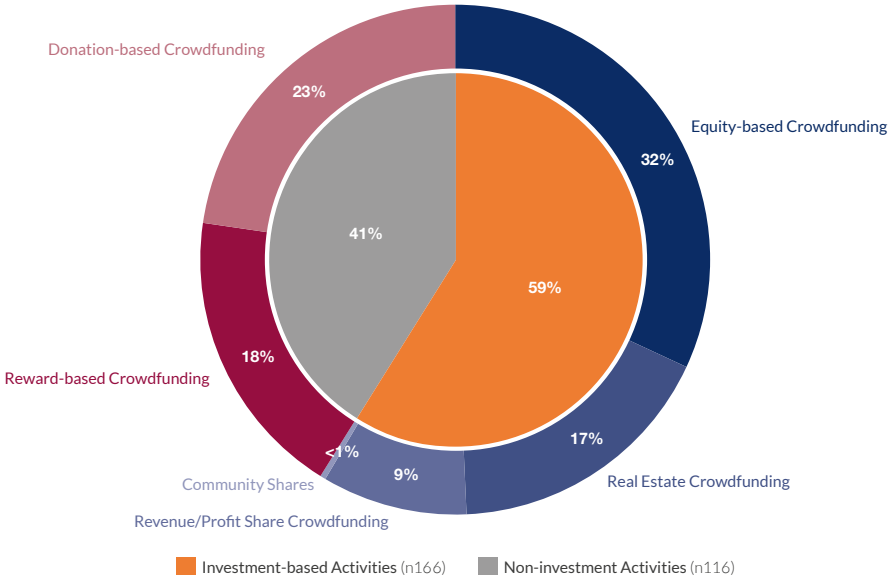



On a country level, when considering key country concentration on both a Headquarter and Operational basis, the United Kingdom accounted for 7% of the firms, followed by Germany (6%), the United States (5%) and India (5%). Firms located in several European countries also reported high responses, such as Spain with 18 firms, France with 13 firms, Italy with 11 firms. Firms located in EMDEs were represented by the United Arab Emirates (9 firms), Mexico (8 firms), Malaysia (7 firms) and South Africa (7 firms) (see Figure51).

When considering a breakdown of the sub-verticals of Digital Capital Raising, it is first important to make a distinction between the two over-arching Crowdfunding categories, synonymous with Digital Capital Raising i.e. investment-based models and non-investment-based models. Using a broad definition, Crowdfunding[28] can be described as an online funding instrument or channel that connects 'crowds' of individuals to fund projects, individual consumers and businesses. Investment-based models include Equity-based Crowdfunding which relates to activities where individuals or institutions invest in unlisted shares or debt-based securities issued by a business, typically an SME. As equity-based models have advanced, subsets of the model like Real Estate Crowdfunding have flourished, with investors able to acquire ownership of a property asset via the purchase of property shares. Similarly, Revenue/Profit-sharing Crowdfunding has evolved from the more orthodox equity model, with a number of platforms offering investors a way to purchase securities from SMEs against future profits or convertible notes. When considering non-investment-based models, including Reward & Donation Crowdfunding, these are arguably the iterations of Crowdfunding most commonly

recognized by the general public. In the case of these two models, individuals provide funding to a project, an individual or a business without any obligation from the 'fundraiser' to provide a monetary return for the funds raised.

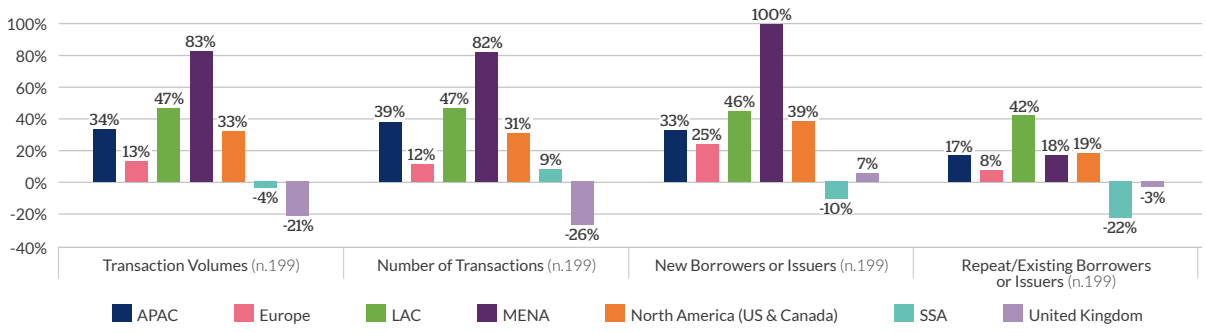
**Figure 52: Distribution of Digital Capital Raising Respondents by sub-vertical** (% of total)




Fifty-nine percent of surveyed Digital Capital Raising firms were Investment-based models, with 32% of the dataset from Equity-based Crowdfunding followed by 17% from Real Estate Crowdfunding, 9% from Revenue/Profit-sharing Crowdfunding and slightly less than 1% from Community Shares. The remaining 41% were non-investment-based firms, 23% from Donation-based Crowdfunding and 18% from Reward-based Crowdfunding (see Figure 52). Given the inherent differences between the two categories, wherever findings diverge, the research team will provide statistical analysis based upon the two cohorts in isolation.

## Market Performance Indicators

**Figure 53 : Market Performance Indicators by Region (Volumes, Number of Transactions, New Borrowers/Issuers, Repeat Borrowers/Issuers), Digital Capital Raising** (% change, year-on-year H1)




On average, Digital Capital Raising reported positive changes year-on-year, especially as related to transaction volume growth (16% increase when compared to 2019), increase in number of transactions (17% increase), and greater customer acquisition (25%) and retention (9%).

However, regional differences related to these key performance indicators are quite stark, and worth discussing on a case-by-case basis.

Digital Capital Raising firms in MENA reported the most positive performance indicators overall,

followed by firms in LAC, APAC, North America and Europe (excluding UK). SSA firms reported slightly negative performance indicators, with the exception of the number of transactions. Similarly, firms in the United Kingdom reported negative performance across all the indicators except for the addition of new issuers.

Firms in SSA, reported a decreased in transaction volume (4%) but an increase year-on-year in the number of transactions (9%). The number of new and repeat issuers decreased by 10% and 22% respectively. Firms in MENA reported an increase of 83% in transaction volume, 82% in the number of transactions, 100% in new issuers and 18% in existing issuers. LAC firms reported growth of 47% for both volume and numbers of transactions, as well as 46% growth of new issuers and an 18% year-on-year increase in repeat issuers. APAC firms reported growth across all indicators of market performance, with a 34% increase of transaction volume, 39% of number of transactions, and 33% and 17% of new and repeat issuers respectively (see Figure 53).

For firms in US and Canada, volumes increased by 33% in value and 31% in transactions, as well as growth of 39% and 19% respectively in new and repeat issuers. For firms in Europe all indicators were moderately positive, with transaction volume and number of transactions increasing 13% and 12% respectively, accompanied by growth of 25% in new issuers and 8% in repeat issuers (see Figure 53).

**Table 13: Market Performance Indicators (Volumes, Number of Transactions, New Issuers & Repeat Issuers), Non-Investment & Investment-based** (% change, year-on-year H1)

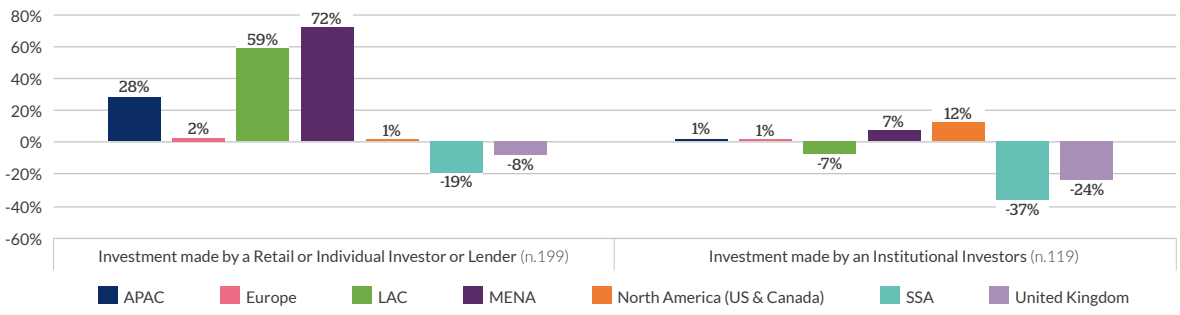
| | Vertical Average | Non-Investment | Investment-based |
|---|---|---|---|
| Total Transaction Volume (n.68) | 16% | 33% | 6% |
| Total Number of Transactions (n.67) | 17% | 37% | 4% |
| Number of New Issuers (n.43) | 25% | 29% | 22% |
| Repeat/Existing Issuers (n.32) | 9% | 15% | 6% |

In addition to significant regional differences, the degree to which firms have experienced growth is affected by their over-arching category. Non-investment firms reported much higher growth rates for the four indicators. In contrast, while Investment-based firms did indicate an increase in volumes, number of transactions and repeat activity, year-on-year change was far more modest (see Table 13).

When considering transaction volume, analysis according to stringency levels showed that firms in low stringency jurisdictions outperformed high stringency jurisdictions by 1% (16% compared to 15% increase respectively) but that medium stringency markets outperformed high and low stringency with an average increase in transaction volume of 19%. With regards to the World Bank Income Group, firms in EMDEs significantly outperformed those in AEs with an average increase in transaction volume of 31% compared to an average increase for AEs of 11%.

## Change in Investor Activity

**Figure 54: Market Performance Indicators by Region (Retail and Institutional Investments), Digital Capital Raising** (% change, year-on-year H1)



On average, retail investment grew by 8% across the entire vertical. However, the comparative year-on-year growth differs across the two vertical groupings. Non-investment firms reported an increase of 20%, whereas Investment-based firms reported a more modest 6% increase (see Table 14). When considered at a regional level, the Q1-Q2 analysis on retail investments highlighted three regions with significant growth: MENA (72%), LAC (59%) and APAC (28%). In contrast, regions with more mature Digital Capital Raising markets evidenced only marginal growth: Europe (2%), and US and Canada (1%). In line with market performance indicators, the most significant regional decrease was SSA (19%), followed by the UK (8%) (see Figure 54). Finally, when considering retail-investor engagement by stringency groupings, firms in high stringency jurisdictions reported a slightly above average increase, of 10%.

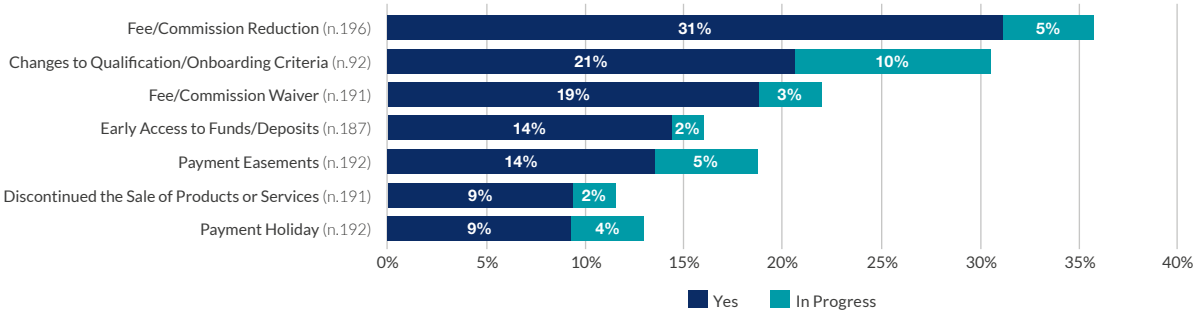
**Table 14: Retail and Institutional Investors** (% change, year-on-year H1)

| | Vertical Average | Non-Investment | Investment-based |
|---|---|---|---|
| Investment by Retail Investor | 8% | 20% | 6% |
| Investment by Institutional Investors | -6% | 1% | -8% |

Institutional investment decreased by an average of 6% across the vertical. However this was mostly the result of a decrease in institutional investment funding, for which firms reported a decrease of 8%, while firms reported an increase in institutional investment in non-investment crowdfunding of 1% (see Table 12). Regionally, the year-on-year change of investments made by institutional investors were positive in US and Canada (12%), MENA (7%), APAC (1%) and Europe (1%), whereas investment volumes from institution investors decreased in SSA (37%), UK (24%) and LAC (7%) (see Figure 54).

## Changes to Existing Products and Services

**Figure 55: Changes to Existing Products & Services, Digital Capital Raising** (% of respondents; yes, in progress)

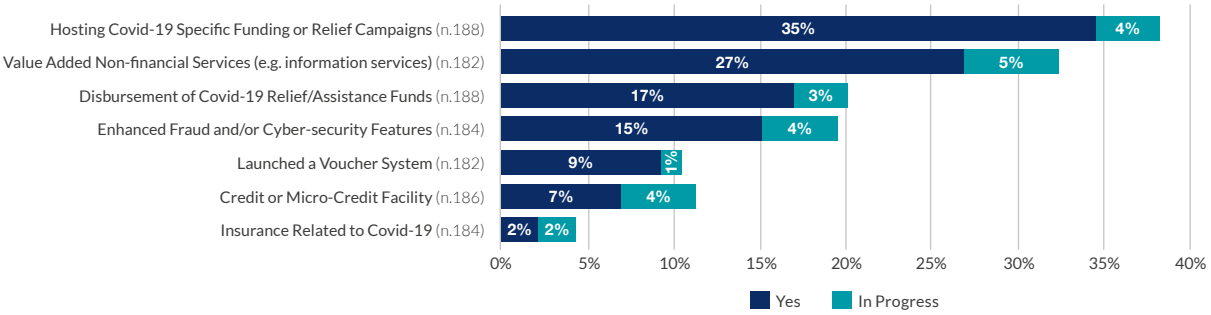



**Note that "N/A" and "No" responses have been omitted from this chart*

Providing a 'fee or commission reduction' was the change considered by most Digital Capital Raising FinTechs, with 31% of firms reporting that they had already implemented this type of change and 5% more reporting to be in the process of doing so. 21% of firms reported changes to their onboarding criteria, with an additional 10% pursuing this change. This was the second most indicated change among the respondents. Other important changes reported was 'fee/commission waiver' (see Figure 55).

## New Products and Services

**Figure 56: New or Updated Products/Services/Features, Digital Capital Raising** (% of respondents; yes, in progress)




*Note that "N/A" and "No" responses have been omitted from this chart

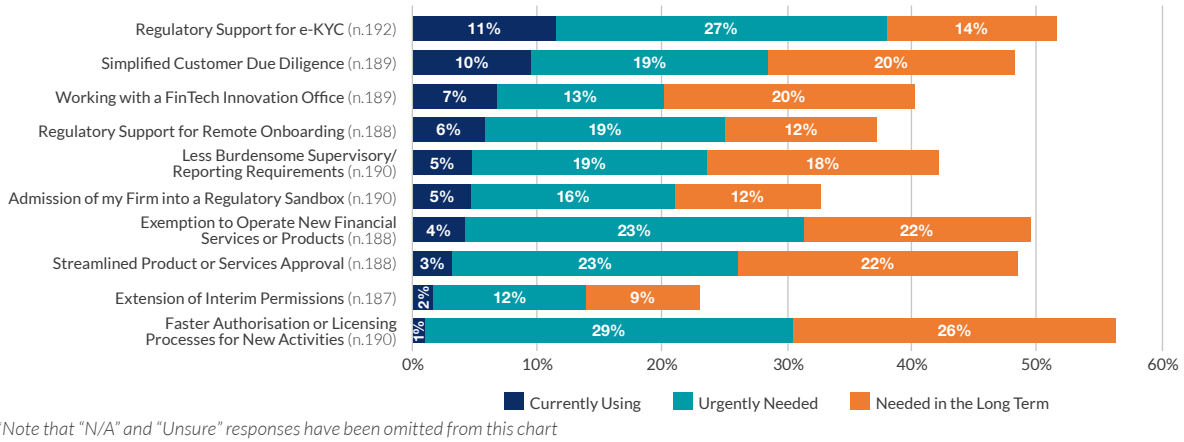
The new product or service most introduced by firms was the hosting of Covid-19 specific funding campaigns or relief funds, with 35% of Digital Capital Raising firms reporting that they had introduced this new product, and a further 4% reported that they were in the process of doing so. Firms also indicated a move to introduce value added non-financial services such as information services, with 27% of firms reporting having introduced these new services and 5% in the process of doing so (see Figure 56).

## Regulatory Responses or Innovations

Digital Capital Raising firms indicated which regulatory responses or innovations would support their activities during the Covid-19 pandemic. Overall a limited number of firms reported benefitting from each of the regulatory support or innovation measures surveyed. The measures that were mentioned by most firms were eKYC, simplified customer diligence procedures, and working with a FinTech Innovation Office on the Government Level, which were used by 11%, 10% and 7% of the firms, respectively.

But more firms reported to be in urgent need for regulatory support measures. Digital Capital Raising firms indicated that the most important policy response needed is faster authorization procedures, with 29% of the firms reporting that they urgently needed this type of support. In addition 27% considered eKYC to be urgently needed and 23% considered streamlined procedures or exemptions to be urgently needed (see Figure 57).

**Figure 57: Regulatory Responses & Innovations Initiatives, Digital Capital Raising Usage & Needs** (% of respondents)




*Note that "N/A" and "Unsure" responses have been omitted from this chart

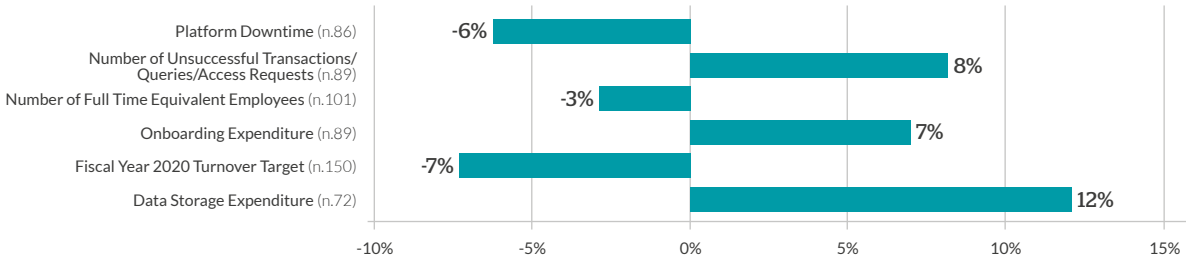
Overall, when dividing between investment based and non-investment-based firms, the type of support measures currently used and urgently needed remain the same. However, the degree to which firms urgently needed regulatory assistance was higher for investment-based firms. Table 15 highlights such differences.

**Table 15: Regulatory Responses & Innovations Initiatives, Investment-based firms** (% of respondents)

| Investment-based Firms Only | Currently Using | Urgently Needed | Needed in the Long Term |
|---|---|---|---|
| Regulatory Support for e-KYC (n.125) | 15% | 34% | 17% |
| Simplified Customer Due Diligence (n.122) | 12% | 24% | 24% |
| Working with a FinTech Innovation Office (n.122) | 7% | 16% | 22% |
| Regulatory Support for Remote Onboarding (n.121) | 7% | 26% | 15% |
| Admission of my Firm into a Regulatory Sandbox (n.123) | 7% | 20% | 15% |
| Less Burdensome Supervisory/Reporting Requirements (n.123) | 6% | 25% | 24% |
| Exemption to Operate New Financial Services or Products (n.121) | 4% | 32% | 26% |
| Streamlined Product or Services Approval (n.122) | 4% | 33% | 27% |
| Faster Authorization or Licensing Processes for New Activities (n.123) | 2% | 38% | 29% |
| Extension of Interim Permissions (n.120) | 1% | 16% | 13% |

## Operational and Risk Indicators

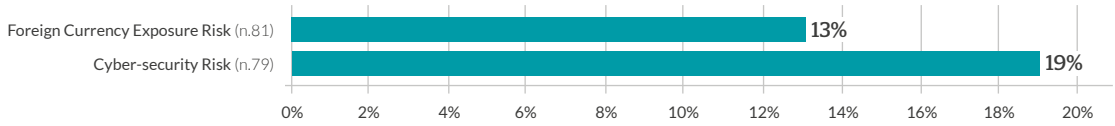
**Figure 58: Operational Performance and Costs Indicators, Digital Capital Raising** (% change, year-on-year H1)




Operational performance indicators of Digital Capital Raising firms show changes mostly in line with the overall FinTech average, with platform downtime showing a 6% decrease, unsuccessful transactions increasing by 8%, onboarding expenditure increasing by 7%, number of full-time employees decreasing by 3%, Fiscal Year 2020 Turnover Target 2020 decreasing by 7% and data storage expenditure increasing by 12% (though for high stringency markets it was 17%, and 14% for EMDEs). Overall these figures show declining performance for Digital Capital Raising firms as a whole (see Figure 58).

Digit Capital Raising firms reported a larger percentage risk for both Foreign Currency Exposure Risk (13%) and Cyber-security risk (19%) compared to FinTechs as a whole (see Figure 59). For firms in high stringency markets, cyber-security risk 18%, and for mid-stringency markets, this was even more pronounced at 23%. With respect to income groupings, firms in AEs noted a 21% increase, while those in EMDEs a 15%.

**Figure 59: Risk Indicators, Digital Capital Raising** (% change, year-on-year H1)




However, there are important differences between investment and non-investment firms. Most stark are the differences in regard to platform downtime, agent or partner downtime, FTE and Fiscal Year Turnover Target. It is observed that non-investment models show positive change, while investment-based models reported negative impacts (see Table 16).

**Table 16: Operational Performance, Costs & Risk Indicators, Non-investment & Investment-based** (% change, year-on-year H1)

| | Non-Investment | Investment-based |
|---|---|---|
| Platform Downtime | -1% | -12% |
| Agent or Partner Downtime | 7% | 1% |
| FTE Equivalent | 5% | -8% |
| Fiscal Year 2020 Turnover Target | 2% | -16% |
| Foreign Currency Exposure Risk | 13% | 11% |
| Data Storage Expenditure | 13% | 10% |
| Cyber-security Risk | 22% | 15% |

Analysis according to stringency level shows significant differences in Fiscal Turnover Target across the levels. Firms in medium stringency markets show a relatively low 2% decrease in turnover target, with firms in low stringency markets exhibiting a 4% decrease and high stringency markets exhibiting a relatively significant 12% decrease in Fiscal Turnover Target.

## InsurTech

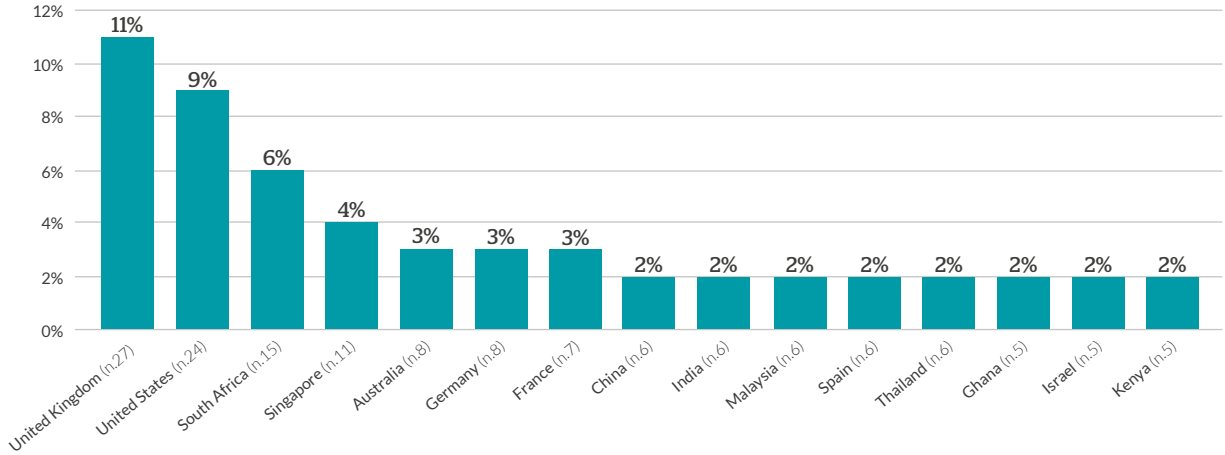
### Selected vertical highlights

- A fifth of InsurTech firms were headquartered in the UK and half of firms were from the APAC, Europe and SSA regions.
- InsurTech firms reported a year-on-year H1 increase in transaction volume, customer acquisition and customer retention. InsurTechs from the APAC reported the highest average growth in transaction volume while firms from LAC reported the largest growth in new customers. Firms in AEs also outperformed EMDEs by 9% vis a vis transaction volume.
- Overall InsurTech firms reported making fewer changes to their products in response to Covid-19 when compared to other verticals, with the caveat that these firms did implement changes related to enhanced benefits or additional insurance coverage. A small proportion of InsurTech firms have also enacted payment easements, made changes to qualification/onboarding criteria and introduced payment holidays.
- A limited percentage of InsurTechs are benefitting from regulatory support, with the support most often utilized being 'FinTech innovation offices', remote onboarding, and e-KYC. About a third of firms reported an urgent need for support related to simplified CDD and streamlined regulatory approval for products or services.

### Overview of Respondents

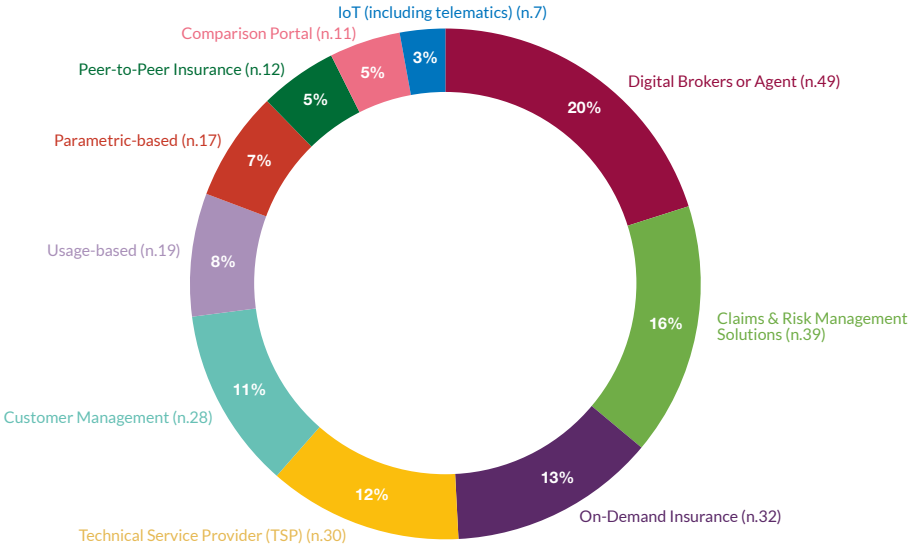
As a primary vertical, InsurTech represented 7% of the dataset, capturing operations from 100 firms in 74 countries. The largest number of InsurTech respondents were headquartered in APAC (19%), Europe (17%), SSA (17%), North America (11%), LAC (6%), and MENA (4%). When isolating the UK market, this market accounted for the highest concentration of firm HQs, representing 21% of the sample. InsurTech is an important area of FinTech innovation overall, and while its use may not rise in the initial stage of the pandemic, it is likely that digital channels will become important for new revenues going forward.

**Figure 60: Top 15 countries (by HQ & countries of operation), InsurTech** (number of respondents)



The countries with the highest number of respondent firms (inclusive of both headquarters and operational locations) were the United Kingdom, United States, South Africa, and Singapore. In most cases, countries with high concentrations of HQ firms also reported a number of foreign firms operating within their borders. This suggests that these top countries are also viewed as good destination countries for InsurTech activities. However, there are some notable exceptions. The Philippines, Ireland, Mexico, India, and Kenya ranked among the top 15 destination countries, despite having very limited domestically originated firms within their borders (see Figure 60).

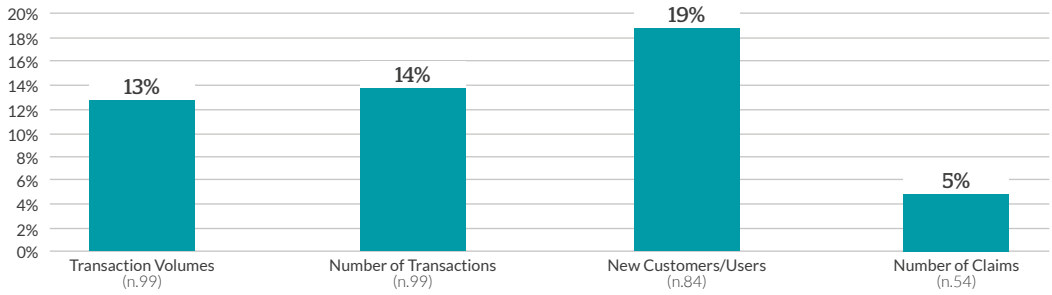
**Figure 61: Distribution of InsurTech by sub-vertical** (% of respondents)




InsurTech consists of 10 sub-verticals, with more than half of responding firms operating in two or more sub-verticals. Among the highest-ranking sub-verticals were Digital Brokers or Agents (20%), Claims & Risk Management Solutions (16%) and On-demand Insurance (13%). Europe, APAC, and the UK are among the most diverse markets regarding composition of sub-models (see Figure 61).

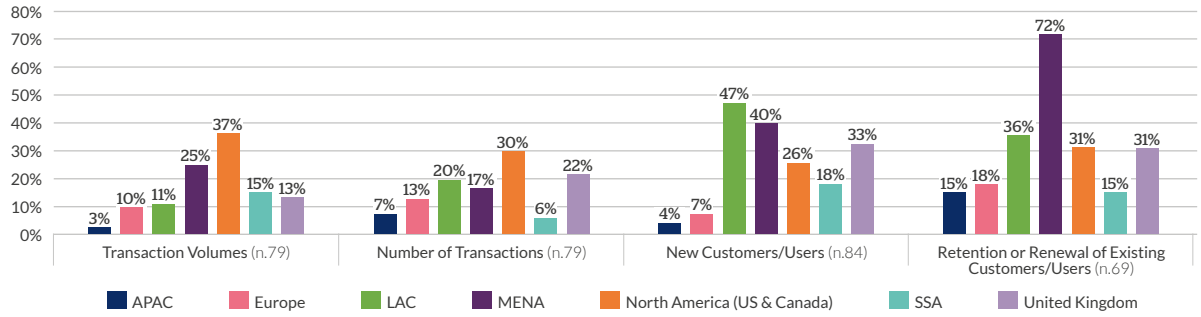
## Market Performance Indicators

**Figure 62: Market Performance Indicators (Volumes, Number of Transactions, New Customers/Users & No. of Claims), InsurTech** (% change, year-on-year H1)




InsurTech firms were asked to report the percentage change in their market performance between the first half of 2019 (Q1-Q2) and the same period in 2020. On average, total transaction volume and the number of transactions increased by 13% and 14% respectively. InsurTechs also reported a 19% average increase in new customers (see Figure 62). In contrast, there was no observed growth in the number of insurance policy lapses. There was, however, a 5% average increase in claims rates.

**Figure 63: Market Performance Indicators by Region (Volumes, Number of Transactions, New Customers & Retention of Customers), InsurTech** (% change, year-on-year H1)

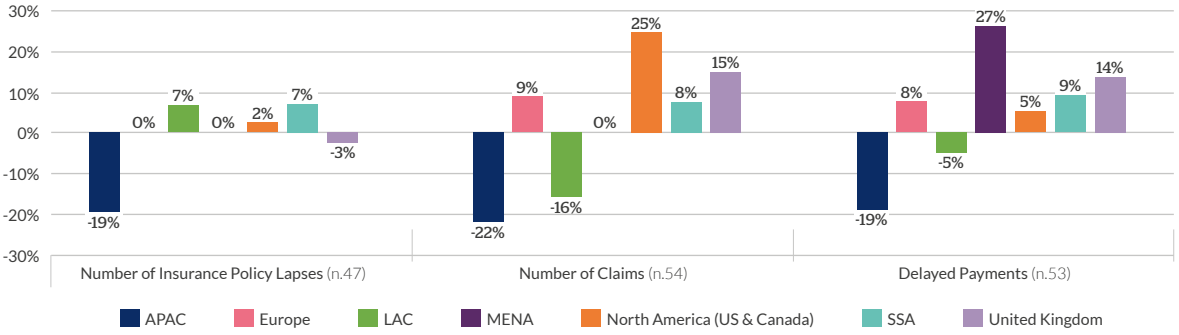



At regional level, firms reported positive results for four key indicators (see Figure 63). In terms of transaction volume, InsurTech firms headquartered in North America reported the highest growth, with transaction value increasing by 37% and number of transactions increasing by 30%. This was followed by MENA with a 25% increase in transaction value and 17% growth in number of transactions. In the broader APAC region (excluding China) transaction volume grew by 3% and number of transactions grew by 7%. Analysis according to stringency level showed no significant discernable difference across the three stringency levels. With regards to World Bank Income Group, firms in AEs (average increase of 16%) outperformed firms in EMDEs (7%) with respect to transaction volume by 9% points.

The largest growth in firms' acquiring unique corporate customers was evidenced in MENA (44%), followed by the United Kingdom (30%). European InsurTech firms also reported low growth (1%). When considering the addition of new retail customers, the regions with the highest reported average growth were LAC (47%) and MENA (40%). InsurTechs in APAC experienced the lowest growth (4%) marginally outperformed by Europe (7%).

Similarly, the regions with the largest average increase in retaining (or renewing) the existing customer were MENA (72%) and LAC (36%). The other regions lagged in reported growth for this indicator: APAC (15%), SSA (15%), and Europe (18%).

**Figure 64: Negative Market Performance Indicators by Region (Policy Lapses, Number of Claims & Delayed Payments), InsurTech** (% change, year-on-year H1)



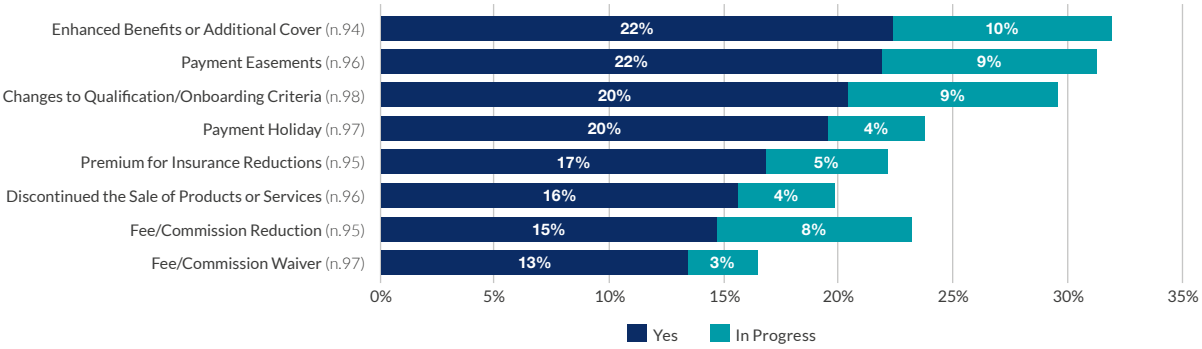

In contrast there were important differences at a regional level in regard to policy lapses, number of claims and delayed payments. Insurance policy lapses increased across all regions except for APAC (down 19%) and the United Kingdom (down 3%). InsurTech firms in Europe and MENA didn't report any change in this indicator (see Figure 64).

The average number of insurance claims reported by InsurTechs rose in North America (25%), the United Kingdom (15%), Europe (9%), and SSA (8%). The average number of insurance claims reported by firms decreased in APAC (22%), and LAC (16%). When comparing this to the over-arching vertical average (a 5% increase), it may be more useful to note that firms in AEs denoted a 12% increase in insurance claims, while those in EMDEs reported a drop of 5%.

Delayed payments rose by 4% on average for this vertical, though InsurTechs in MENA reported a 27% rise in delayed payments, however, firms in APAC and LAC reported a decrease of 19% and 5% respectively. Perhaps a more suitable of measuring this factor is by looking at differences that arise when considering WB income level groupings. Firms in AEs, for instance, recorded an increase of 8%, while those in EMDEs reported a drop of 5%.

## Changes to Existing Products and Services

**Figure 65: Changes to Existing Products & Services, InsurTech** (% of providers; yes, in progress)

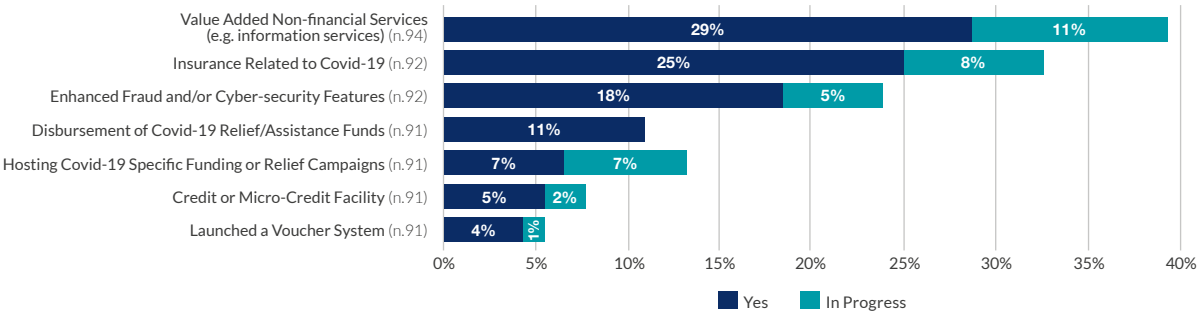



*Note that "N/A" and "No" responses have been omitted from this chart*

Many InsurTech firms made changes to their existing products. The most prominent changes reported were enhanced benefits or provision of additional cover (32%). This was followed by fee commission reduction (23%), reduction in insurance premiums (22%), or waiver (16%). Almost 20% of the firms reportedly discontinued the sales of existing products (or services) in response to Covid-19. In terms of changes to service level agreements, several firms made changes that enabled their customers to weather the crisis through payment holidays (24%) or payment easements (31%). Here, payment holidays refer to a scheme allowing delayed repayments while payment easements denote affordability-based payments. InsurTechs further reported changes (20% yes, 9% in progress) to the onboarding criteria for new customers (See Figure 65).

## New Products and Services

**Figure 66: New or Updated Products/Services/Features, InsurTech** (% of providers; yes, in progress)




*Note that "N/A" and "No" responses have been omitted from this chart*

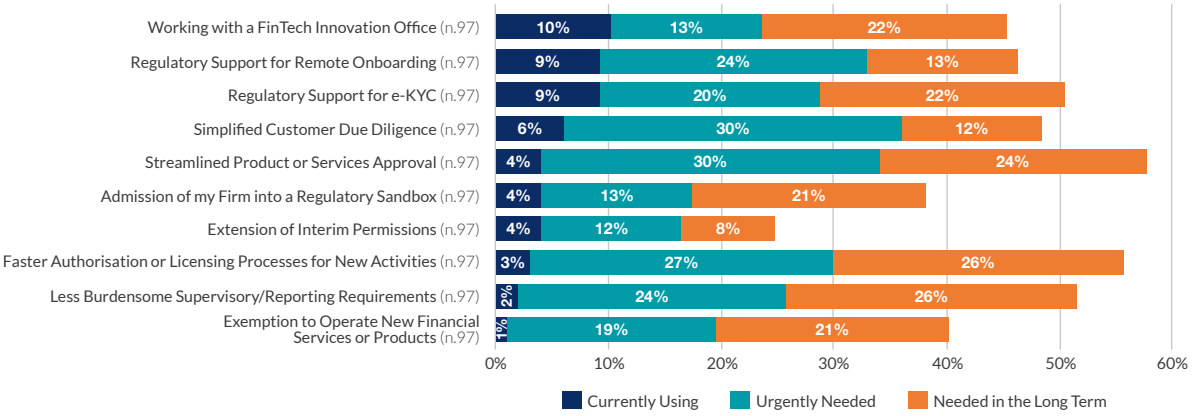
InsurTech firms also reported the launch of new products and services in response to Covid-19. Almost 40% of InsurTech firms reportedly introduced or began the process of introducing new value-added non-financial services globally. Additionally, 33% of InsurTech firms reported launching or proceeding with Covid-19 related insurance products, while 23% had already introduced (or were in the process of introducing) enhanced fraud / cyber-security features to support their activities or internal processes (see Figure 66). Table 17 provides examples of the type of new products or services launched.

**Table 17: Examples of New or Updated FinTech Products launched in response to Covid-19, InsurTech**

| Model | Region or Market | Change to existing/ New or updated | Example from the field |
|---|---|---|---|
| InsurTech | APAC | New Products and Services | A platform in India launched a new product to simplify Insurance for SMEs and Start-ups. The product provides customers with a seamless experience, right from picking products, to policy issuance to claim processes. It is powered by Artificial Intelligence (AI), Machine Learning (ML), image analytics, tracking technologies and data lakes, builds general insurance products, such as motor, health, travel and home insurance, among others. |
| | United Kingdom | New Products and Services | An InsurTech firm launched a product that covers all destinations, including countries under FCO and government essential and non- essential travel advisories. Covid-19 medical expenses are also covered for travellers up to age 59. |
| | Europe | New Products and Services | An InsurTech firm based in Berlin launched a new technology platform, which will be made available to brokers for free amid concerns that the coronavirus (COVID-19) pandemic is affecting sales. |

## Regulatory Responses or Innovations

**Figure 67: Regulatory Responses & Innovations Initiatives, InsurTech Usage & Needs** (% of respondents)



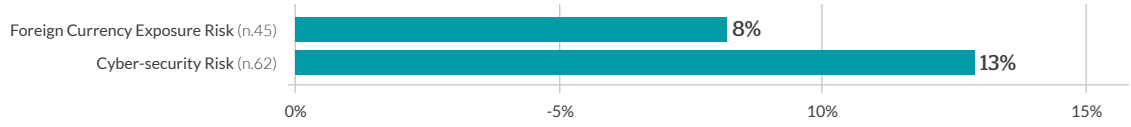

**Note that "N/A" and "Unsure" responses have been omitted from this chart*

A limited number of InsurTechs are benefitting from regulatory support, the support most often utilized being FinTech innovation offices (10%), remote onboarding (9%), and e-KYC (9%). About a third of firms reported urgently requiring simplified customer due diligence processes (30%) and streamlined regulatory approval for products or services (30%) (See Figure 67).

Regarding regulatory innovations initiatives, in addition to the 10% of surveyed firms currently working with a regulatory innovation office, 13% of InsurTech firms reported that they urgently needed admission to a regulatory sandbox and regulatory innovation office, and nearly 21% reported that it was needed in the long term. At the same time, 19% to 29% of the firms were unsure whether admitting their firm into a regulatory sandbox or working with a regulatory innovation office would be beneficial for their business.

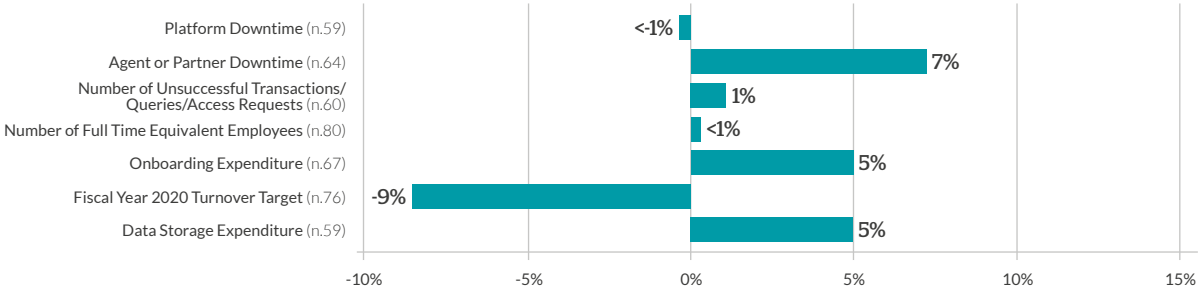
## Operational and Risk Indicators

**Figure 68: Risk Indicators, InsurTech** (% change, year-on-year H1)




Globally, InsurTech firms reported a year-on-year increase in risks related to cyber-security (13%) and foreign currency exposure (8%) (see Figure 68).

**Figure 69: Operational Performance and Costs Indicators, InsurTech (% change, year-on-year H1)**




The surveyed InsurTechs also reported average increases in the cost of onboarding customers (5%) and storing data (5%). In terms of platform's performance, InsurTech firms reported a materially negligible change in their platform downtime and ability to execute successful transactions on their platforms. However, they faced an increase in partner downtime (7%) which indicates the unavailability of key services necessary for the firm's operations. Noticeably, InsurTech firms reported an average decline of 9% in their 2020 revenue target year-on-year (see Figure 69).

Overwhelmingly, Insurtech firms perceive Covid-19 as negatively affecting their financial position. When asked specifically about their perception towards their Capital Reserves, 62% indicated that their reserves had been impacted negatively, with 42% of firms noting that their current valuation had also been negatively impacted by the pandemic. The outlook on future fundraising was also on-balance negative, with 37% noting a negative impact on their ability to fundraise. This was particularly apparent when considering equity fundraising, with 59% of firms indicating a negative change to their ability to raise funding via sale of equity.

# Market Provisioning

### Selected Vertical highlights

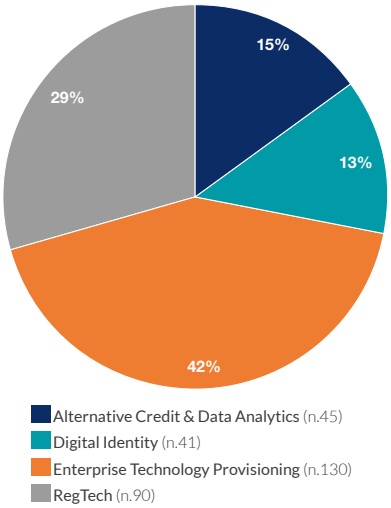
- Market Provisioning firms were more likely to be headquartered or operational in AEs, with the United States and United Kingdom accounting for 22% of respondents.
- Market Provisioning firms have reported increases in their volumes, acquisition of corporate customers, and the number of Proofs of Concept/Trials brought forth with key stakeholder clients.
- Firms representing the Alternative Credit & Data Analytics vertical reported the greatest increase in their volumes, while Digital Identity and Enterprise Technology Provisioning both observed the largest increase in corporate customer acquisition.
- The only negative indicator of market performance was an increase in time-to-value, referring to an increased time-lapse between client introduction to on-boarding. This was the least pronounced for RegTech firms. .
- Changes to existing products and services related predominantly to fee/commission waiver and fee/commission reduction, with these product changes sighted as the most prominent by all four verticals.
- Regulatory considerations were quite different for Market Provisioning firms than their Retail-facing FinTech counterparts, given most of the activities undertaken are not regulated. A greater emphasis was placed upon utilizing regulatory innovation mechanisms, such as FinTech innovation offices, Hackathons/ TechSprints or Regulatory Sandboxes.

## Overview of Respondents

In this study, Market Provisioning refers to those FinTech verticals that support the provision of financial services by providing services, infrastructure, and support mechanisms for the FinTech ecosystem. These include RegTech, Alternative Credit and Data Analytics, Digital Identity, and Enterprise Technology Provisioning. This group accounts for 21% of this study's overall dataset, with 306 FinTech respondents attributed to the Market Provisioning category.

Enterprise Technology Provisioning respondents constituted 42% of Market Provisioning firms, providing 130 firm level observations. RegTech constituted the second largest vertical (29%), followed by Alternative Credit and Data Analytics (15%) and Digital Identity (13%) (see Figure 70).

**Figure 70: Proportion of Market Provisioning Verticals**
(% of respondents)



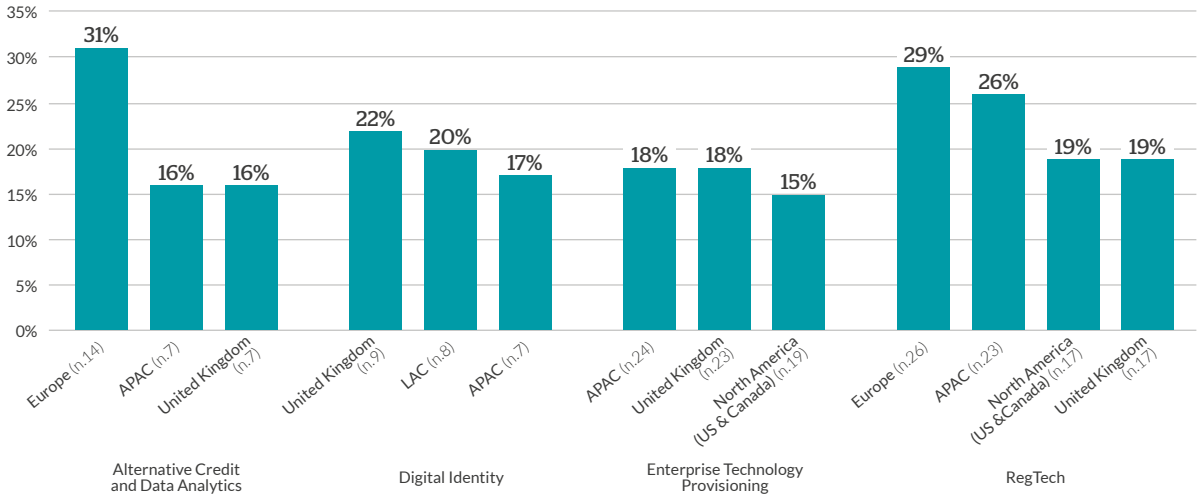

Across 98 countries or territories, Market Provisioning firms that responded the survey are fairly concentrated in North America, the United Kingdom, and APAC. The highest concentration of firm-level HQs and operations is in the UK, followed by the US, Singapore, India, and Australia (see Table 18).

**Table 18: Top 15 Countries for Market Provisioning FinTech firms**

| Top 15 Countries (HQ & Operations) | Proportion |
|---|---|
| United Kingdom (n.106) | 12% |
| United States (n.91) | 10% |
| Singapore (n.48) | 5% |
| India (n.36) | 4% |
| Australia (n.32) | 4% |
| China (n.27) | 3% |
| Canada (n.23) | 3% |
| Germany (n.23) | 3% |
| Mexico (n.22) | 3% |
| Japan (n.18) | 2% |
| Brazil (n.17) | 2% |
| Argentina (n.15) | 2% |
| Ireland (n.14) | 2% |
| Spain (n.14) | 2% |
| Switzerland (n.14) | 2% |

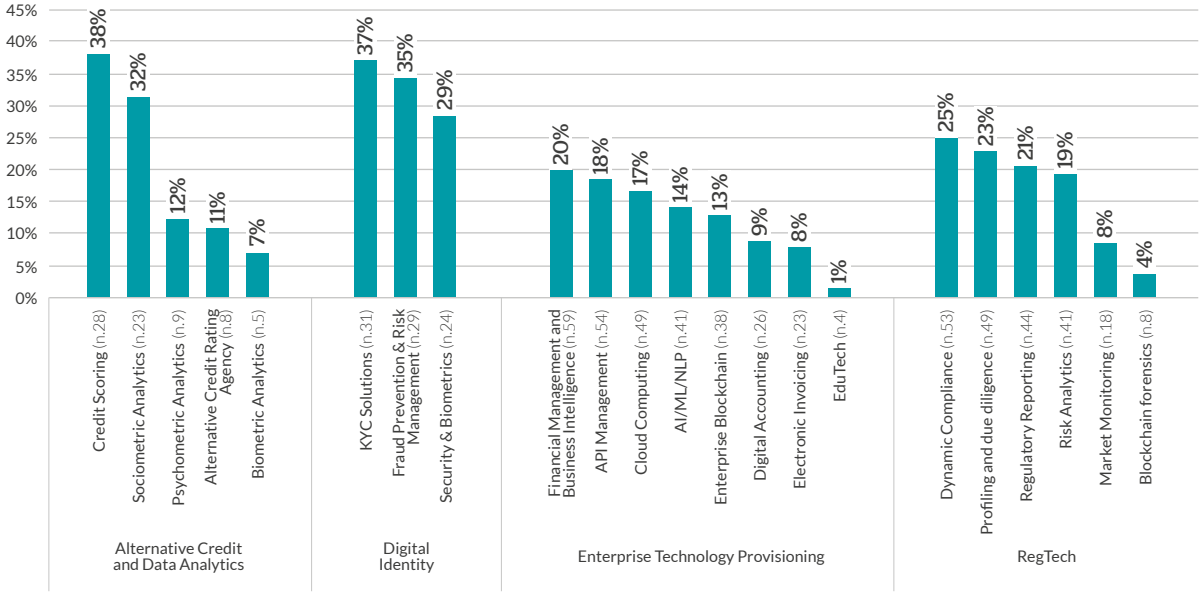
Yet, when looking at the blend of activities across the key markets, certain activities are more prevalent in certain regions than others. For instance, the highest number of responses on Alternative Credit & Data Analytics was from Europe, accounting for 31% of observations, followed by APAC and the United Kingdom both accounting for 16% of responses attributed to the vertical (see Figure 71).

**Figure 71: Responses by Top 3 Regions, Market Provisioning**




When considering Digital Identity firms, the highest proportion of responses (22%) were headquartered in the UK. LAC accounted for the second highest response region (20%), serving as an important example of how EMDEs are embracing and supporting infrastructure related to Digital Identity in financial services. APAC was third, though firms tended to be concentrated in AEs such as Singapore, Australia, and Japan, with fewer operations in surrounding EMDEs. Similarly, Enterprise Technology provisioning firms were concentrated in APAC, the UK, and North America. Finally, RegTech firms were concentrated in Europe, with 29% headquartered within this region (see Figure 71). Given the clear emphasis on FinTech-focused regulation, regions with relatively established FinTech regulatory ecosystems appear more suitable for RegTech services.

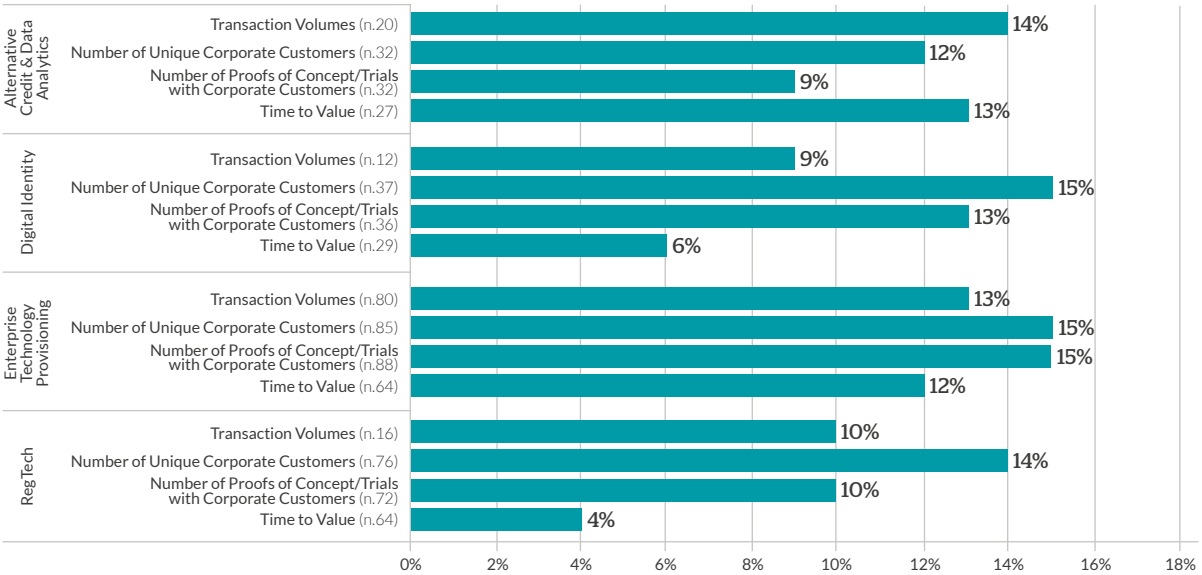
**Figure 72: Distribution of Market Provisioning by sub-verticals** (% of respondents)




Each vertical includes several sub-vertical models, offering a view of the different types of activities taken-up by Market Provisioning firms. For Alternative Credit & Data Analytics, 6 sub-verticals were identified from the survey sample. Nearly every firm operated in at least two sub-verticals, with just over a third operating a credit scoring model alongside one other sub-vertical. To that end, 38% of Alternative Credit and Data Analytics firms reported activities in Credit Scoring, followed by 32% in Sociometric Analytics. Digital Identity firms were far more siloed, with firms tending to only operate in one primary sub-vertical. 37% focused on KYC Solutions, 35% on Fraud Prevention Management, and 29% in Security & Biometrics. In RegTech, 25% of firms identified as Dynamic Compliance firms, 23% as Profiling & Due Diligence, and 21% in Regulatory reporting. Finally, Enterprise Technology Provisioning included 8 sub-verticals; the top 3 represented sub-verticals were Financial Management and Business Intelligence (20% of observations), API Management (18%), and Cloud Computing (17%) (see Figure 72).

## Market Performance Indicators

**Figure 73: Market Performance Indicators (Volumes, Unique Corporate Customers, Proofs of Concept & Time to Value), Market Provisioning** (% change, year-on-year H1)



Across the board, Market Provisioning firms have reported over-all increases in their volumes, acquisition of corporate customers, and the number of Proofs of Concept/Trials brought forth with key stakeholder clients. The only negative market performance indicator was an increase in time-to-value, referring to an increased time-lapse between client introduction to on-boarding (see Figure 73). On the latter, firms in EMDEs reported a 15% increase, while those in AEs a 6%.

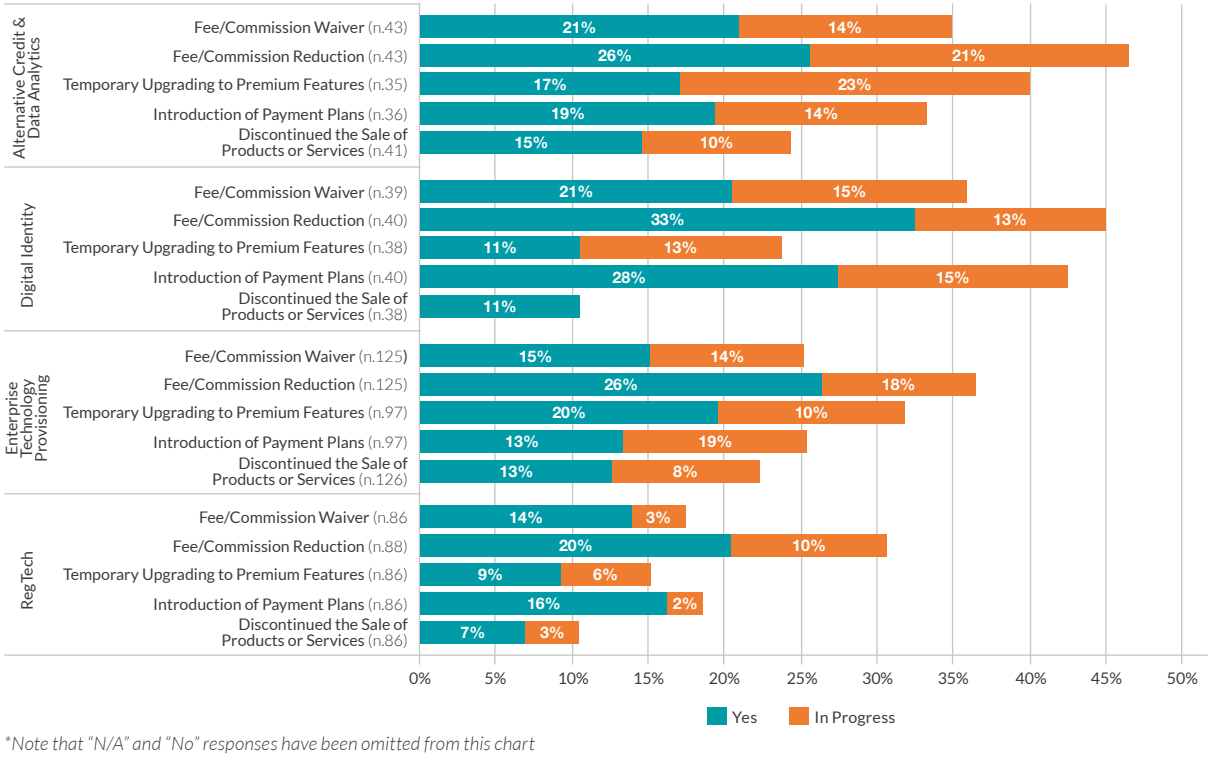
When looking at each vertical, for Alternative Credit & Data Analytics positive proportional changes compared to the same period in the previous year can be noted for the following key metrics; total transaction volume rose by 9%, the number of unique corporate customers increased by 12% and the number of proofs or trials with corporate customers increased by 9%. On the other hand, the market indicator 'time to value' also increased by 13%, denoting a negative impact on the time required for customer on-boarding.

Following this trend, positive changes were reported in the Digital Identity vertical, with increases in total transaction volume (9%), the number of unique corporate customers (15%), and the number of proofs or trials with corporate customers (13%). Similar to Alternative Credit & Data Analytics, the market indicator 'time to value' increased for firms in this sub-vertical, representing a negative impact. Firms in this vertical reported an average of 6% increased lag-time.

Firms in Enterprise Technology Provisioning also saw a proportionally positive change, with growth in total transaction volume (13%), the number of unique corporate customers (15%), and the number of proofs or trials with corporate customers (15%). Akin to other sub-verticals in the Market Provisioning category, firms here reported an increase in 'time to value', representing a 12% proportional change compared to the previous year. In RegTech, total transaction volume rose by 10%, the number of unique corporate customers by 14%, and proofs of concept or trials with corporate customers also grew by 10%. Finally, 'time to value' saw the most significant increase in lag-time at 4%.

## Changes to Existing Products and Services

**Figure 74: Changes to Exiting Products & Services, Market Provisioning** (% of respondents; yes, in progress)




*Note that "N/A" and "No" responses have been omitted from this chart

Figure 74 provides an overview of changes implemented by Market Provisioning FinTechs. Digital Identity firms were amongst the most most reactive.

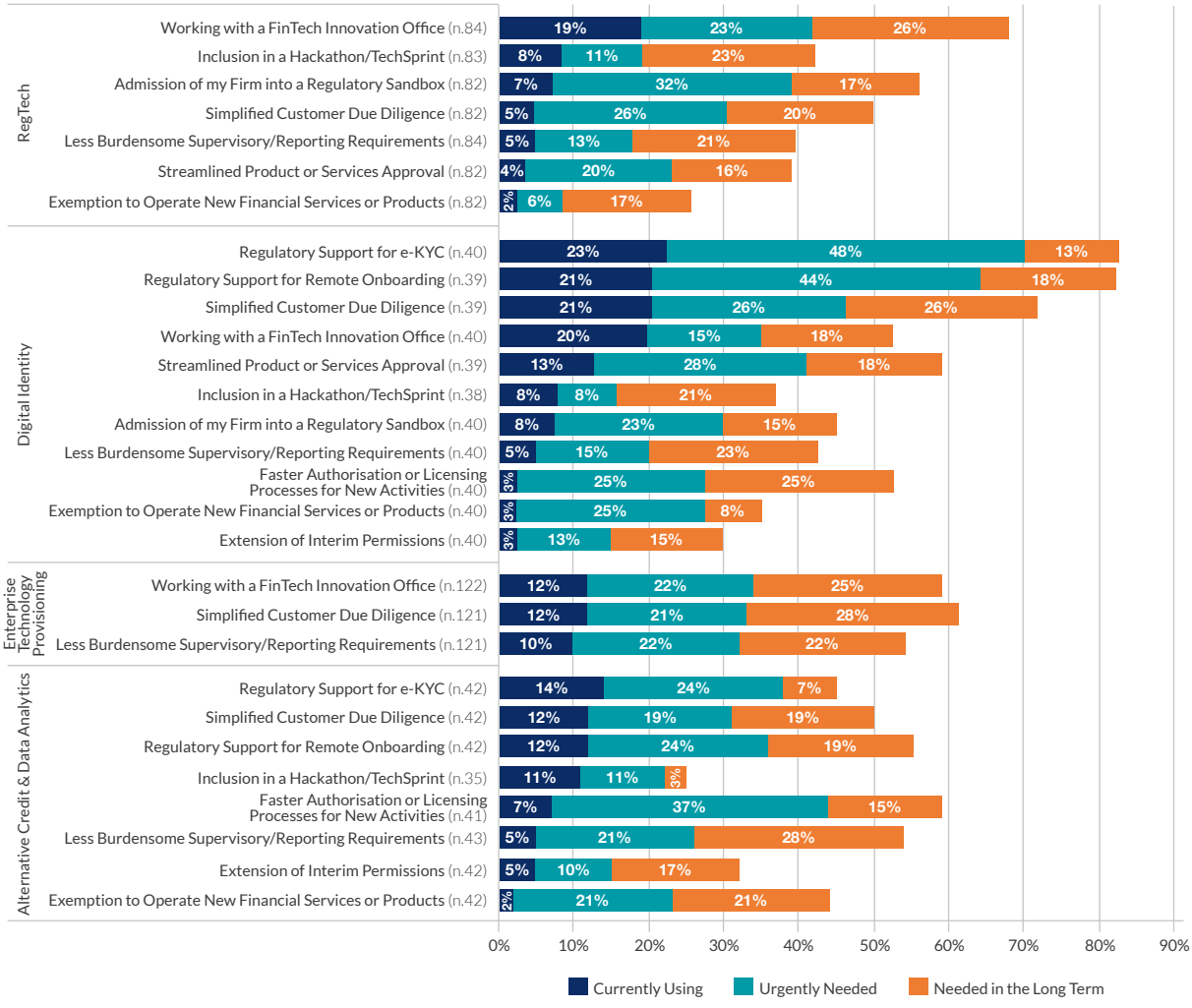
Across the four verticals, more than a quarter of market provisioning firms had already implemented a fee/commission reduction. Amongst the four verticals, Digital Identity firms reported this change by the largest proportion. This change was also the most selected 'in progress' factor across Market Provisioning firms as a whole. Around 15% of Market Provisioning firms also reported the 'introduction of Payment Plans' as the second most implemented feature, with a further 11% 'in progress'.

When looking at specific verticals, Digital Identity firms reported 'Fee/Commission reduction' and 'introduction of payment plans' as the two most commonly implemented changes. Alternative Credit & Data Analytics firms also reported 'fee/commission reduction' as the most implemented change, followed by 'fee/commission waiver' and 'introductio of payment plans'. This vertical reported 'Temporary upgrading to premium features' as the most in-progress factor as well.

Enterprise Technology Provisioning firms implemented 'fee/commission reduction' at the highest prevalence, followed by 'temporary upgrading to premium features' and then 'fee/commission waiver'. Finally, RegTechs implemented 'fee/commissions reduction', followed by 'introduction of payment plans'.

## Regulatory Responses or Innovations

**Figure 75: Regulatory Responses & Innovations Initiatives, Market Provisioning Usage & Needs** (% of respondents)




*Note that "N/A" and "Unsure" responses have been omitted from this chart

Market Provisioning firms were asked to respond on the regulatory responses, innovations, and interventions needed to support their market activities in light of Covid-19. Since these firms were primarily B2B, regulatory considerations were somewhat different than their Retail-facing FinTech counterparts. In aggregate, Market Provisioning firms responded to interventions related to innovation, such as 'working with a FinTech office', 'inclusion in a hackathon/techsprint'' or 'admission to a regulatory sandbox' (see Figure 75). Certain verticals within the category also responded to regulatory interventions related to supervisory or core regulatory activities (such as simplified CDD, reporting, etc).

For the Digital Identity vertical, firm responses were concentrated in a couple of key areas. With respect to regulatory innovations, 20% of firms were already making use of a FinTech innovation office. In contrast, only a 8% of firms were engaging already in a Regulatory Sandbox, though some 23% noted that they would urgently like to do so. When considering regulatory supervisory measures, respondents indicated that they were currently using Regulatory Support for e-KYC (23%) and Remote Onboarding (21%), as well as Simplified CDD (21%) as their top priorities. At the same time, firms strongly emphasized that Regulatory Support for e-KYC (48%) and Remote Onboarding (44%) were urgently needed, followed by streamlined product and services approval (28%).

RegTechs were most likely to report utilizing a FinTech Innovation Office, with 19% currently engaged this way, followed by Inclusion in a Hackathon or TechSprint (8%). With respect to this vertical's urgent needs, 32% of respondents reported admission into a Regulatory Sandbox and receiving Regulatory Support for e-KYC as urgently needed.

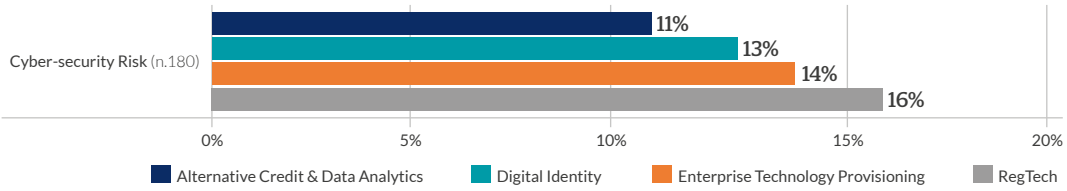
Alternative Credit & Data Analytics' top responses for currently using were Regulatory Support for e-KYC (14%), followed by Remote Onboarding and Simplified Customer Due Diligence (12%) respectively. In terms of the support mechanisms they urgently needed, these firms noted Faster Authorization (37%), Admission to a Regulatory Sandbox (30%), and Streamlined Product and Services Approval (26%).

The responses varied for Enterprise Technology Provisioning. Respondents indicated that they were currently using regulatory support mechanisms such as a FinTech Innovation Office (12%) and Simplified Customer Due Diligence (12%). In terms of urgently requirement, faster authorization or licensing process for new activities (31%), regulatory support for e-KYC (26%) and admission into a regulatory sandbox (25%) were noted to be critical.

A key finding is therefore the importance of regulatory sandboxes for these FinTechs, which is also shown to be a priority for regulators. The World Bank and CCAF 2019 Regulating Alternative Finance: Results from a Global Regulator Survey[29] shows that 22% of surveyed regulators have created regulatory sandboxes and in The World Bank and CCAF 2020 Global COVID-19 FinTech Regulatory Rapid Assessment Study[30] regulatory sandboxes are the most frequently cited regulatory innovation by respondents.

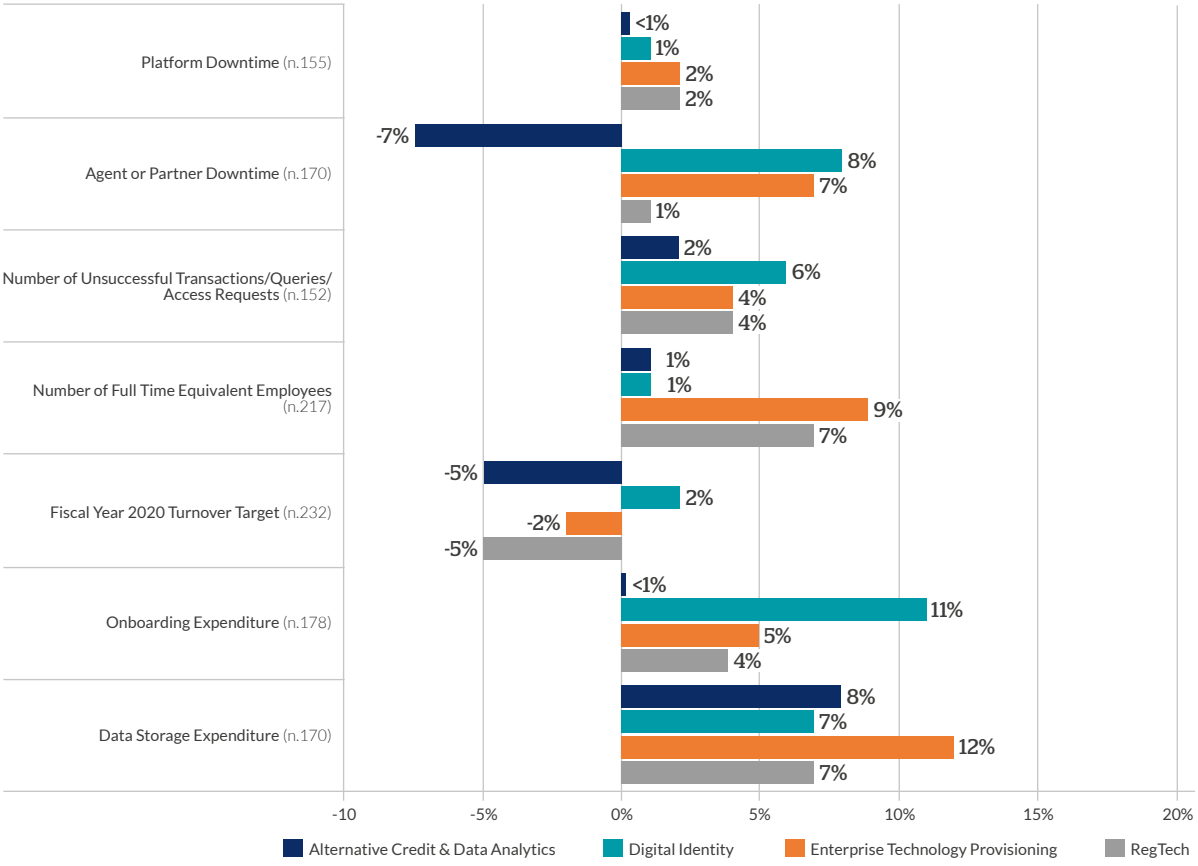
## Operational and Risk Indicators

**Figure 76: Cyber-security Risk Indicator, Market Provisioning** (% change, year-on-year H1)




When considering cyber-security risk, all Market Provisioning verticals noted an increase against the previous year, with RegTech noting the largest increase in risk at 16%, followed by Enterprise Technology Provisioning at 14% and Digital Identity at 13%. The lowest increase in cyber-security risk was seen in Alternative Credit & Data Analytics at 11% (see Figure 76).

**Figure 77: Operational Performance and Costs Indicators, Market Provisioning** (% change, year-on-year H1)




Broadly speaking, operational performance indicators tended to deteriorate across all four Market Provisioning verticals (see Figure 77) . Platform downtime was slightly higher during Q1-Q2 2020 compared to the same period in 2019. Agent or partner downtime increased for all sub-verticals, with the exception of Alternative Credit & Data Analytics. These respondents denoted a 7% decrease in agent or partner downtime and represented the only vertical positively impacted as related to this indicator. The number of unsuccessful transaction queries and access requests increased across all four verticals. Digital Identity providers saw the highest increase in the number of unsuccessful transactions, with an increase of 6%. Both RegTech and Enterprise Technology Provisioning firms saw an increase of 4%, whilst Alternative Credit & Data Analytics saw the lowest increase at 2%.

None of the verticals saw a decrease in the number of full-time equivalent employees. Enterprise Technology Provisioning saw the highest increase in the number of full-time employees at 7%, whilst both Alternative Credit & Data Analytics and Digital Identity providers saw the lowest increase at just 1%. RegTech saw the second largest increase in the number of full-time employees at 7%. Onboarding expenditure increased or stayed the same in all four verticals. Digital Identity saw the biggest increase in this expenditure at 11%, whilst this was closely followed by Enterprise Technology Provisioning at 5% and RegTech at 4%. Data storage expenditure increased across all four verticals, with Enterprise Technology Provisioning denoting the largest expenditure increased at 12%.

Finally, the fiscal year 2020 turnover targets declined for all but one vertical, with Digital Identity noting a 2% increase. For all other verticals, firms noted a slight decline in their projected turnover, a drop of 5% for Alternative Credit & Data Analytics and RegTech firms, and a 2% drop for Enterprise Technology Provisioning firms.

# 4. Impact of Covid-19 on selected regions

# Chapter 4. Impact of Covid-19 on selected regions

This chapter provides a regional overview of FinTech market development in the Asia Pacific, Europe, Latin America and the Caribbean, Middle East and North Africa, North America and Sub-Saharan Africa. This regional analysis includes data on changes in the market performance of the most prominent FinTech verticals in that region, participation in Covid-19 relief measures, request for government interventions and the impact of Covid-19 on the ability of firms to serve MSMEs, women and the unbanked.

## Sub-Saharan Africa

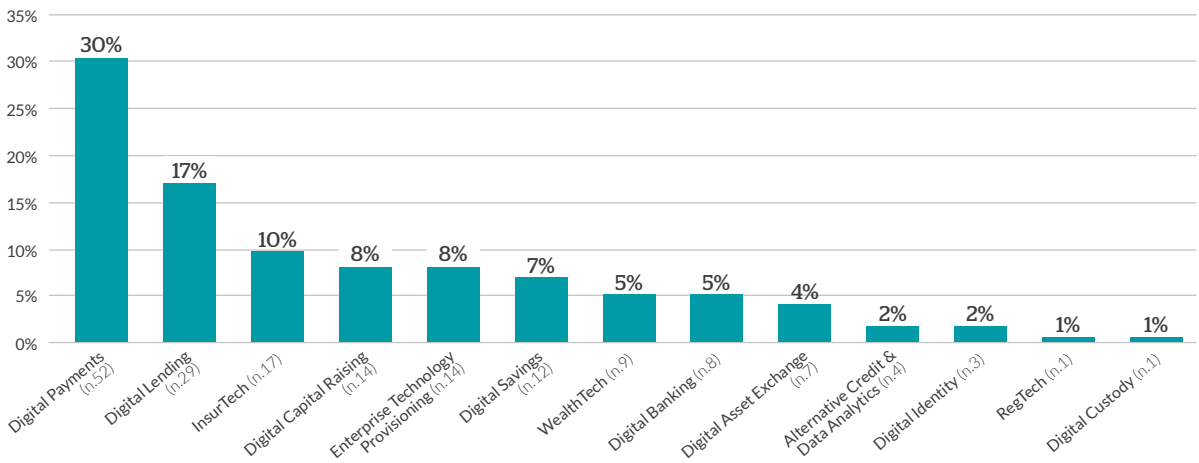
### Selected regional highlights

- The Sub-Saharan African region accounts for 12% of total survey respondents, with the highest concentration of FinTech headquarters being in South Africa, Uganda, Nigeria and Kenya.
- On aggregate, FinTechs from the SSA region reported growth in transaction volume, customer acquisition and retention of existing customers. Across all regions, SSA reported the second largest growth in transaction volumes. In-line with the global trend, firms in Digital Lending registered a contraction in transaction volume, new borrowers and repeat borrows. Across all regions, Digital Lending firms in SSA reported the second largest contraction in repeat borrowers.
- FinTech from SSA were much more likely to report the urgent need for regulatory support measures than FinTechs from other regions. More than half of FinTech from SSA reported the urgent need for 'faster authorization or licensing processes for new activities', and 'streamlined product or services approval' and 'e-KYC".
- FinTechs from SSA were more likely to report the urgent need for government interventions than firms from other regions. More than half of FinTechs in SSA reported the urgent need for "tax relief/subsidy" and "access to liquidity facility".

### Overview of SSA Respondents

SSA [31] represents 12% of all respondents who participated in the survey. 171 respondents reported being headquartered in 22 SSA countries. The countries with the largest number of firms headquartered were South Africa (43), Uganda (28), Nigeria (23) and Kenya (19). The respondents to this survey reported operating in 42 SSA countries representing 89% of the countries in the region.

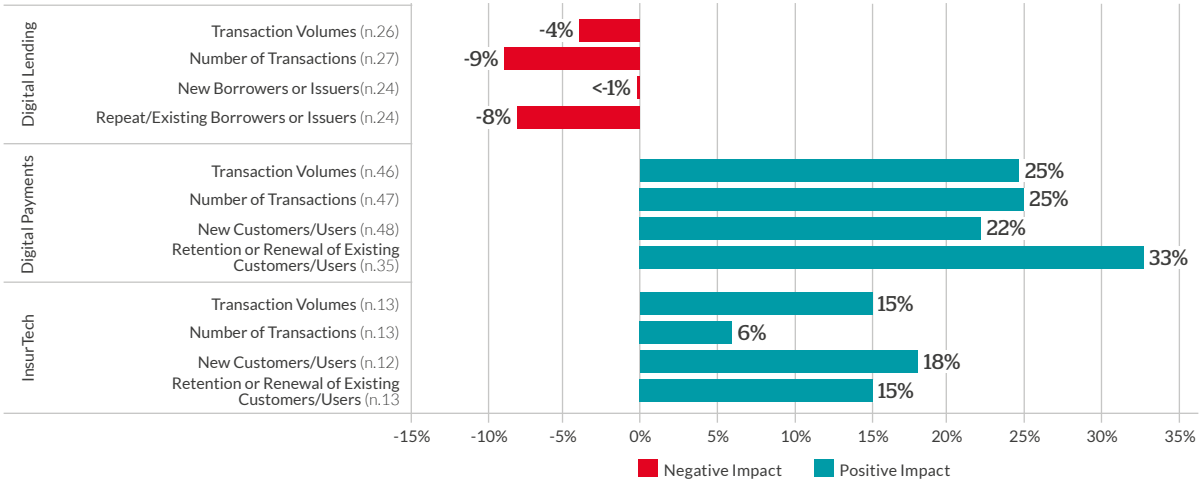
**Figure 78: Number of SSA respondents by FinTech Vertical** (% of total responses for the region)



The three FinTech verticals with the largest number of responses, representing 57% of all respondents in the region, was Digital Payments (30%), Digital Lending (17%) and InsurTech (10%) (see Figure 78).

## Market Performance Indicators for Top 3 Verticals

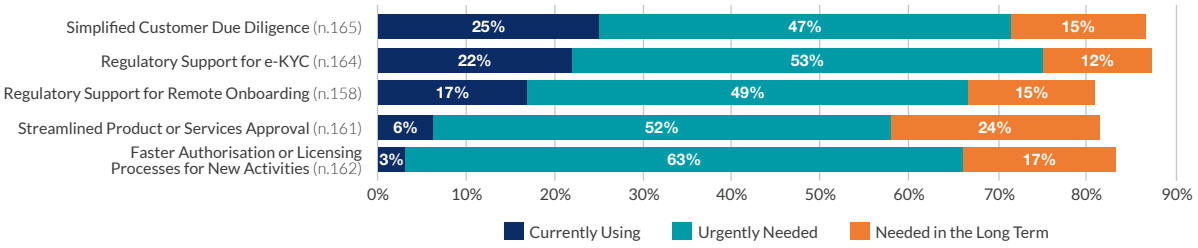
**Figure 79: Market Performance Indicators, Digital Lending, Digital Payments, InsurTech (% change, year-on-year H1)**




Firms from SSA reported a year-on-year average increase in transaction volume of 12% and new customers/users of 18%. The market performance of Digital Lending, Digital Payments and InsurTech respondents in SSA is closely aligned with the overall trend. In this regard, Digital Lending firms reported a 4% decrease in transaction volume and a 9% decrease in number of transactions. Digital Payments reported a 25% increase in transaction volume and the number of transactions and a 22% increase in number of new customers/users. InsurTech firms reported an increase in transaction volume (15%), number of transactions (6%) and in the number of new customers (18%) (see Figure 79).

## Regulatory Responses or Innovations (Top 5)

**Figure 80: Regulatory Responses & Innovation Initiatives, Top 5 Usage & Needs in SSA** (ranked by % of providers use & needs)



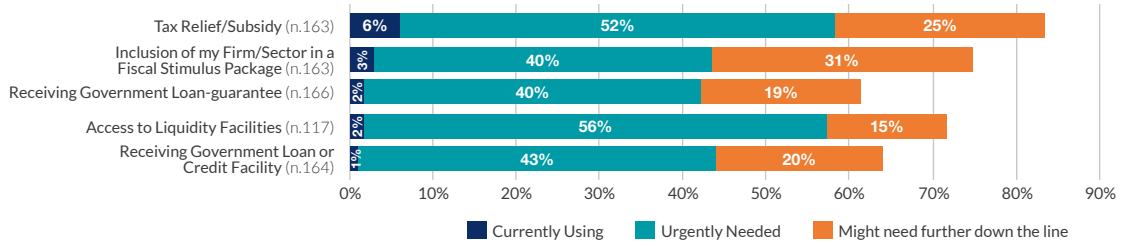

**Note that "N/A" and "Unsure" responses have been omitted from this chart*

In terms of regulatory support, the largest proportion of current usage reported by SSA firms were Simplified Due Diligence (25%), regulatory support for e-KYC (22%) and regulatory support for remote onboarding (17%).

In addition, firms consider that measures were urgently needed for faster authorization or licensing processes for new activities (63% of the firms), streamlined procedures (52% of the firms) and regulatory support for onboarding (49% of the firms) (see Figure 80).

## Government Interventions (Top 5)

**Figure 81: Use of & Need for Government Interventions in SSA, by FinTech Verticals** (ranked by % of providers use & needs)




*Note that "N/A", "Not Needed" and "Unsure" responses have been omitted from this chart

Very few firms reported benefitting from government interventions, while the majority consider that some form of government intervention was urgently needed. The majority of firms reported urgently needing government interventions to support their business. Access to liquity facilities (56%) and tax relief/subsidy (52%) were reported as the most needed Covid-19 related interventions followed by receiving a government loan or credit facility (43%) (see Figure 81)

## The Asia-Pacific Region

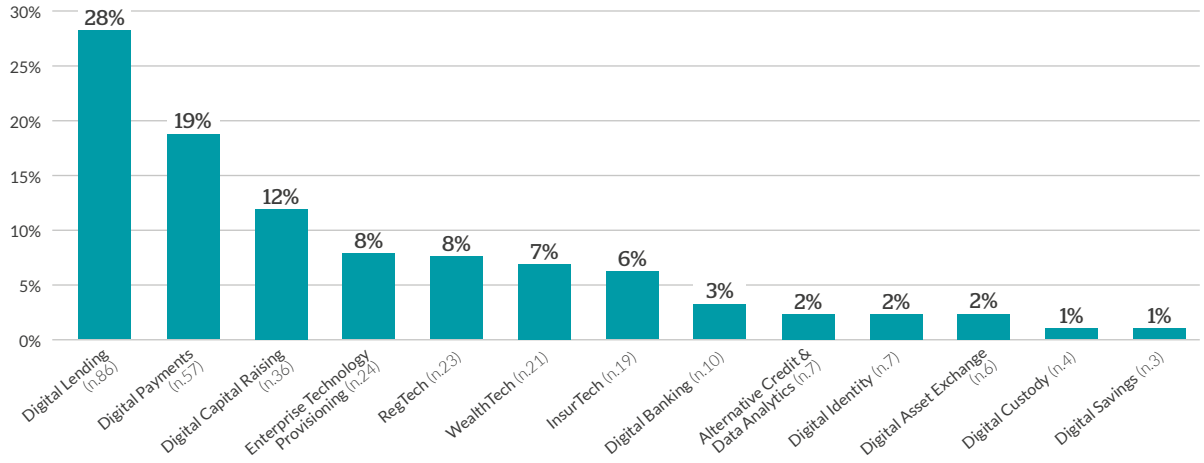
### Selected regional highlights

- The three most represented verticals in the APAC region (excluding China) were Digital Lending (28%), Digital Payments (19%) and Digital Capital Raising (12%), which collectively accounted for 59% of total survey responses from the region.
- APAC FinTechs generally indicated an increase in transaction volume and transaction numbers across all verticals. This growth was however more subdued than other regions with APAC firms reporting the second lowest growth in comparison to other regions. Similarly, indicators were positive for number of new customers/ users, retention or renewal of existing customers/users, and repeat/existing borrowers or issuers, while the average number of new borrowers or issuers remained flat across the region year-on-year.
- Unlike the global increase reported in number of new borrowers and repeat/existing borrowers, Digital Lending firms in APAC reported a decline across these two performance indicators, while Digital Payment platforms in the region indicated a modest increase in total transaction volume, number of transactions, as well as in the number of new customers and retention.
- APAC FinTechs indicated that more regulatory support in e-KYC, faster authorization or licensing for new activities and simplified CDD was urgently needed.
- APAC FinTechs reported urgent need for government interventions related to access to liquidity facilities, tax relief/subsidies and receiving government loan or credit facilities.

This section includes an analysis into the survey responses from firms in the Asia-Pacific (APAC) region.[32] This includes an overview of respondents according to FinTech vertical, an analysis on market performance, participation in Covid-19 relief measures or schemes and need for regulatory measures, government interventions.

## Overview of APAC Respondents

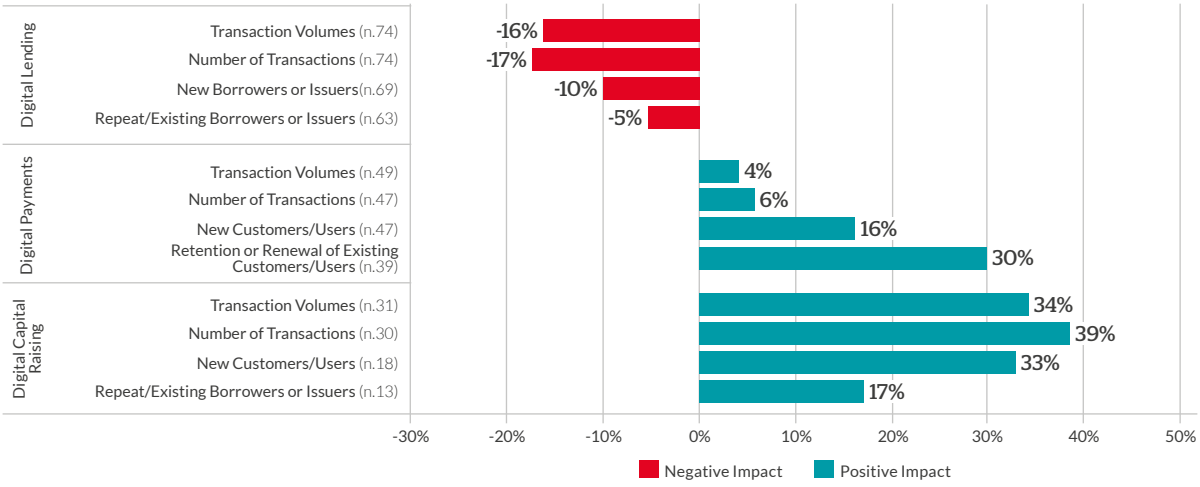
**Figure 82: Number of APAC respondents by FinTech Vertical** (% of total responses for the region)




The top three represented verticals in APAC (excluding China) accounted for 59% of total responses in the region: Digital Lending (28%), Digital Payments (19%) and Digital Capital Raising (12%) (see Figure 82).

## Market Performance Indicators for Top 3 Verticals

**Figure 83: Market Performance Indicators, Digital Lending, Digital Payments, Digital Capital Raising**
(% change, year-on-year H1)




Overall, APAC respondents indicated an increase in transaction activity in both volumes (6%) and numbers (5%) across verticals. Similarly, indicators trended positively for number of new customers/users (16%), retention or renewal of existing customers/users (27%), and repeat/existing borrowers or issuers (4%), while the average number of new borrowers or issuers remained flat across the region year-on-year.

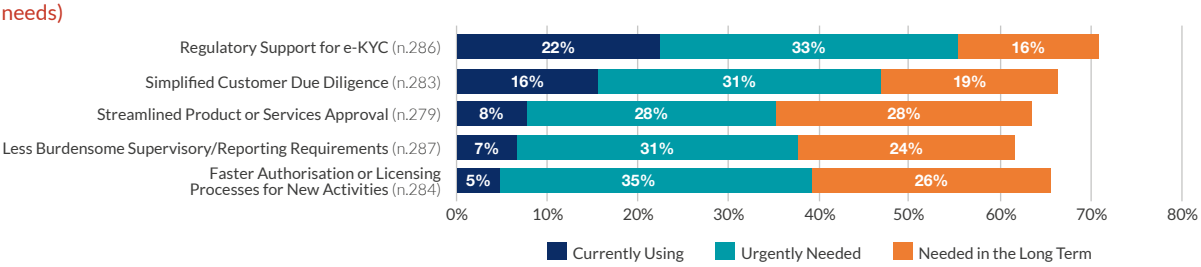
However, there are important differences in market indicators, in particular for Digital Lending firms. Digital Lending firms reported a decline across the market performance variables, including a decrease in the number of new borrowers (10%) and repeat/existing borrowers (5%). The other two verticals reported increases. Digital Payment firms in the region indicated a modest increase in total transaction volume (4%), and the number of transactions (6%) as well as an increase in the number of new customers (16%) and retention (30%). The vertical also evidenced an increase in number of new customers (16%) and retention/renewal of existing users (30%). Digital Capital Raising firms reported a significant increase in total transaction volume and numbers as well as an increase in the number of new issuers (33%) and repeat/existing issuers (17%) (see Figure 83).

## Participation in Covid-19 Relief Measures

On average, only 9% of respondents reported being engaged in at least one kind of Covid-19 relief measures, with the highest engagement being Government Job Retention Measures (13%).

## Regulatory Responses or Innovations (Top 5)

**Figure 84: Regulatory Responses & Innovations Initiatives, Top 5 Usage & Needs in APAC** (ranked by % of providers, use & needs)




*Note that "N/A" and "Unsure" responses have been omitted from this chart

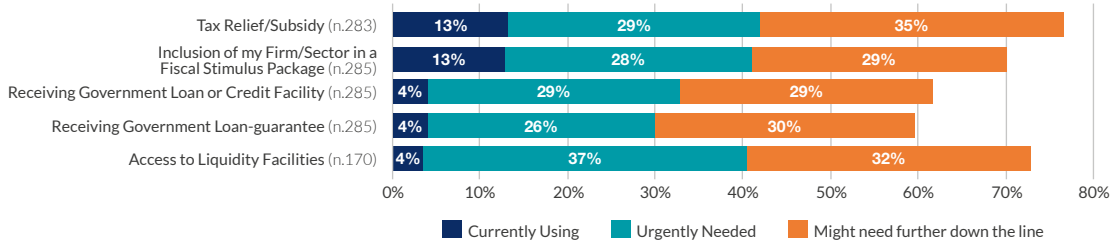
FinTechs were also asked to indicate the regulatory responses or innovations that were in use or were needed to support their business considering Covid-19. Regulatory support for eKYC was reported as the measure most commonly used, by 22% of the firms, followed by simplified due diligence, by 31% of the firms. On the other hand, faster authorization or licensing processes for new activities was reported as the most needed regulatory response (35%), followed by regulatory support for e-KYC (33%) (see Figure 84).

## Government Interventions (Top 5)

FinTechs were asked to indicate the government interventions that they feel are necessary to support their company during the pandemic.

The proportion of firms indicating current usage of government interventions in APAC was low with the most used interventions being tax relief/subsidy and inclusion in a fiscal stimulus package (both at 13%). Access to liquidity facilities (37%) was reported as the most urgently needed intervention, followed by receiving a government loan or credit facility, and tax relief/subsidy with 29% of responses each. (see Figure 85).

**Figure 85: Use of & Need for Government Interventions in APAC, by FinTech Verticals** (ranked by % of providers use & needs)




*Note that "N/A", "Not Needed" and "Unsure" responses have been omitted from this chart

# North America

### Selected section highlights

- The North American region comprises of two countries for this study, the United States of America and Canada, which collectively accounted for 10% of all FinTech respondents.
- FinTechs in North America reported higher-than average increases in total transaction volumes and number of transactions; ranking third and second highest among regions for these respectively market performance indicators. While North American Digital Payment firms reported average growth in transaction volumes that are on par with the global average Digital Lenders from this region reported a smaller average decline in transaction volumes.
- North American firms reported relatively low usage of regulatory support measures in comparison to other regions, however, 12%

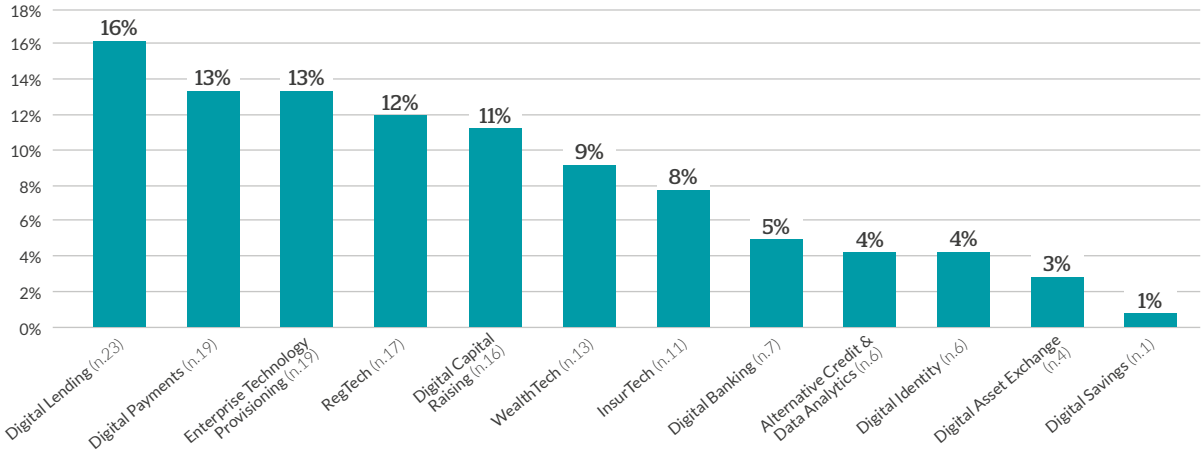
of surveyed FinTechs reported that they have worked with a FinTech innovation office, which is a comparatively high utilization rate for that initiative. Simplified eKYC, remote onboarding and simplified due diligence were the interventions mentioned as most urgent.

- Access to liquidity facilities and to a stimulus package were the most cited urgent government interventions for FinTechs from North America

This section focuses on an analysis into the survey responses from firms in North America (NA). Two countries are represented as part of this region: United States and Canada. This section includes an overview of respondents according to vertical, analysis on market performance, participation in Covid-19 relief measures or schemes, analysis on regulatory innovations and analysis on government interventions.

## Overview of North America Respondents

**Figure 86: Number of North America respondents by FinTech Vertical** (% of total responses for the region)

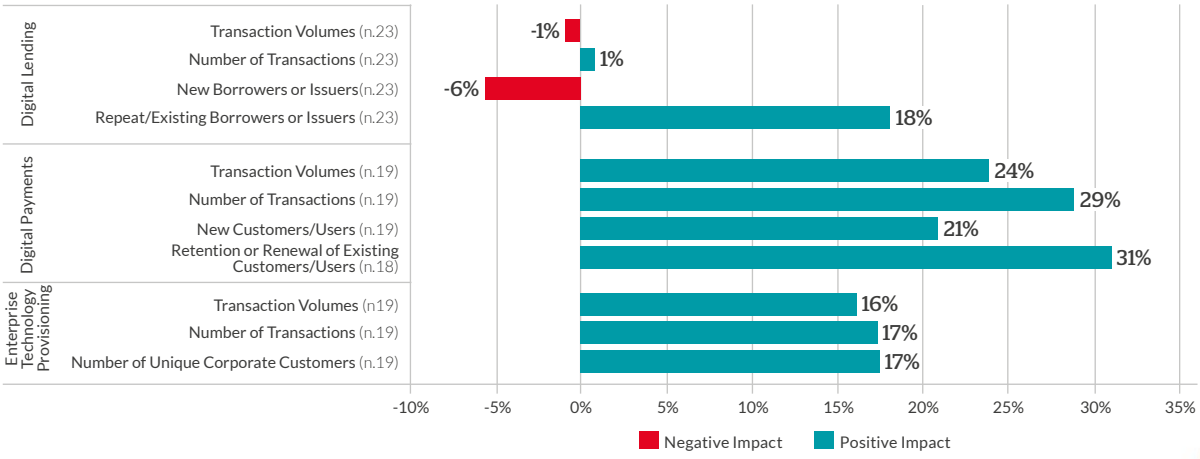



North America represents 10% of total respondents, with 142 firms. The FinTech vertical with the largest number of responses is Digital Lending, with 23 firms contributing to the survey. This is closely followed by Digital Payment (19) and Enterprise Technology Solutions (19). These top 3 verticals make up 42% of total respondents in the region (see Figure 86).

## Market Performance Indicators for Top 3 Verticals

Examining the proportionate change in firms' market performance for the first half of 2020 (Q1-Q2) compared to the same period in 2019, Digital Payments and Enterprise Technology Provisioning firms saw improvements in market performance, while Digital Lending firms saw a decline in some measures of market performance (see Figure 87).

**Figure 87: Market Performance Indicators, Digital Lending, Digital Payments, Enterprise Technology Provisioning** (% change, year-on-year H1)



Digital Payments firms reported a 24% increase in total transaction volume and 29% increase in the number of transactions. There was also a 21% growth in the number of new customers and 31% increase in the renewal of existing customers.

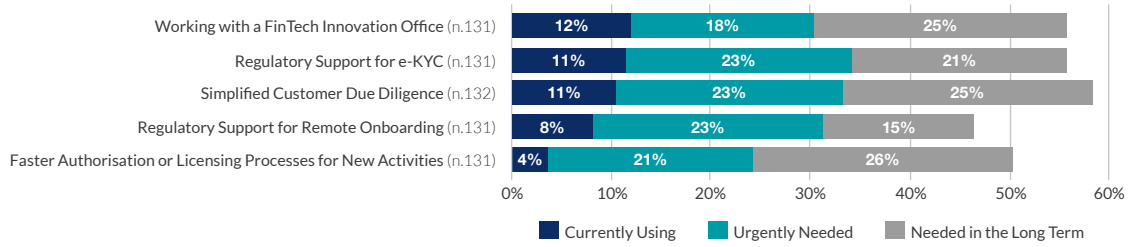
Enterprise Technology Provisioning firms indicated a 16% increase in total transaction value and a 17% increase in total transaction number. Meanwhile, the number of unique corporate customers also grew by 17%.

In contrast, Digital Lending firms reported a slight drop of 1% in total transaction volume, although there was a 1% rise in the number of transactions. The number of new borrowers or issuers also fell by 6%.

## Regulatory Responses or Innovations (Top 5)

FinTech respondents reported, of the top regulatory innovations during Covid-19, working with a FinTech innovation office as the most used, with 12% of firms indicating they were currently using the initiative. The second most widely used regulatory innovations were simplified CDD and regulatory support for e-KYC, with 11% of respondents citing the use of both. In addition, 23% of the respondents considered that support for eKYC, simplified customer due diligence and remote onboarding were urgently needed (see Figure 88).

**Figure 88: Regulatory Responses & Innovations Initiatives, Top 5 Usage & Needs in NA** (ranked by % of providers use & needs)

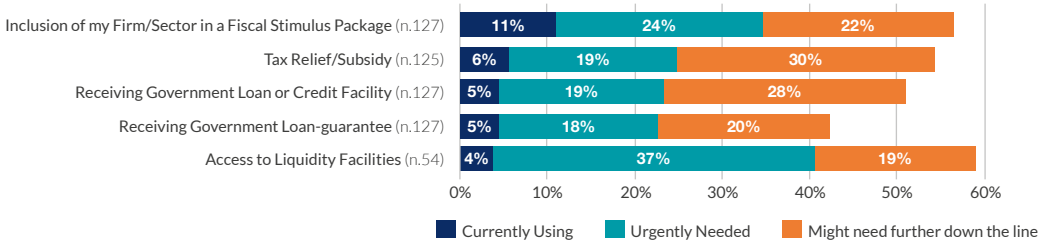



*Note that "N/A" and "Unsure" responses have been omitted from this chart

## Government Interventions (Top 5)

A limited number of firms reported having benefitted from a government intervention scheme. Inclusion in a fiscal stimulus package was the most used intervention (11% of firms). Tax relief or subsidy (6%), government loan or credit facility (5%) and government loan-guarantee (5%) were used by a smaller proportion of respondents. However, access to liquidity facilities is cited by the greatest number of firms (37%) as urgently needed, despite seeing the smallest proportion of current use (4%). The second most needed government intervention was inclusion in a fiscal stimulus package (24%), followed by tax relief or subsidy (19%) and receiving government loan or credit facility (19%) (see Figure 89).

**Figure 89: Use of & Need for Government Interventions in NA, by FinTech Verticals** (ranked by % of providers use & needs)




*Note that "N/A", "Not Needed" and "Unsure" responses have been omitted from this chart

# Europe & the United Kingdom

### Europe Selected regional highlights

- Europe (excluding the UK) accounts for 22% of the global FinTech survey sample, with the UK FinTechs contributing a further 12%. Germany and France were the leading countries in Europe in terms of having FinTech headquarter concentration.
- Overall, firms in Europe reported a higher transaction volume compared to their 2019 H1 records, this growth was however lower than the global average and third lowest when compared with other regions. For Digital Capital Raising, both investment and non-investment-based activities reported higher transaction volume growth albeit to different degrees. Conversely, Digital Lending respondents reported an average of 3% decline.
- 'Faster authorization or licensing processes for new activities' was the top regulatory measure identified as urgently needed (32%) and needed in the long-term (18%), making this regulatory support measure an important issue for 51% of European respondents.
- FinTechs from Europe were most likely to report urgently needing tax relief/subsidies followed by access to liquidity facility and inclusion in a fiscal stimulus package.

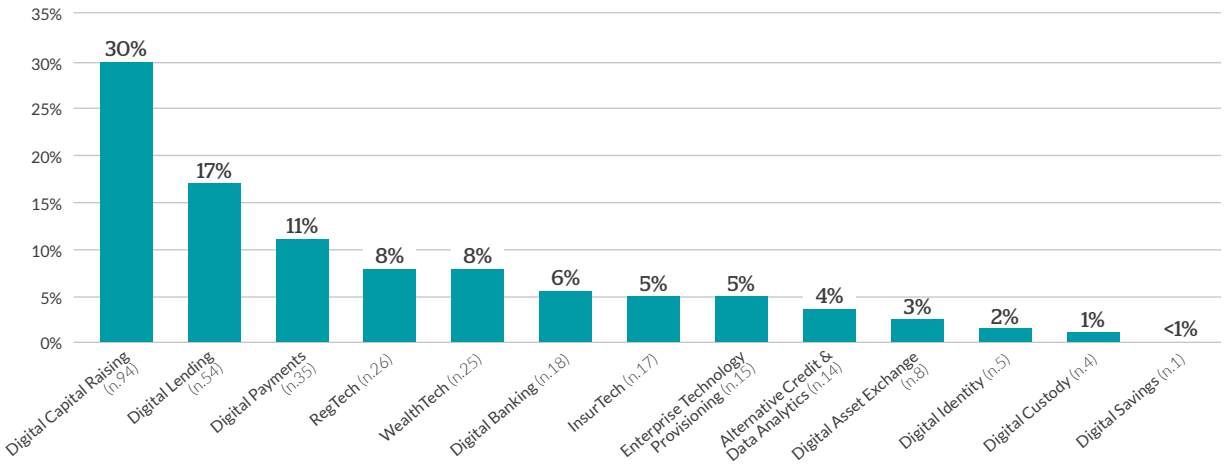
### United Kingdom Selected country highlights

- The United Kingdom had the highest concentration of FinTech headquarters of any country in our sample. The UK is regarded as a leading global FinTech hub, with UK firms having reported activities in key European countries (such as France, Germany, and the Netherlands), SSA (Kenya and South Africa), LAC (Mexico, Chile, and Brazil) and APAC regions (Australia, Malaysia, Singapore).
- While most FinTech verticals in the UK reported year-on-year H1 transaction volume growth (Enterprise Technology, Digital Payments and InsurTech etc), a reduction in total volume stems from significant contractions reported by Digital Lending (-22%) and Digital Capital Raising (-21%) firms.
- UK FinTechs indicated that regulatory support for eKYC, faster authorization or licensing processes for new activities and remote onboarding are the three most needed regulatory measures.
- UK FinTechs were most likely to report urgently needing a government loan-guarantee, sector wide recapitulation and inclusion of staff in a government job retention scheme.

This section constitutes a more in-depth analysis of the survey responses from firms in Europe (excluding the United Kingdom)[33] and an additional case-study analysis of the UK market. This section will include an overview of respondents according to vertical, analysis on market performance, participation in Covid-19 relief measures or schemes, analysis on regulatory innovations and analysis on government interventions.

## Overview of Europe (excluding UK) Respondents

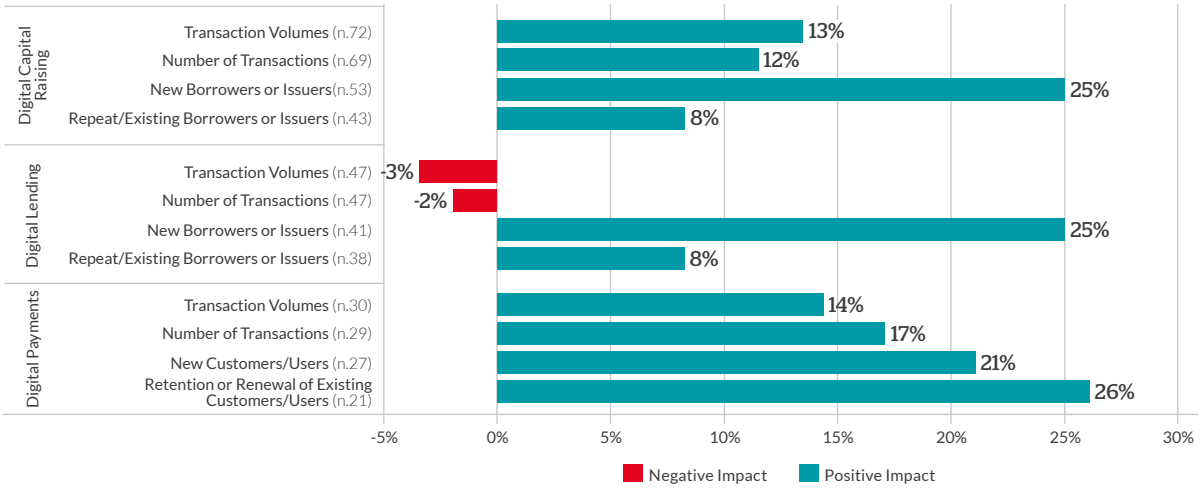
**Figure 90: Number of Europe (excluding UK) respondents by FinTech Vertical** (% of total responses for the region)




This figure presents the represented verticals of FinTech respondents in Europe. The three FinTech verticals with the largest number of responses, representing 58% of all respondents in the region, were Digital Capital Raising (30%), Digital Lending (17%) and Digital Payments (11%) (see Figure 90).

## Market Performance Indicators for Top 3 Verticals

**Figure 91: Market Performance Indicators, Digital Capital Raising, Digital Lending, Digital Payments** (% change, year-on-year H1)

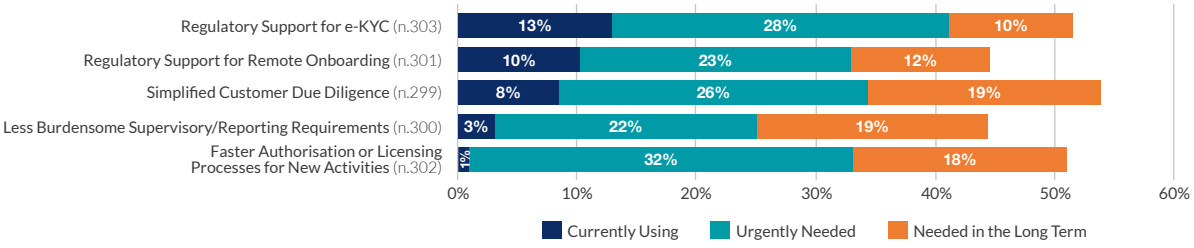



Digital Capital Raising and Digital Payments firms in Europe saw improvements while Digital Lending showed a decrease in year-on-year market performance. Digital Payments firms reported a 14% increase in total transaction volume and 17% increase in the number of transactions, the largest increase compared to other verticals while Digital Lending reported a year-on-year decrease in total transaction volume. Digital Capital Raising firms reported growth in number of new borrowers (25%) and customer retention (8%) while Digital Lending firms indicated an increase of 8% and 25% respectively and Digital Payments indicated an increase of 21% and 26% respectively (see Figure 91).

## Regulatory Responses or Innovations (Top 5)

European respondents have mostly made use of regulatory support for e-KYC (13%), remote onboarding (10%) and simplified CDD (8%). Faster authorization processes was the top regulatory measure identified as urgently needed (32%) and needed in the long-term (18%), making this regulatory innovation an important issue for 51% European respondents (see Figure 92).

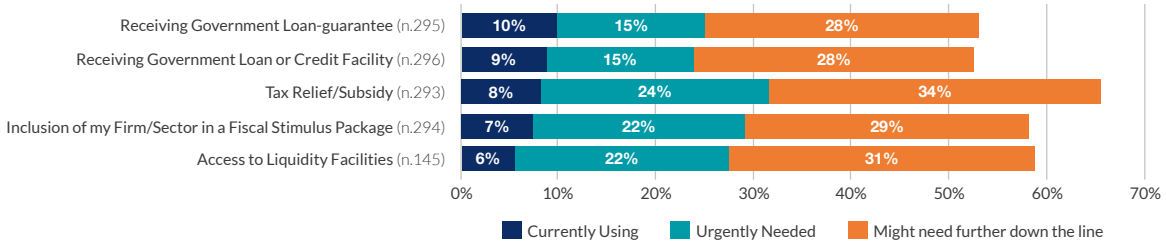
**Figure 92: Regulatory Responses & Innovations Initiatives, Top 5 Usage & Needs in Europe (excluding UK)** (ranked by % of providers use & needs)




**Note that "N/A" and "Unsure" responses have been omitted from this chart*

## Government Interventions (Top 5)

**Figure 93: Use of & Need for Government Interventions in Europe (excluding UK), by FinTech Verticals (ranked by % of providers use & needs)**




**Note that "N/A", "Not Needed" and "Unsure" responses have been omitted from this chart*

A limited number of firms were benefitted from government intervention schemes. The most used interventions were the reception of a government loan guarantee reported by 10% of the firms, and of a loan or credit facility by 9% of the firms. Tax reliefs and subsidies were reported as urgently needed by 24% of the firms, followed by inclusion in fiscal stimulus package and access to liquidity facilities which were considered urgently needed by 22% of the respondents (see Figure 93).

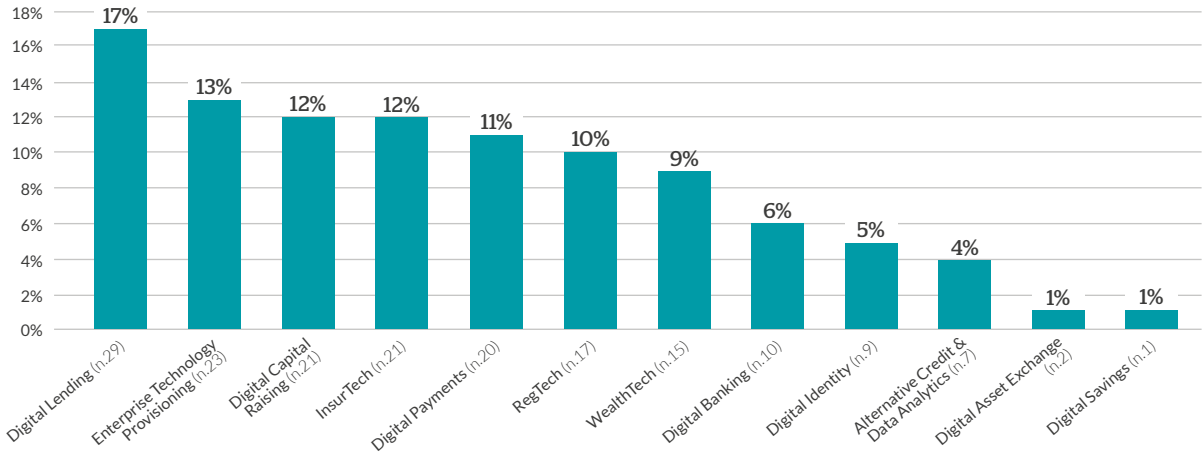
## United Kingdom – a Country-Level Case Study

### Country context and overview of Respondents

With a large concentration of FinTech activities and active government support for this sector, the United Kingdom (UK) serves as an important case study to understand both opportunities and challenges presented by Covid-19 for the FinTech industry. Of all countries observed in this study, the UK had the single largest concentration of firms, with 175 firms headquartered there, and an additional 113 with operations within this market. The UK market alone represented 12% of all global FinTech respondents surveyed.

The UK FinTech sector, estimated to employ 76,500 individuals[34], continues to enjoy favorable governmental policies and attention. While acknowledging the vulnerability of FinTechs during the pandemic, the Bank of England[35] states that FinTech is expected to continue contributing to financial stability, competition, other regulatory objectives and to the wider economy. The UK is also regarded as a leading global FinTech hub which not only supports domestic FinTechs in expanding globally but also attracts overseas FinTechs[36]. UK FinTechs also reported activities in key European countries (such as France, Germany, and the Netherlands), SSA (Kenya and South Africa), LAC (Mexico, Chile, and Brazil) and APAC regions (Australia, Malaysia, Singapore).

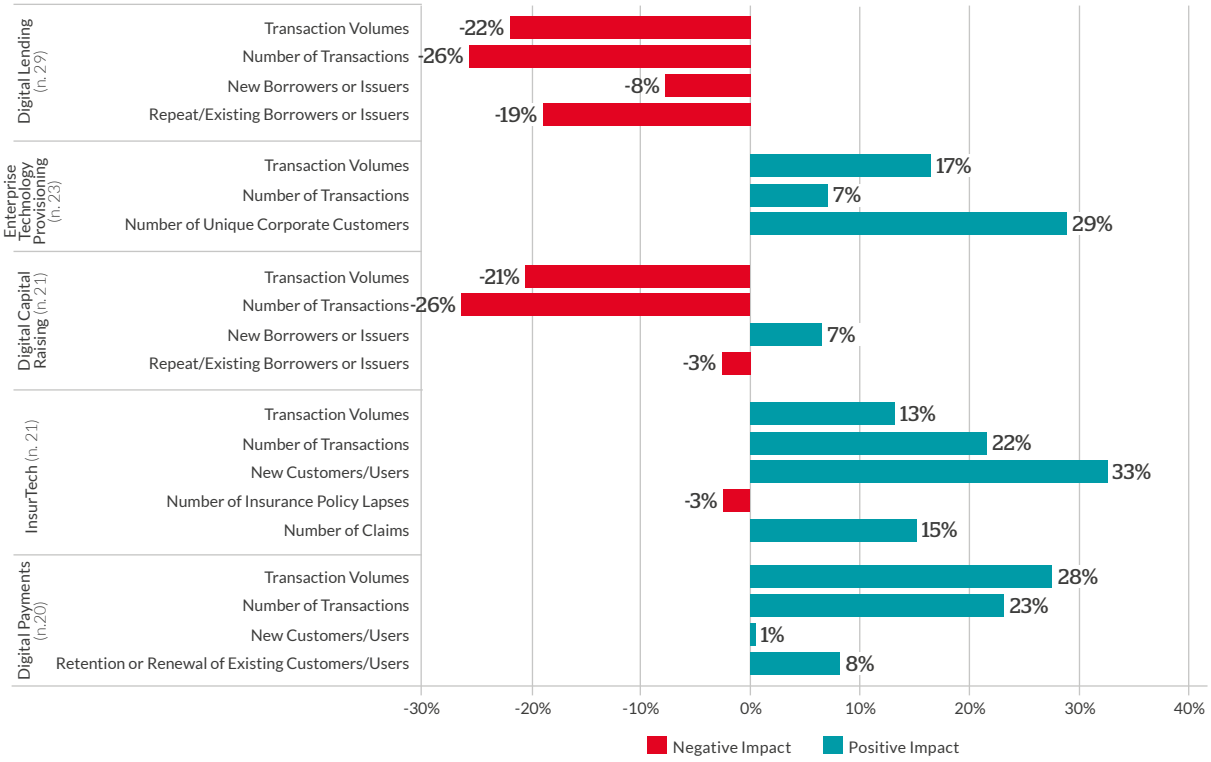
**Figure 94: Number of UK respondents by FinTech Vertical (% of total responses)**




The UK FinTech ecosystem also features considerable diversity, incorporating 12 of the 13 primary verticals presented in this report. 17% of the UK respondents operated within Digital Lending, followed by Enterprise Technology Provisioning firms (13%), Digital Capital Raising (12%), InsurTech (11%) and Digital Payments (11%) (see Figure 94). It is worth noting that these figures relate to the number of firms within the UK, and do not attempt to qualify the relative size of UK market share.

## Market Performance Indicators for Top 5 Verticals

**Figure 95: Market Performance Indicators for Top 5 Verticals (% change, year-on-year H1)**




When measuring key metrics related to market performance for the top five verticals (which make up 68% of the observed UK panel), two of the three verticals observed reported growth in key metrics, while both Digital Lending and Digital Capital Raising reported year-on-year declines. Specifically, Digital Lending firms reported a year-on-year transaction volume reduction by 22%, and the total number of transactions decreased by 26%. Digital Capital Raising firms also reported a reduction in total transaction volume. It is important to note that the results captured in this study are skewed towards investment-based activities, as over 90% of responses collected came from Equity Crowdfunding or Real Estate Crowdfunding firms. Other verticals reported more positive trends in key market performance indicators. For instance, Enterprise Technology Provisioning and Digital Payments reported an increase across all market performance indicators with Digital Payment firms reporting the highest increase in total transaction volume of 28%.

The data shows that the overall response to Covid-19, demonstrated by UK respondents, is highly dependent on vertical (see Figure 95).

Furthermore, as discussed in the methodology section, weighting (for instance according to the revenue of the firm or market share) was not applied in regard to market performance, as this rapid assessment aims to understand broad directional changes in FinTech markets, not to collect precise transaction volume data. This rapid assessment study also focused on the comparative analysis of H1 2020 to relation to H1 2019. The market conditions for FinTech sectors can obviously change in Q3 and Q4 2020. Therefore, the findings for the UK FinTech market performance in light of Covid are indicative only, as for other markets included in the study.

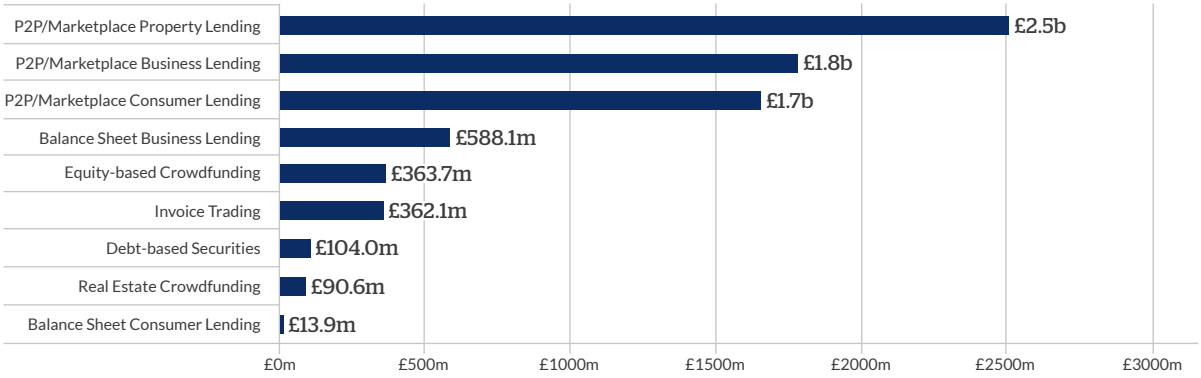
## Transaction Volume for Key Models in the UK - 2019

However, the analysis of the UK FinTech market does benefit from CCAF's collection of time-series transaction volume data over the last 8 years, especially focusing on key models within the Digital Lending and Digital Capital Raising verticals. These key models play important role to facilitate funding for consumers, start-ups and SMEs in the UK and are collectively analyzed as the 'online

alternative finance sector' in a series of industry benchmarking reports published by the CCAF and its collaborators. Typically, FinTechs would report realized annual transaction data in the next calendar year, therefore, surveyed UK firms in this case provided their 2019 yearly data in 2020 via the parallel global alternative finance benchmarking survey, also administrated during Covid-19.

Focusing on the performance of the UK Digital Lending and Digital Capital Raising firms in 2019, the following analysis provides a useful baseline and a more holistic context to understand the dynamics of the UK FinTech industry. As a country case study, it also illustrates the value of collecting and analyzing sector-wide and longitudinal transaction datasets to understand the socio-economic impact of FinTech, especially in the context of traditional finance. It demonstrates, importantly, what kind of follow-on study the research team will set out to design and implement in 2021, when we aim to collect full year transaction data for 2020 in order to truly understand the impact of Covid-19 on the FinTech markets globally.

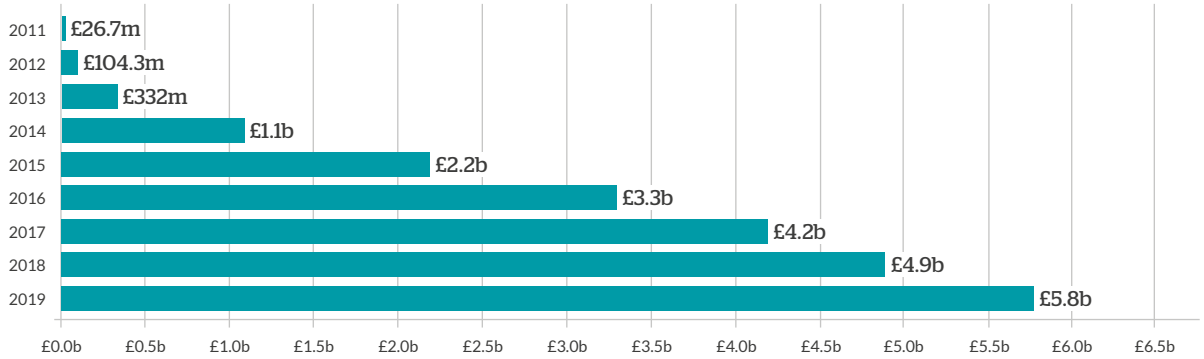
**Figure 96: Online Alternative finance volume by key models in the UK in 2019 (£ billions)**




Based on the data provided by 67 UK Digital Lending and Digital Capital Raising firms (captured both through this study and the annual alternative finance benchmarking study), as Figure 96 illustrates that for 2019, P2P/Marketplace Property Lending was the largest model in terms of transaction volume in online alternative finance in the UK, followed by P2P/Marketplace Business Lending and P2P/Marketplace Consumer Lending. This data-set isolates volume attributed solely to Balance-sheet activities, although it is worth noting that in most cases, firms operating a P2P/Marketplace Lending activity will also run Balance Sheet activities alongside their core business model.

## SME-Focused Finance

**Figure 97: Total UK SME Alternative Finance Volume in 2011-2019 (£billions)**



A hallmark of the UK's alternative finance industry is its capability to facilitate funding for SME borrowers, issuers and fundraisers. In 2019, £5.8 billion (or 77% of the UK's total alternative finance volume) was raised through online channels for business borrowers, issuers and fundraisers, representing an 18% increase in the volume against the previous year (see Figure 97). Funding for businesses was mainly raised by debt-based models, with £5.3 billion being raised in this category, accounting for 92% of all business funding. Investment-based models accounted for £454.3 million (or 7.8% of business funding) (see Figure 98).

**Figure 98: Distribution of Alternative Finance by Category (£billions) - 2019**

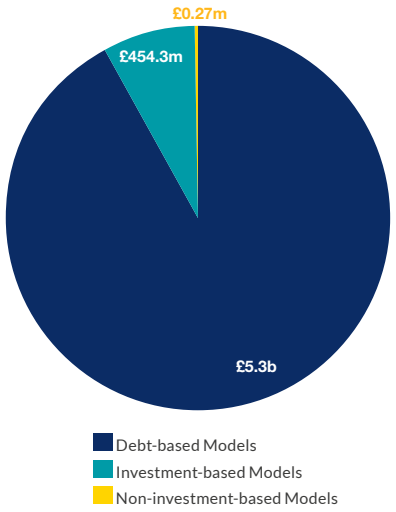
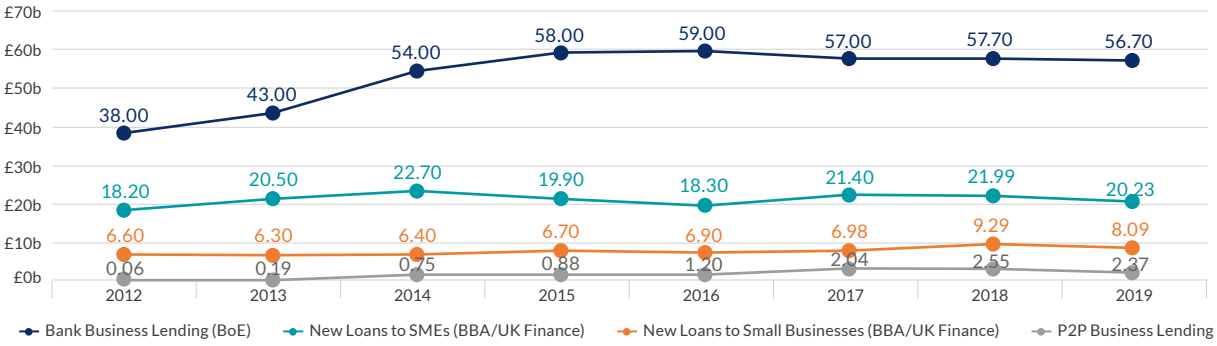
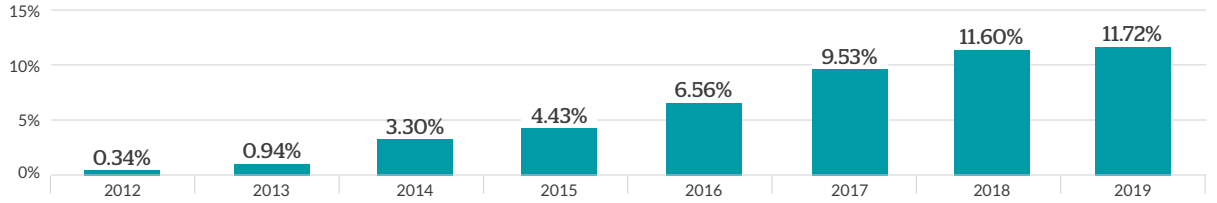



**Figure 99: P2P/Marketplace Business Lending Compared to Bank Lending in 2012-2019 (£billions)**



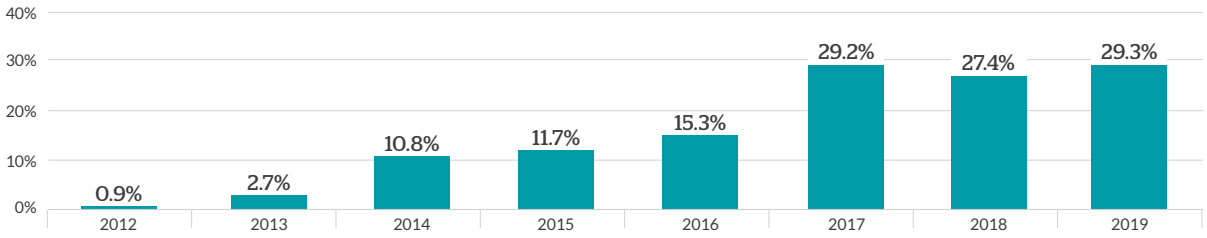

When contextualizing business finance that stems from the P2P/Marketplace Business Lending model, this chart (see Figure 99) illustrates the change in the business lending market volume across the last seven years when comparing with traditional bank-lending activities. The Bank of England estimates that £56.7 billion was lent to SMEs by banks in 2019, representing a 1.7% decrease compared to the 2018 figure of £57.7 billion. On the other hand, UK Finance estimates that £8.09 billion was lent to businesseswith a turnover below £2 million (therefore classified as small businesses), and another £12.14 billion to businesses with a turnover below £25 million by the UK banks. In comparison, the P2P/Marketplace business lending market decreased by 7% in volume from 2019 to 2018, accounting for £2.37 billion in 2019 compared to £2.55 billion in 2018. In this case, the P2P/Marketplace Business Lending figure is inclusive of P2P/Marketplace Business Lending as well as Balance Sheet Business Lending volumes.

**Figure 100: P2P/Marketplace Business Lending as a proportion of Total New Loans to SMEs by banks in the UK, 2012-2019**



A comparison of the UK P2P/Marketplace Business Lending volume against that of the UK Finance annual estimate of new loans to SMEs provided by banks, shows that online alternative business lending has increased its comparative share of total bank lending to SMEs steadily from just 0.34% in 2012 to 11.60% in 2018 to its highest level of 11.72% in 2019 (see Figure 100).

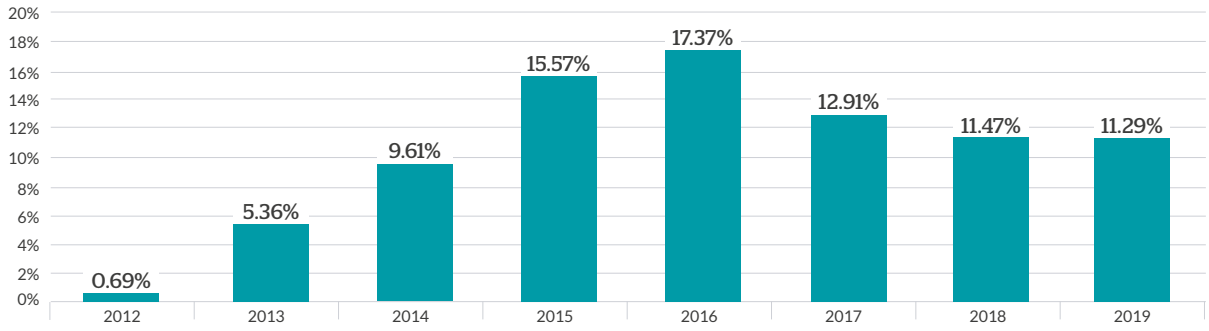
**Figure 101: P2P/Marketplace Business Lending as a percentage of New Loans to Small Businesses by banks in the UK, 2012-2019**




P2P/Marketplace Business Lending is becoming an even more important contributor to the financing of small businesses, which are typical borrowers obtaining finance via online alternative finance as they do not have the ability to access capital markets as larger firms do. In 2019, the volume of P2P/Marketplace Business Lending in the UK is estimated to be equivalent of 29.32% of all lending to *small* businesses with an annual turnover of less than £2 million (see Figure 101).

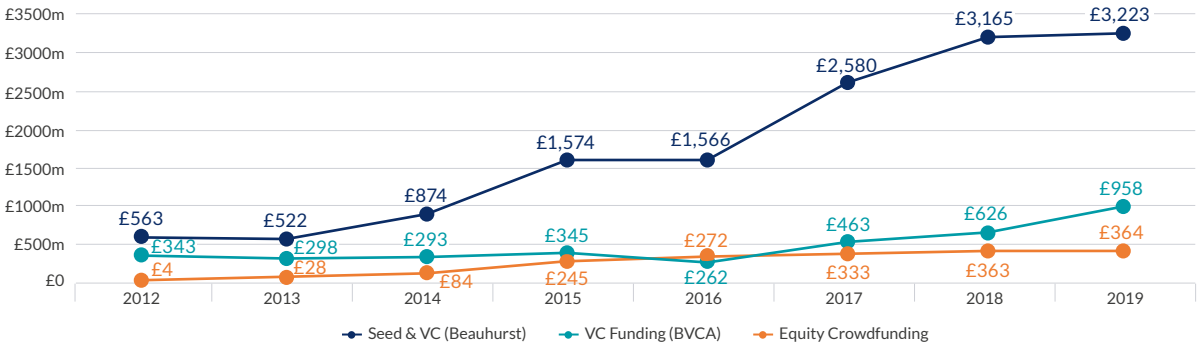
Equity-based crowdfunding is also a vital source of funding for seed, start-up, early stage and fast-growing companies seeking venture or growth capital. Figure 102 shows investment through equity-based crowdfunding as a *proportion* of total seed and venture stage equity investment in the UK over the last 7 years.

**Figure 102: Equity-based Crowdfunding as a Proportion of Total Seed & Venture Stage Equity Investment in UK 2012-2019 (Beauhurst)**




Beauhurst data suggest that seed and venture stage funding increased slightly from £3.17 billion in 2018 to £3.23 billion in 2019 with a 1.9% year-on-year growth rate. Furthermore, the volume of equity-based crowdfunding is on an upward trajectory growing from just £3.9 million in 2012 to £363 million in 2018 and to £364 million in 2019. Despite the growth in absolute terms, equity crowdfunding platforms' share of all such equity funding in the UK dropped from 17.37% in 2016 to 11.47% in 2018. This trend continues in 2019 with a slight year-on-year drop in this share to 11.29% (see Figure 103).

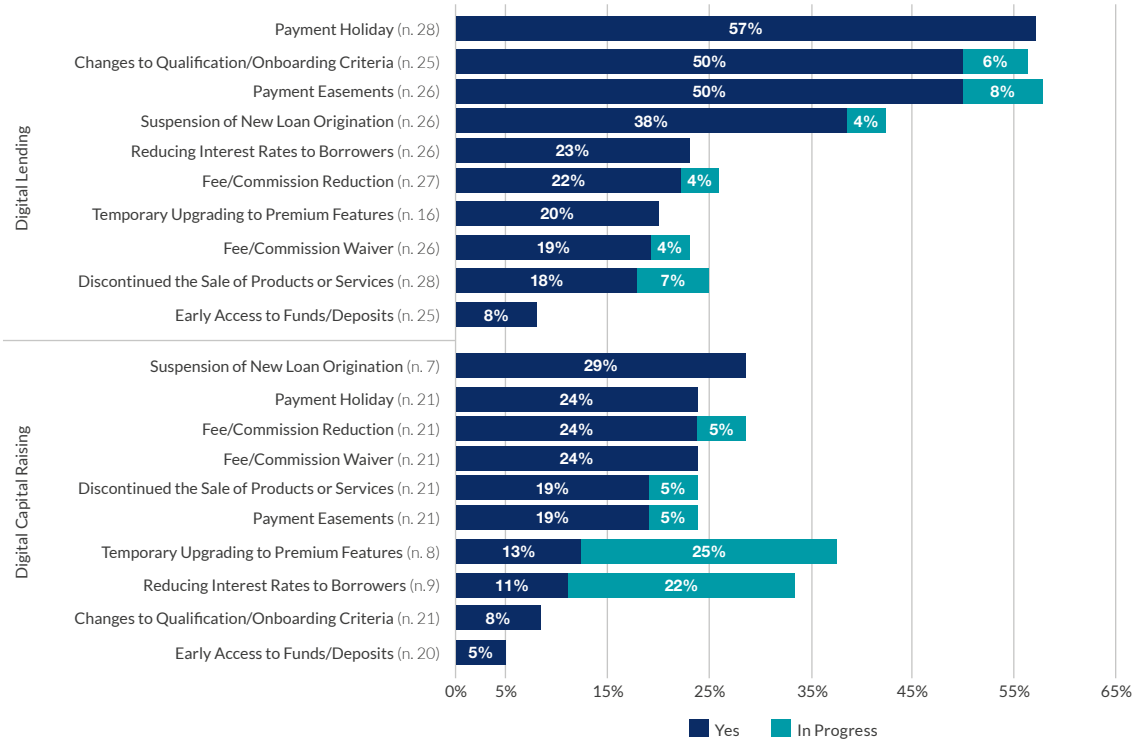
**Figure 103: Equity-based Crowdfunding Volumes in the Context of Announced Total UK Seed and Venture Stage Equity** (£millions)




## Changes to Products and Services

Turning back to the *Covid-19 FinTech Market Rapid Assessment Survey*, it is worth reviewing the ways in which these firms have modified or adjusted their core products, service agreements and terms to accommodate for the changing needs of their customers.

**Figure 104: Changes to Existing Products & Services, UK Digital Lending & Digital Capital Raising** (% of providers; yes, in progress)



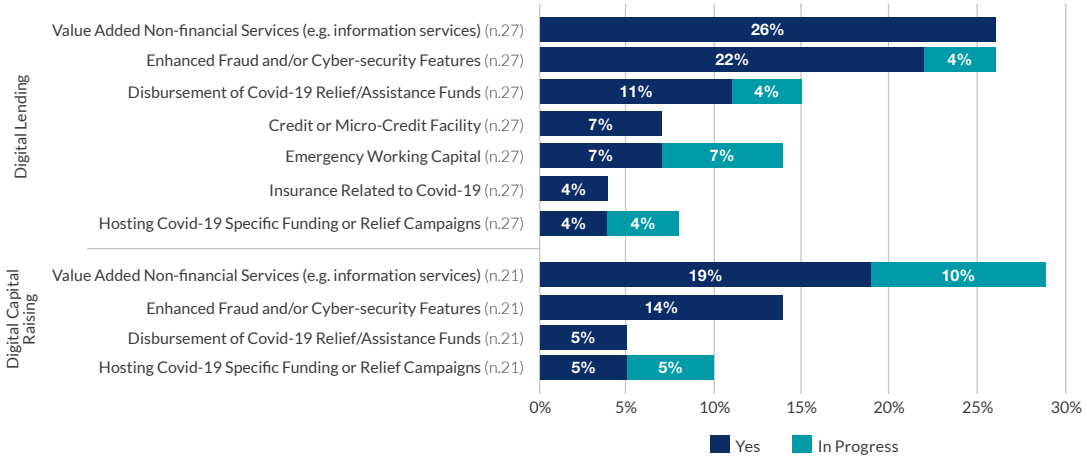

**Note that "N/A" and "No" responses have been omitted from this chart*

For Digital Lending firms, payment holidays were implemented by the largest number of firms (57%) with a further 6% in the process of doing so. Payment easements and changes to qualification/ onboarding criteria were implemented by 50% of the surveyed UK firms with a further 8% in the process of doing so.

When considering Digital Capital Raising, temporary upgrading to premium features had the highest percentage of firms that either implemented the change (13%) or was in the process of implementing the change (25%). On balance, it is evident that UK FinTechs have been actively responding to Covid-19, implementing several changes that are focused, particularly, on customer acquisition and retention (see Figure 104).

## New Products and Services

**Figure 105: New or Updated Products/Services/Features, Digital Lending and Digital Capital Raising**
(% of respondents; yes, in progress)

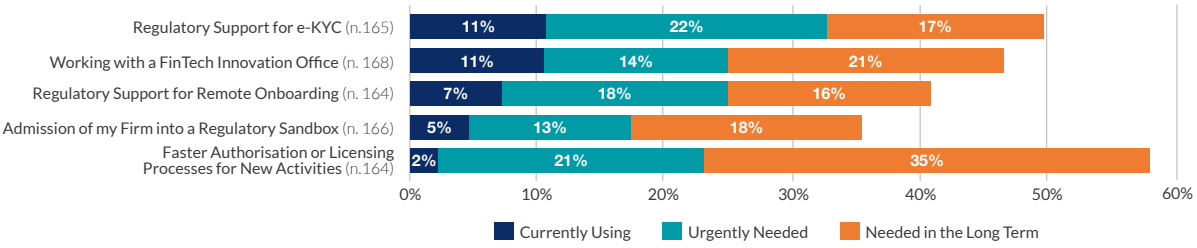



*Note that "N/A" and "No" responses have been omitted from this chart

UK firms were asked to indicate the new or updated products and services they launched as a direct result of Covid-19. "Value-Added Non-financial Services (e.g. information services)" was the most common new product introduced by Digital Lending (26%) and Digital Capital Raising (19%). "Enhanced Fraud and/or Cyber-security Features" were the second most commonly created new products by 22% of the Digital Lending firms and 14% of Digital Capital Raising firms. Overall, Digital Lending firms again show a higher percentage of implemented changes to products and services compared to Digital Capital Raising. For instance, the top two changes for both Digital Lending firms and Digital Capital Raising firms were Value-Added Non-Financial Services and Enhanced Fraud and/or Cyber-security Features (See Figure 105).

## Regulatory Responses or Innovations (Top 5)

**Figure 106: Regulatory Responses & Innovations Initiatives, Top 5 Usage & Needs in UK** (ranked by % of providers use & needs)

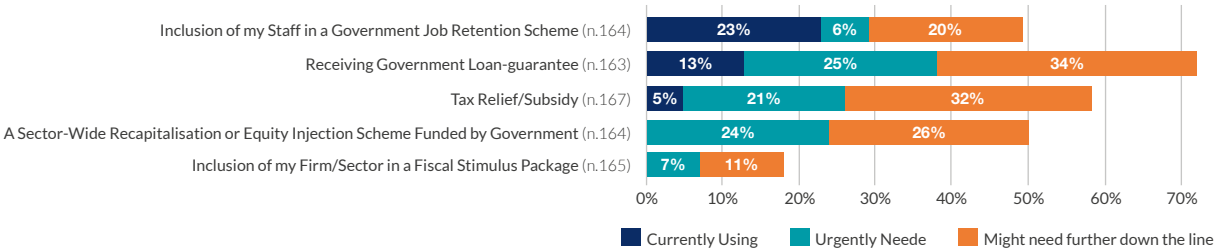



*Note that "N/A" and "Unsure" responses have been omitted from this chart

UK firms were asked to indicate which regulatory responses or regulatory innovation initiatives would support their FinTech businesses to better respond to Covid-19. Regulatory support for e-KYC and working with an innovation office were the measures most commonly used, with 11% of the firms reporting their use. But regulatory support for e-KYC and faster authorization licensing processes for new activities were the two measures that most firms considered that were urgently needed (See Figure 106).

## Government Interventions (Top 5)

**Figure 107: Use of & Need for Government Interventions in the UK, by FinTech Verticals** (ranked by % of providers use & needs)




*Note that "N/A", "Not Needed" and "Unsure" responses have been omitted from this chart

In terms of government interventions and policies, inclusion in job retention scheme was reported as being in use by 23% of the firms, followed by a government loan guarantee which was reported to be in use by 13% of the firms. Receiving a government loan guarantee and a recapitalization or equity injection were the measures that most firms reported as urgently needed. Only 7% of firms indicated an urgent need for fiscal stimulus package (see Figure 107).

For the tax relief or subsidy, the vertical with the highest percentage of firms `currently using' was Digital Identity (22%) followed by Digital Capital Raising (21%) and InsurTech (20%). For receiving a government loan guarantee, the highest percentage of firms `currently using' was Alternative Data and Credit Analytics (17%) followed by Digital Payments (11%), Enterprise Technology Provisioning (10%) and InsurTech (10%). Finally, for the inclusion of staff in a government job retention scheme, the highest percentage of firms currently implementing was Digital Lending (43%) followed by Digital Capital Raising (42%) and Digital Banking (38%).

## Latin America and the Caribbean

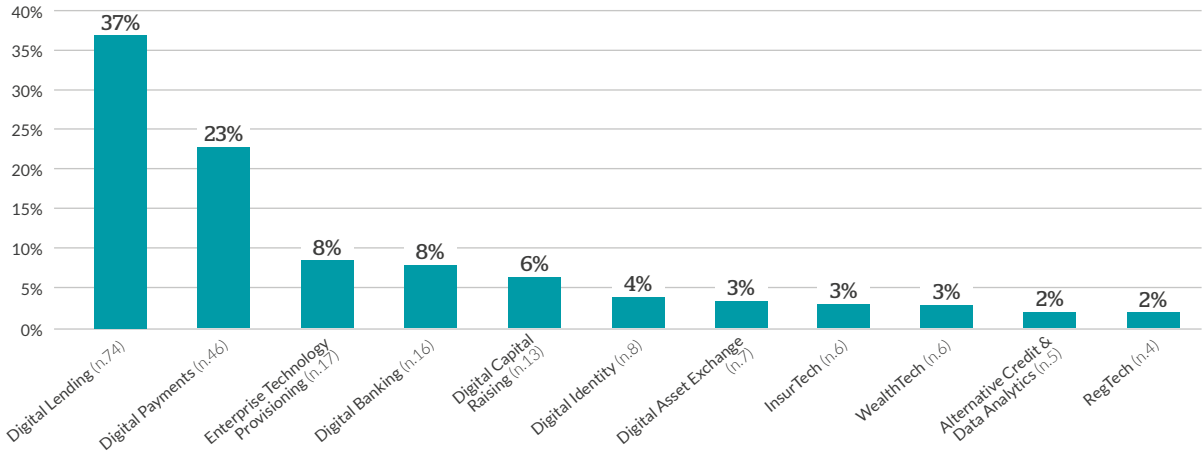
### Selected regional highlights

- The LAC region accounted for 14% of all the responses to the survey. The most represented verticals were Digital Lending, Digital Payments and Enterprise Technology Provisioning. accounting for 68% of the total regional observations.
- Market performance indicators in LAC, among the three most represented verticals, were largely positive, except for transaction volume for Digital Lending and Enterprise Technology Provisioning which reported contractions.
- The most utilized regulatory response among LAC respondents was regulatory support for e-KYC. The most urgently needed regulatory support measures were faster authorization for new activities and streamlined product or services approvals.
- A significant portion of participants in LAC indicated an urgent need for government interventions. Nearly half of the firms stated an urgent need for access to liquidity or inclusion of their firm or vertical in a fiscal stimulus package.

This section presents a more detailed analysis of survey responses from firms in the Latin America and the Caribbean (LAC).[37] This includes an overview of respondents according to vertical, analysis on market performance, participation in Covid-19 relief measures or schemes, analysis on regulatory innovations and analysis on government interventions

## Overview of LAC Respondents

**Figure 108: Number of LAC respondents by FinTech Vertical** (% of total responses for the region)




The LAC region accounts for 14%, or 202 total responses to the survey. The most represented vertical is Digital Lending with 37% of the participants. The second-most represented vertical was Digital Payments, accounting for 23%, followed by Enterprise Technology Provisioning, at 8% (see Figure 108).

## Market Performance Indicators for Top 3 Verticals

**Figure 109: Market Performance Indicators, Digital Lending, Digital Payments, Enterprise Technology Provisioning** (% change, year-on-year H1)

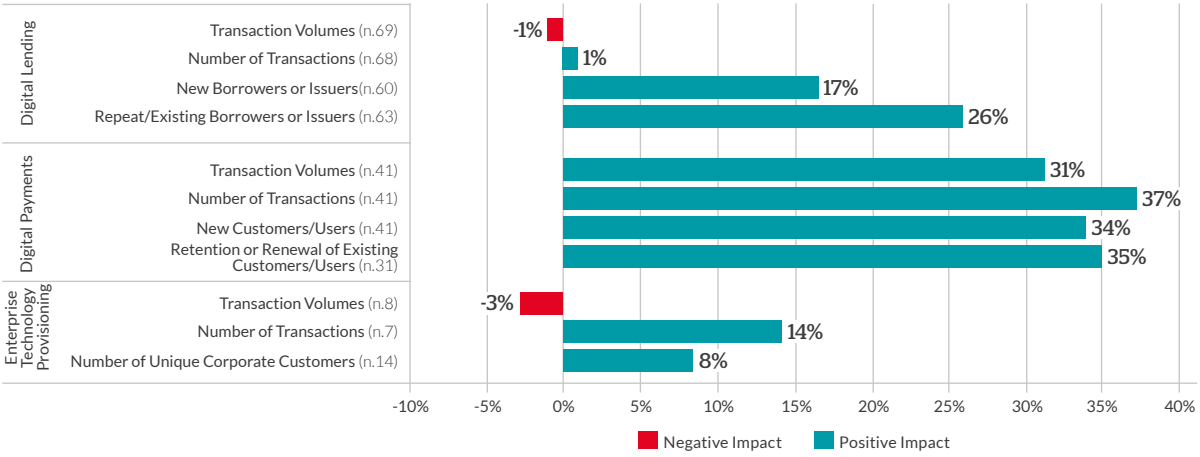
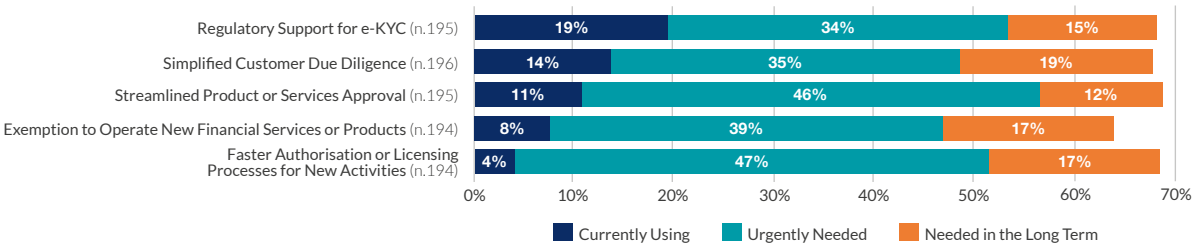



Figure 109 shows the market performance of LAC's Top 3 verticals: Digital Lending, Digital Payments and Enterprise Technology Provisioning. Digital Lending firms indicated a decrease of 1% in the volume of transactions and an increase of 1% in the number of transactions, as well as an increase of 25% for the number of new customers and 17% for the number of new borrowers, unlike the overall trend for this market. Digital Payment firms show the largest increase across the four market performance indicators, showing an increase in the volume of transactions by 31%, an increase in the number of transactions by 37%, an increase in the number of new customers by 34% and an increase in the number of new borrowers by 11%. Enterprise Technology Provisioning firms in the LAC region reported a 3% decrease in the volume of transactions year-on-year, an increase in the number of transactions by 14% and an increase in the number of unique corporate customers by 8%.

## Regulatory Responses or Innovations (Top 5)

**Figure 110: Regulatory Responses & Innovations Initiatives, Top 5 Usage & Needs in LAC** (ranked by % of providers use & needs)

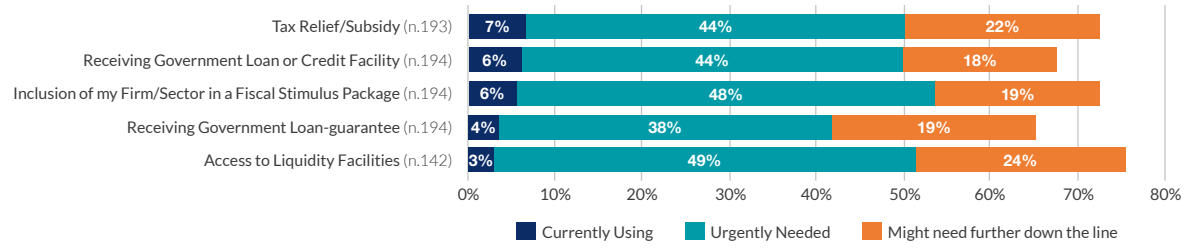



*Note that "N/A" and "Unsure" responses have been omitted from this chart

Regulatory support for e-KYC was the regulatory measure that most firms were using, at 19%. This was followed by `Simplified CDD' with 15% and `Streamlined Product or Service Approval' with 11%. Firms indicated the most urgently needed regulatory support measures as Faster authorization or Licensing Processes for New Activities (47%). This was closely followed by `Streamlined Product or Service Approval' with 46% and then `Exemption to operate New Financial Services of Products' with 39% of respondents (see Figure 110).

## Government Interventions (Top 5)

**Figure 111: Use of & Need for Government Interventions in LAC, by FinTech Verticals** (ranked by % of providers use & needs)




*Note that "N/A", "Not Needed" and "Unsure" responses have been omitted from this chart

A limited number of firms reported the use of government interventions. The intervention with the highest percentage of firms using was tax relief/ subsidy with 7% followed by inclusion of firm in fiscal stimulus package and receiving government loan or credit facility (both 6%). For each form of government intervention, a significant portion of participants indicated an urgent need. The highest percentage of firms stated an urgent need for access to liquidity (49%) closely followed by inclusion of their firm or vertical in a fiscal stimulus package (48%) (see Figure 111).

# Middle East and North Africa

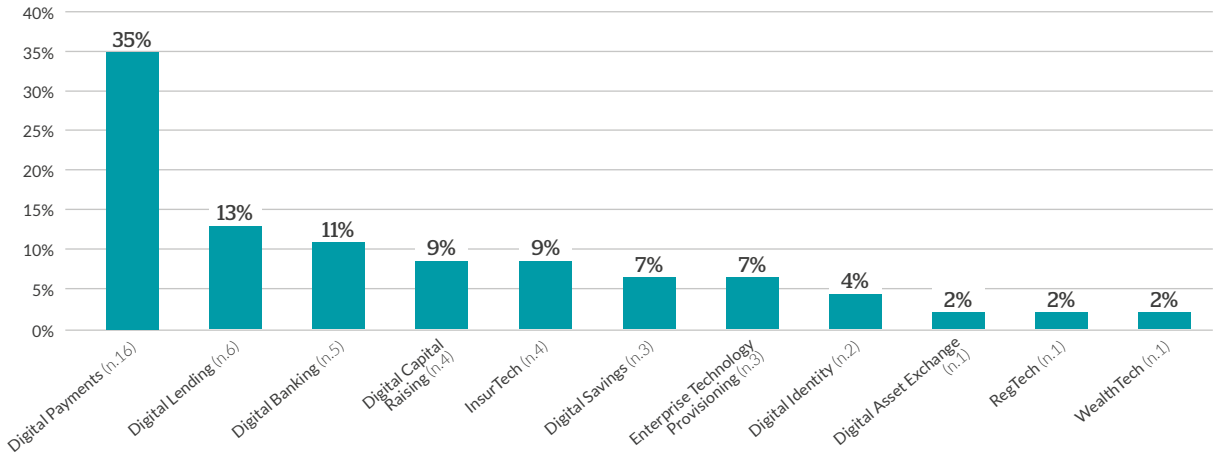
### Selected regional highlights

- MENA firms represent 4% of the global FinTech sample with the leading countries in terms of headquartered FinTechs being United Arab Emirates, Egypt and Israel.
- The most represented verticals in MENA were Digital Payments followed by Digital Lending and Digital Banking.
- FinTechs from MENA reported the largest average growth, in comparison to other regions, for nearly all market performance indicators tracked in this study.
- The most utilised regulatory response among MENA respondents was regulatory support for e-KYC. But exemptions to operate, faster approval process or streamlined procedures were the type of interventions that most firms considered urgently needed.
- The government intervention that was reported as most needed in MENA was inclusion in a fiscal stimulus package and access to liquidity facilities.

This section provides a more in-depth analysis of the survey responses from firms in the Middle Eastern and North African (MENA) region.[38] An overview of responses according to industry vertical is presented, followed by an analysis of market performance, information concerning participation in Covid-19 relief measures and the use of regulatory innovations.

## Overview of MENA Respondents

**Figure 112: Number of MENA respondents by FinTech Vertical** (% of total responses for the region)




The Middle East and North Africa (MENA) region represented 46 firms and 4% of the total 1,428 survey respondents. The countries with the largest number of firms are the United Arab Emirates (14), Egypt (10) and Israel (9). Over a third (35%) of responses came from firms operating in the Digital Payments vertical (16 firms), followed by Digital Lending (13%, 6 firms) and Digital Banking (11%, 5 firms). Combined, the top three FinTech verticals represent nearly 60% of participating firms in the region (see Figure 112).

## Market Performance indicators

**Figure 113: Market Performance Indicators, Digital Payments, Digital Lending & Digital Banking** (% change, year-on-year H1)

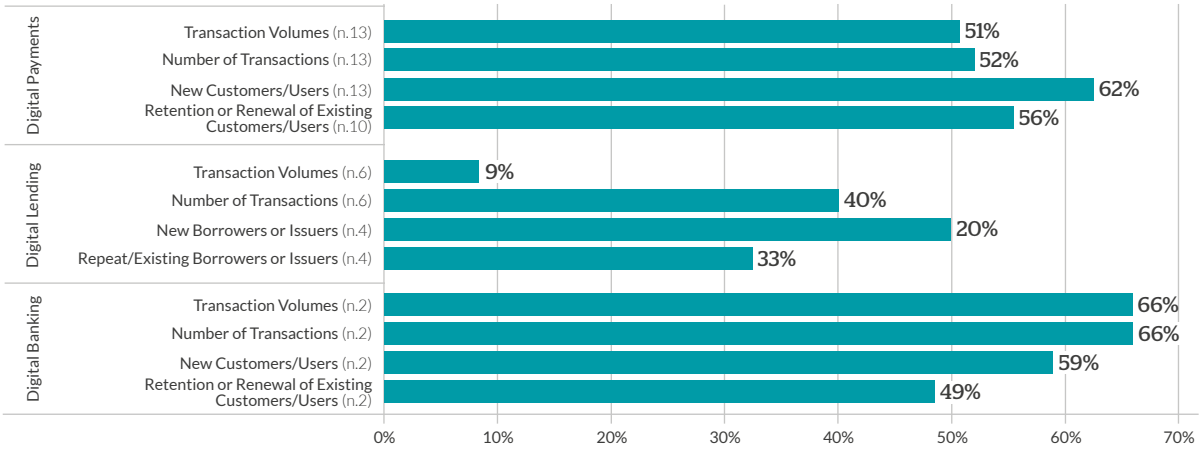
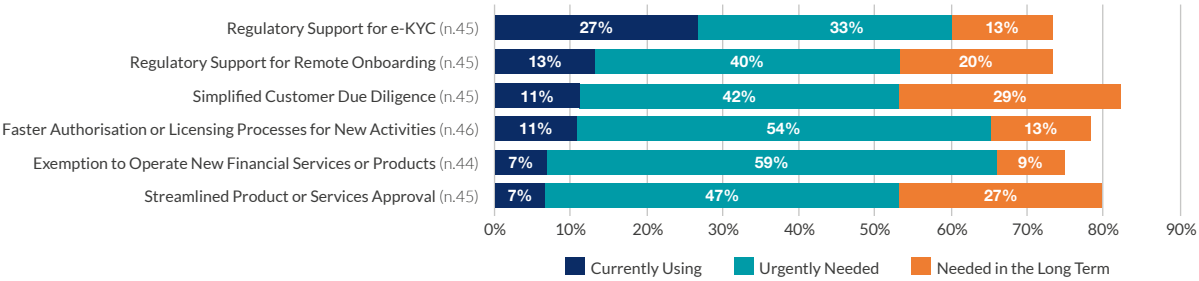



Figure 113 shows the market performance for the top three verticals in the MENA region. Firms reported markedly more positive growth compared to other regions in terms of transaction volume, number of new customers and the retention of existing customers. Digital Payments firms, similar to Digital Banking showed significantly positive growth compared to other regions, reporting a

62% increase in the number of new customers or users, along with a 52% and 51% increase in transaction volume and the number of transactions respectively. Furthermore, the growth exhibited by Digital Lending firms in MENA runs contrary to trends in other regions that saw a decline in lending activity for digital lenders.

## Regulatory Responses or Innovations (Top 5)

**Figure 114: Regulatory Responses & Innovations Initiatives, Top 5 Usage & Needs in MENA** (ranked by % of providers use & needs)



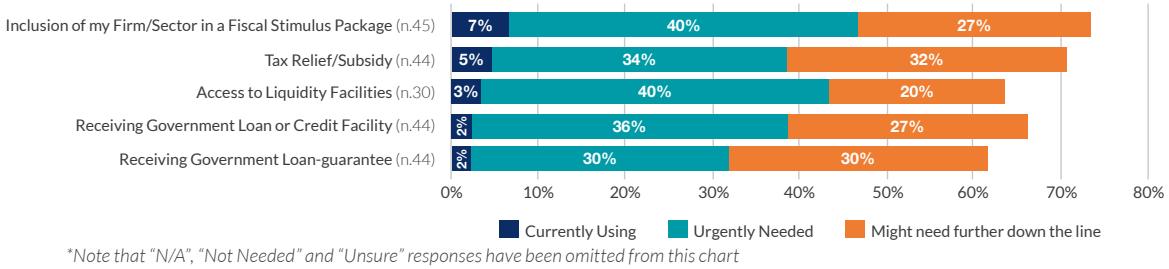

**Note that "N/A" and "Unsure" responses have been omitted from this chart*

Figure 114 shows the usage of and need for regulatory responses or innovation according to MENA firms. In terms of current usage, the largest number of FinTechs in the region reported using regulatory support for e-KYC (27%), followed by regulatory support for onboarding (13% of the firms). However, 59% of the firms considered that exemptions to operate new financial services or products are urgently needed, followed by faster authorizations or licensing processes and streamlined approval procedures. With regards to the participation of MENA firms in Covid-19 Relief Measures across all verticals, 13% of respondents were already engaged in delivering government-based stimulus funding to consumers or households, and a further 33% would be willing to participate.

## Government Interventions (Top 5)

Figure 115 shows the use of and need for government interventions by MENA respondents. Only a very small percentage of firms reported currently using a government intervention. For example, only 7% reported inclusion in fiscal stimulus package and 5% benefitting from tax relief. But inclusion in a fiscal stimulus package and access to liquidity facilities were mentioned by 40% of firms as urgently needed.

**Figure 115: Use of & Need for Government Interventions in MENA, by FinTech Verticals** (ranked by % of providers use & needs)




**Note that "N/A", "Not Needed" and "Unsure" responses have been omitted from this chart*

# Conclusion

This Study provides a rapid assessment of the initial impact of Covid-19 on the global FinTech industry. It indicates that, overall, FinTechs have continued to grow, albeit in a fluid environment mixed with challenges and opportunities. The performance of the FinTech industry is highly uneven across verticals and geographies. Indeed, Digital Lending firms appear to be more severely affected by the pandemic, reporting contractions across many key performance indicators. By the same token, certain geographic regions seem to have fared better than others. Overall, FinTech markets in EMDEs and in jurisdictions with more stringent Covid-19 lockdown measures appear to be growing more in comparison with those in AEs and lower stringency jurisdictions.

Given the important role that FinTechs can play in supporting the advancement of key developmental objectives, such as financial inclusion, it is necessary for policymakers to have a clear understanding of the regulatory and governmental needs sought by FinTechs. By understanding which additional policy interventions or regulatory measures could provide support to this nascent industry, research such as this can assist policy makers in navigating this challenging environment.

With respect to policy interventions, a key finding from this Study is that a limited number of firms have benefitted from government relief programs thus far, and many more urgently needing government-based assistance. Further research is required to better understand whether this limited use reflects a more general pattern, in terms of the limited scope and capacity that many governments have had to provide economic relief to households and firms, or whether FinTechs have benefitted proportionately less than other sectors from the economic relief programs instituted in a given jurisdiction. In this context, the relevant research findings from this Study could help inform the policy-making processes in the provision of additional economic relief to the financial sectors and the wider economy. In addition, government authorities could consider better leveraging FinTech providers and technology-enabled financial channels to facilitate additional economic relief to households and firms in more efficient and inclusive ways.

In terms of regulatory measures, the Study also finds that some FinTechs have benefitted from the regulatory support provided by securities regulators, central banks and other regulatory authorities in light of Covid-19. Nevertheless, FinTechs indicated that they will urgently need more. It is important to mention that in general, such regulatory measures were not designed or applied exclusively for the FinTech industry specifically, but mostly were implemented as sector-wide measures for the regulated firms in financial services. In this case, the Study provides valuable insights as to the types of regulatory measures that different FinTech verticals considered more useful and urgent. Interestingly, with the exception of Market Provisioning firms, most FinTechs consider that measures directly related to the regulation and supervision of FinTech, are generally more urgently needed than regulatory innovation initiatives.

Indeed, firms pointed to two distinctive sets of regulatory measures: those that facilitate eKYC, simplified CDD, and remote onboarding; and those that streamline authorization or approval processes. It is worth highlighting that, in general, the need for regulatory support was more intensely indicated by FinTechs located in EMDEs, as well as firms from jurisdictions with high stringency lockdowns. Thus, this Study could be useful for financial regulators and supervisors around the world, and in particular in EMDEs to inform priorities as they seek to strike a balance between encouraging financial innovation and protecting the interests of consumers and maintaining financial stability. In this regard, further dialogue and engagements with the industry to understand the relevance of this Study findings at country level, would be useful.

Finally, the findings also illustrate an increase in perceived risks associated with Covid-19. The data in this area is also preliminary, but point to increased operational risks, in particular regarding

cyber-security. Some firms are seeking to address this issue by enhancing or expanding cyber-security measures. But overall, this highlights the importance for regulatory and supervisory authorities to continue monitoring closely the impact of Covid-19, to ensure that the risks within the FinTech sectors are managed and mitigated.

The CCAF, World Bank Group and the World Economic Forum plan to follow up this rapid assessment study with a more comprehensive and in-depth survey next year, that will collect transaction data from all the FinTech verticals and provide greater analysis into the longer-term impact of Covid-19 on the global FinTech industry. We look forward to continue engaging with the FinTechs around the world and other key stakeholder groups to conduct research and provide more empirical evidence to inform decision-making by regulators, policymakers and market participants.

# Appendices

# Appendix A: List of Respondent HQ Countries or Jurisdiction, OxCGRT Lockdown Stringency Index Average & Designated Quantile, World Bank Income Designation

| Country/Jurisdiction | OxCGRT Average Index - Q2 | Designated Lockdown Stringency Grouping | WB Economic Income Designation |
|---|---|---|---|
| Australia | 64 | 1 | AEs |
| Germany | 67 | 1 | AEs |
| Switzerland | 62 | 1 | AEs |
| Denmark | 64 | 1 | AEs |
| Norway | 57 | 1 | AEs |
| Hong Kong | 59 | 1 | AEs |
| Taiwan | 24 | 1 | AEs |
| Ghana | 64 | 1 | EMDEs |
| Japan | 38 | 1 | AEs |
| Sweden | 45 | 1 | AEs |
| South Korea | 56 | 1 | AEs |
| Estonia | 58 | 1 | AEs |
| Austria | 62 | 1 | AEs |
| Luxembourg | 57 | 1 | AEs |
| Mozambique | 61 | 1 | EMDEs |
| Lithuania | 66 | 1 | AEs |
| New Zealand | 58 | 1 | AEs |
| Seychelles | 56 | 1 | AEs |
| Czech Republic | 54 | 1 | AEs |
| Slovakia | 65 | 1 | AEs |
| TANZANIA | 42 | 1 | EMDEs |
| Uruguay | 61 | 1 | AEs |
| Finland | 52 | 1 | AEs |
| Cameroon | 64 | 1 | EMDEs |
| Cambodia | 53 | 1 | EMDEs |
| Hungary | 67 | 1 | AEs |
| Latvia | 59 | 1 | AEs |
| Bulgaria | 58 | 1 | EMDEs |
| Burkina Faso | 65 | 1 | EMDEs |
| Iceland | 44 | 1 | AEs |
| Benin | 58 | 1 | EMDEs |
| Zambia | 50 | 1 | EMDEs |
| Serbia | 66 | 1 | EMDEs |
| Andorra | 48 | 1 | AEs |
| Slovenia | 61 | 1 | AEs |
| Malawi | 59 | 1 | EMDEs |
| Somalia | 55 | 1 | EMDEs |
| United Kingdom | 75 | 2 | AEs |
| United States | 72 | 2 | AEs |
| China | 72 | 2 | EMDEs |
| Singapore | 76 | 2 | AEs |
| Brazil | 78 | 2 | EMDEs |
| France | 75 | 2 | AEs |
| Spain | 73 | 2 | AEs |
| Italy | 70 | 2 | AEs |
| Canada | 72 | 2 | AEs |
| Indonesia | 70 | 2 | EMDEs |
| Malaysia | 68 | 2 | EMDEs |
| United Arab Emirates | 78 | 2 | AEs |
| Netherlands | 71 | 2 | AEs |
| CHILE | 76 | 2 | AEs |
| Thailand | 71 | 2 | EMDEs |
| Portugal | 76 | 2 | AEs |
| Mauritius | 69 | 2 | AEs |
| Belgium | 72 | 2 | AEs |
| Poland | 72 | 2 | AEs |
| Sri Lanka | 77 | 2 | EMDEs |
| Turkey | 72 | 2 | EMDEs |

| Country/Jurisdiction | OxCGRT Average Index - Q2 | Designated Lockdown Stringency Grouping | WB Economic Income Designation |
|---|---|---|---|
| Greece | 68 | 2 | AEs |
| Vietnam | 71 | 2 | EMDEs |
| Mongolia | 70 | 2 | EMDEs |
| Cote d'Ivoire | 69 | 2 | EMDEs |
| Rwanda | 74 | 2 | EMDEs |
| Costa Rica | 74 | 2 | EMDEs |
| Bahrain | 75 | 2 | AEs |
| Jordan | 77 | 2 | EMDEs |
| Botswana | 73 | 2 | EMDEs |
| Gibraltar | 68 | 2 | AEs |
| Tunisia | 72 | 2 | EMDEs |
| Romania | 72 | 2 | AEs |
| Bosnia and Herzegovina | 75 | 2 | EMDEs |
| Belize | 77 | 2 | EMDEs |
| Croatia | 68 | 2 | AEs |
| Senegal | 71 | 2 | EMDEs |
| India | 86 | 3 | EMDEs |
| South Africa | 83 | 3 | EMDEs |
| Mexico | 79 | 3 | EMDEs |
| Argentina | 93 | 3 | EMDEs |
| Uganda | 88 | 3 | EMDEs |
| Colombia | 87 | 3 | EMDEs |
| Nigeria | 81 | 3 | EMDEs |
| Kenya | 88 | 3 | EMDEs |
| Honduras | 99 | 3 | EMDEs |
| Ireland | 82 | 3 | AEs |
| Peru | 92 | 3 | EMDEs |
| Egypt | 81 | 3 | EMDEs |
| Israel | 80 | 3 | AEs |
| Guatemala | 96 | 3 | EMDEs |
| Paraguay | 89 | 3 | EMDEs |
| Philippines | 92 | 3 | EMDEs |
| Pakistan | 81 | 3 | EMDEs |
| Ecuador | 86 | 3 | EMDEs |
| Dominican Republic | 87 | 3 | EMDEs |
| Russia | 80 | 3 | EMDEs |
| Zimbabwe | 83 | 3 | EMDEs |
| Lebanon | 79 | 3 | EMDEs |
| Cayman Islands | 80 | 3 | AEs |
| Venezuela | 83 | 3 | EMDEs |
| Saudi Arabia | 85 | 3 | AEs |
| Qatar | 83 | 3 | AEs |
| Bangladesh | 84 | 3 | EMDEs |
| Haiti | 86 | 3 | EMDEs |
| Albania | 80 | 3 | EMDEs |
| El Salvador | 94 | 3 | EMDEs |
| Myanmar | 81 | 3 | EMDEs |
| Panama | 89 | 3 | AEs |
| Ukraine | 79 | 3 | EMDEs |
| Cyprus | 81 | 3 | AEs |
| Georgia | 85 | 3 | EMDEs |

## Appendix B: Composition Matrix, Proportion of EMDEs and AEs within Designated Lockdown Stringency Quantiles

| Overall | EMDEs | AEs |
|---|---|---|
| Low Stringency (n.301) | 12% | 88% |
| Medium Stringency (n.708) | 26% | 74% |
| High Stringency (n.399) | 92% | 8% |

| Digital Lending | EMDEs | AEs |
|---|---|---|
| Low Stringency (n.55) | 11% | 89% |
| Medium Stringency (n.137) | 28% | 72% |
| High Stringency (n.111) | 90% | 10% |

| Digital Payments | EMDEs | AEs |
|---|---|---|
| Low Stringency (n.40) | 45% | 55% |
| Medium Stringency (n.104) | 31% | 69% |
| High Stringency (n.100) | 94% | 6% |

| Digital Capital Raising | EMDEs | AEs |
|---|---|---|
| Low Stringency (n.63) | 12% | 88% |
| Medium Stringency (n.100) | 15% | 85% |
| High Stringency (n.36) | 49% | 51% |

| InsurTech | EMDEs | AEs |
|---|---|---|
| Low Stringency (n.19) | 11% | 89% |
| Medium Stringency (n.55) | 18% | 82% |
| High Stringency (n.24) | 88% | 13% |

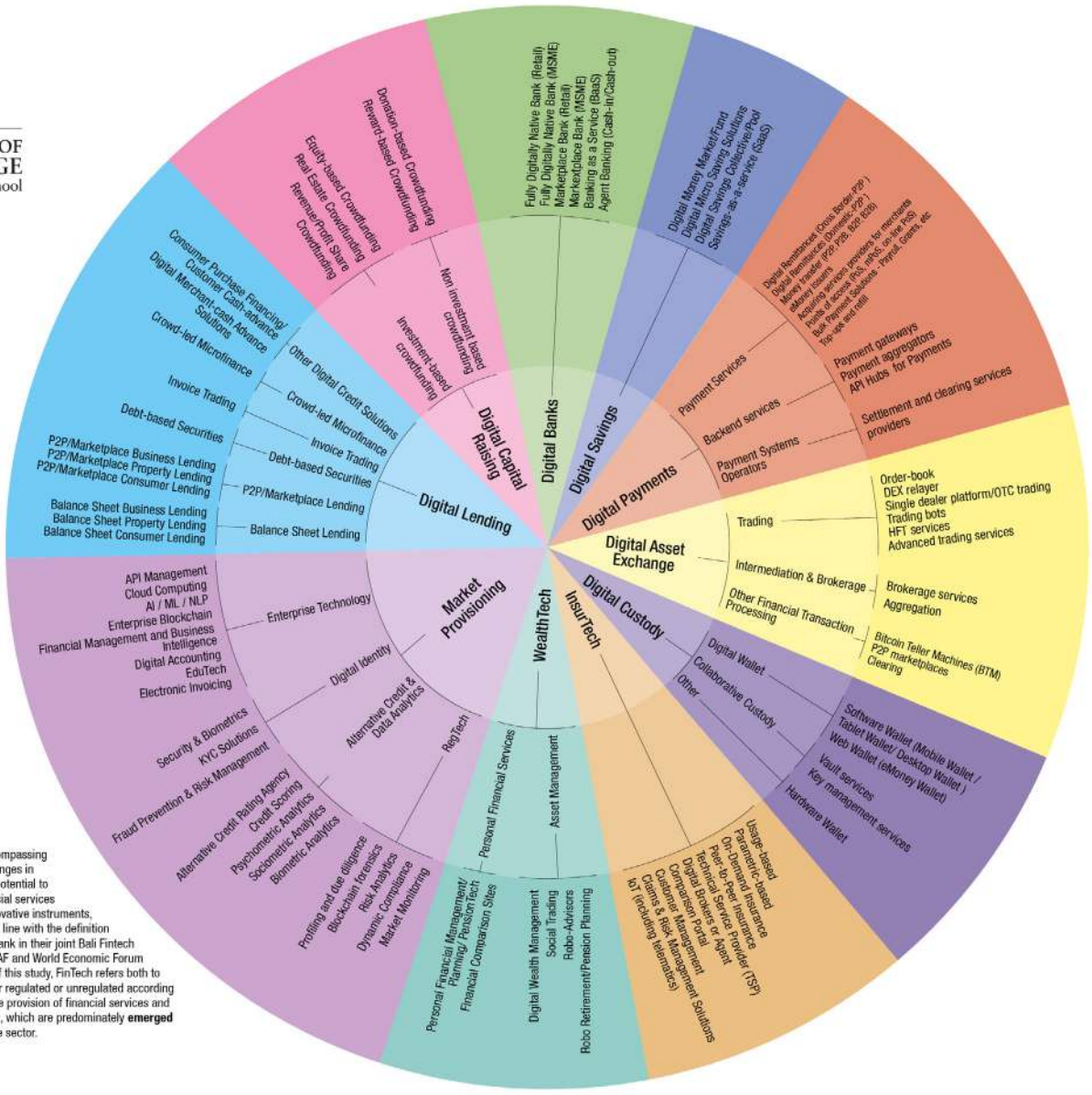
| Market Provisioning FinTechs | EMDEs | AEs |
|---|---|---|
| Low Stringency (n.19) | 11% | 89% |
| Medium Stringency (n.55) | 19% | 81% |
| High Stringency (n.24) | 79% | 21% |

# Appendix C1: A Working Taxonomy for the Global FinTech Industry by Verticals and Sub-Verticalsl

**FinTech Vertical and Sub-vertical Taxonomy Flywheel**

Cambridge Centre for Alternative Finance

UNIVERSITY OF CAMBRIDGE Judge Business School




*

**FinTech** is defined broadly, encompassing advances in technology and changes in business models that have the potential to transform the provision of financial services through the development of innovative instruments, channels and systems. This is in line with the definition adopted by the IMF and World Bank in their joint Bali Fintech Agenda (2018) and previous CCAF and World Economic Forum publications. For the purposes of this study, FinTech refers both to **a set of activities** (can be either regulated or unregulated according to jurisdiction) contributing to the provision of financial services and those **entities facilitating them**, which are predominately **emerged outside** of the traditional finance sector.

# Appendix C2: Definition of FinTech Business Models by Sub-Vertical

| Category | Business Model | Sub Vertical | Definition |
|---|---|---|---|
| Retail Facing (Consumers & MSMEs) | Digital Lending | 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 |
| | | 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 |
| | | Debt-based Securities | Individuals and/or institutional funders purchase debt-based securities, typically a bond or debenture, at a fixed interest rate |
| | | Invoice Trading | Individuals and/or institutional funders purchase invoices or receivables from a business at a discount |
| | | Crowd-led Microfinance | Interests and/or other profits are re-invested (forgoing the interest by donating) or provides microcredit at lower rates. |
| | | Consumer Purchase Financing/ Customer Cash-advance | A buy now/pay later payment facilitator or Store Credit solution, typically interest bearing |
| | | Digital Merchant-cash Advance Solutions | 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 |
| | | Real Estate Crowdfunding | Individuals and/or institutional funders provide equity or subordinated-debt financing for real estate |
| | | 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 |
| | | Reward-based Crowdfunding | Backers provide funding to individuals, projects, or companies in exchange for non-monetary rewards or products |
| | | Donation-based Crowdfunding | Donors provide funding to individuals, projects or companies based on philanthropic or civic motivations with no expectation of monetary or material |
| | Digital Banking | Fully Digitally Native Bank (Retail) | Provide banking services to individual consumers exclusively through digital platforms |
| | | Fully Digitally Native Bank (MSME) | Provide banking services to businesses exclusively through digital platforms |
| | | Marketplace Bank (Retail) | Banking provider offers products and services from a range of providers including its own to individual consumers |
| | | Marketplace Bank (MSME) | Banking provider offers products and services from a range of providers including its own to businesses |
| | | Banking as a Service (BaaS) | An end-to-end process that allows other organizations to setup and offer digital banking services |
| | | Agent Banking (Cash-in/Cash-out) | Performs services in some capacity on behalf of another banking entity |
| | Digital Savings | Digital Money Market/Fund | Allows fundraising through the selling of short-term debt which can be bought by investors |
| | | Digital Micro Saving Solutions | small savings opportunities identified within individuals existing budget and automatically puts money into a savings account to encourage positive behavioral change |
| | | Digital Savings Collective/Pool | Members pay into a common platform and contributions are pooled for issuing loans. Interest from the loans shared among the members |
| | | Savings-as-a-service (SaaS) | An end-to-end process that allows other organizations to setup and offer saving services |
| | Digital Payments | Digital Remittances (Cross Border-P2P) | Provide cross-border remittances services |
| | | Digital Remittances (Domestic-P2P) | Provide domestic remittances services |
| | | Money transfer (P2P, P2B, B2P, B2B) | Provide digital means of payment to access and utilize funds stored in an account (e.g. Virtual debit/credit card, Wallet) |
| | | eMoney Issuers | Issue electronic funds and provide digital means of payment to access and use those funds (e.g. Virtual prepaid card, E-Money) |
| | | Mobile Money | Use of a mobile phone to transfer funds between banks or accounts, deposit or withdraw funds or pay bills |

| Category | Business Model | Sub Vertical | Definition |
|---|---|---|---|
| Retail Facing (Consumers & MSMEs) | Digital Payments | Acquiring services providers for merchants | Provide means for the acceptance of digital payments by merchants |
| | | Points of access (PoS, mPoS, on-line PoS) | Provide hardware or software to capture payment transactions to transmit to a network |
| | | Bulk Payment Solutions - Payroll, Grants, etc. | Provides payments to multiple beneficiaries from a single transaction |
| | | Top-ups and refil | Provider facilitating the top-ups or refill of various products and services such as mobile phone contracts |
| | | Payment gateways | Provides digital payment acceptance services on behalf of multiple acquirers to integrate different types of digital payments mechanisms/instruments |
| | | Payment aggregators | Collect payments on behalf of multiple merchants and accept different digital payments 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 |
| | Digital Asset Exchange | Order-book | Platform provides a central limit order-book using a trading engine to match buy and sell orders from users |
| | | DEX relayer | Peer-to-peer relay exchange built on top of a public blockchain |
| | | Single dealer platform/OTC trading | Provider engaging in a trade enabling users to engage in bilateral trades outside of formal trading venues |
| | | Trading bots | Platform using automated trading bots to mimic the actions of successful traders |
| | | HFT services | Provider enabling automated market making and arbitrage strategies |
| | | Advanced trading services | Services allowing users to buy portfolio bundles to get access to more sophisticated trading tools |
| | | Brokerage services | Platform allows users to acquire and/or sell digital assets (in particular, cryptoassets) at a given prices and submit orders |
| | | Aggregation | Platform that aggregates prices to facilitate selection by the client |
| | | Bitcoin Teller Machines (BTM) | Allows users to buy and sell digital assets (in particular, cryptoassets) using physical cash |
| | | P2P marketplaces | User matching platform that allows users to store funds at the current exchange and trade externally to the platform |
| | | Clearing | Allows trading and clearing of cryptocurrency future contracts |
| | Digital Custody | Software Wallet (Mobile Wallet/ Tablet Wallet/Desktop Wallet) | Software wallets are desktop wallets that are connected to the internet |
| | | Web Wallet (eMoney Wallet) | Online applications that can be accessed from any connected device via a browser |
| | | Vault services | Sophisticated key management and custody solutions combining multiple layers of security |
| | | Key management services | Services using multi-sig and other security techniques to facilitate key management and key recovery |
| | | Hardware Wallet | A special type of bitcoin wallet which stores the user's private keys in a secure hardware device |
| | InsurTech | Usage-based | Premiums or level of cover are determined by usage behavior |
| | | Parametric based | Compensates policy holders 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 |
| | | Peer-to-Peer 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 Brokers 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 & Risk Management Solutions | Supports insurers in risk management and the processing digital claims |
| | | IoT (including telematics) | Remote devices connected to insurance services |
| | WealthTech | Digital Wealth Management | Online platforms to 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 |
| | | Robo Retirement/Pension Planning | Robo-advisors use algorithms and machine learning to offer pension advice |
| | | Personal Financial Management/ Planning | Allows the ability to understand and effectively apply various financial skills, including personal financial management, budgeting, and investing |
| | | Financial Comparison Sites | Online and mobile platforms comparing financial products |

| Category | Business Model | Sub Vertical | Definition |
|---|---|---|---|
| Market Provisioning | RegTech | 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 | 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 the risk of fraud, 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 & Data Analytics | Alternative Credit Rating Agency | Issues alternative credit ratings and credit assessment |
| | | Credit Scoring | Uses alternative data to assess creditworthiness of their customers, adding much-needed nuance to credit applications |
| | | Psychometric Analytics | Connects an individual's personality type and behavior with a credit or insurance product |
| | | Sociometric Analytics | Analyses 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. |
| | Digital Identity | Security & Biometrics | Captures and records key biometric attributes such as fingerprints for identification |
| | | KYC Solutions | Captures and records key biographical attributes such as location of birth for identification |
| | | Fraud Prevention & Risk Management | Aims to prevent theft and misuse of personal data |
| | Enterprise Technology Provisioning | API Management | The process of creating and publishing web application programming interfaces (APIs) by, for example, enforcing their usage policies and analyzing usage statistics |
| | | Cloud Computing | The on-demand availability of computer system resources, especially data storage (cloud storage) and computing power, without direct active management by the user |
| | | AI/ML/NLP | Artificial Intelligence/Machine Learning/Natural Language Processing |
| | | Enterprise Blockchain | The features of blockchain technology that will solve major enterprise problems |
| | | Financial Management and Business Intelligenc | Business intelligence tools that help finance professionals gain insight in internal and the 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 collection of payment |

# Appendix D: Number of observations by headquarter Country/Jurisdiction

| Region | Country/Jurisdiction | Number of Observations by HQ |
|---|---|---|
| United Kingdom | United Kingdom | 175 |
| North America (US & Canada) | United States | 122 |
| APAC | India | 83 |
| CHINA | China | 73 |
| APAC | Singapore | 54 |
| SSA | South Africa | 43 |
| APAC | Australia | 42 |
| Europe | Germany | 39 |
| LAC | Mexico | 39 |
| LAC | Brazil | 38 |
| Europe | France | 31 |
| LAC | Argentina | 30 |
| Europe | Spain | 29 |
| SSA | Uganda | 28 |
| LAC | Colombia | 24 |
| Europe | Switzerland | 24 |
| Europe | Italy | 24 |
| SSA | Nigeria | 23 |
| North America (US & Canada) | Canada | 20 |
| APAC | Indonesia | 20 |
| SSA | Kenya | 19 |
| Europe | Denmark | 18 |
| Europe | Norway | 17 |
| APAC | Malaysia | 17 |
| APAC | Hong Kong | 16 |
| MENA | United Arab Emirates | 14 |
| APAC | Taiwan | 14 |
| SSA | Ghana | 13 |
| LAC | Honduras | 13 |
| Europe | Ireland | 13 |
| Europe | Netherlands | 13 |
| LAC | Peru | 12 |
| APAC | Japan | 11 |
| Europe | Sweden | 10 |
| LAC | CHILE | 10 |
| MENA | Egypt | 10 |
| MENA | Israel | 9 |
| APAC | South Korea | 8 |
| LAC | Guatemala | 8 |
| Europe | Estonia | 8 |
| APAC | Thailand | 7 |
| Europe | Austria | 7 |
| Europe | Luxembourg | 7 |
| SSA | Mozambique | 6 |
| Europe | Lithuania | 6 |
| APAC | New Zealand | 6 |
| Europe | Portugal | 6 |
| SSA | Mauritius | 6 |
| Europe | Malta | 6 |
| LAC | Paraguay | 6 |
| Europe | Belgium | 5 |
| SSA | Seychelles | 5 |
| APAC | Philippines | 5 |
| Europe | Czech Republic | 5 |
| Europe | Poland | 5 |
| Europe | Slovakia | 4 |
| SSA | TANZANIA | 4 |
| APAC | Sri Lanka | 4 |
| Europe | Turkey | 4 |
| LAC | Uruguay | 4 |

| Region | Country/Jurisdiction | Number of Observations by HQ |
|---|---|---|
| Europe | Finland | 4 |
| Europe | Greece | 4 |
| APAC | Pakistan | 4 |
| APAC | Vietnam | 4 |
| LAC | Ecuador | 3 |
| LAC | Dominican Republic | 3 |
| APAC | Mongolia | 3 |
| SSA | Cote d'Ivoire | 3 |
| SSA | Cameroon | 3 |
| SSA | Rwanda | 3 |
| APAC | Cambodia | 3 |
| Europe | Hungary | 3 |
| SSA | Eswatini | 3 |
| Europe | Russia | 3 |
| Europe | Latvia | 3 |
| SSA | Zimbabwe | 2 |
| LAC | Costa Rica | 2 |
| Europe | Bulgaria | 2 |
| MENA | Lebanon | 2 |
| SSA | Burkina Faso | 2 |
| MENA | Bahrain | 2 |
| LAC | Cayman Islands | 2 |
| APAC | Maldives | 2 |
| MENA | Jordan | 2 |
| LAC | Venezuela | 2 |
| MENA | Saudi Arabia | 2 |
| MENA | Qatar | 2 |
| SSA | Botswana | 2 |
| Europe | Gibraltar | 1 |
| LAC | Bolivia | 1 |
| LAC | Nevis | 1 |
| Europe | Iceland | 1 |
| APAC | Bangladesh | 1 |
| Europe | Macedonia | 1 |
| LAC | Haiti | 1 |
| SSA | Benin | 1 |
| Europe | Albania | 1 |
| MENA | Tunisia | 1 |
| SSA | Zambia | 1 |
| Europe | Romania | 1 |
| LAC | El Salvador | 1 |
| APAC | Myanmar | 1 |
| Europe | Bosnia & Herzegovina | 1 |
| SSA | Sierra Leone | 1 |
| Europe | Curaçao | 1 |
| Europe | Serbia | 1 |
| LAC | Panama | 1 |
| Europe | Andorra | 1 |
| LAC | Belize | 1 |
| Europe | Slovenia | 1 |
| Europe | Croatia | 1 |
| SSA | Malawi | 1 |
| Europe | Ukraine | 1 |
| Europe | Isle of Man | 1 |
| SSA | Somaliland | 1 |
| Europe | Montenegro | 1 |
| Europe | Cyprus | 1 |
| SSA | Senegal | 1 |
| Europe | Georgia | 1 |
| | Total | 1428 |

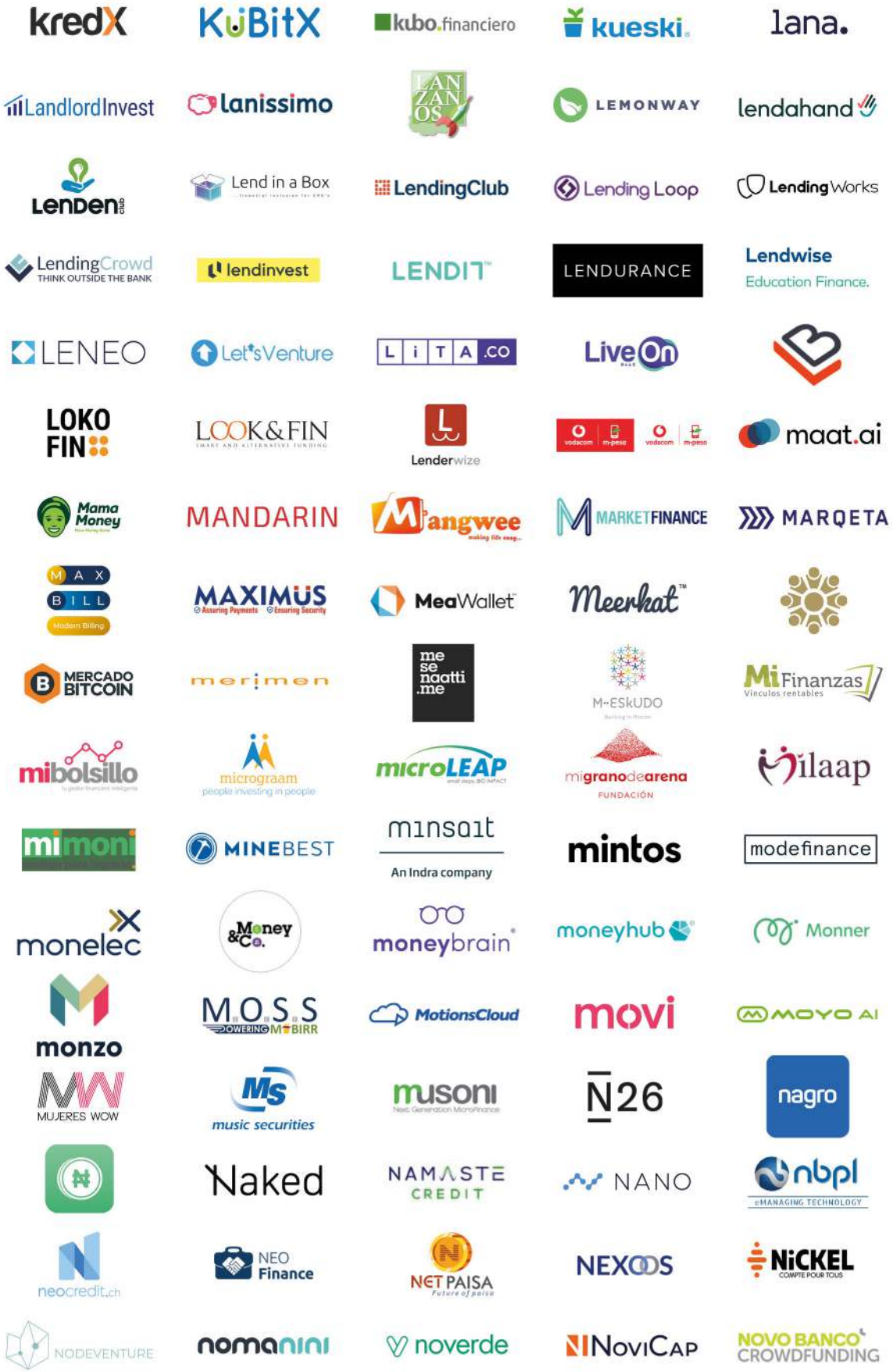
## Appendix E: FinTech Firms that Participated in the Study

The CCAF, World Bank Group and the World Economic Forum Research Team would like to thank the following firms for kindly participating in our study.


bnext
Bolero Crowdfunding
Bond180
Borrowell
BOWPI
breathe life
Brick
Bricksave
BrikkApp
byznis
cquence
CROWD4CASH
C24
CALASTONE
calero mdsl
CAMINO FINANCIAL
canchek
CAPITALRISE
capitual
capsphere
CHITA
Cash Depot
cashflow.io
cashme
GET PAID INSTANTLY
CASTLEPOINT SYSTEMS
CHARITABLE IMPACT
charm
Chipper
CLAIMCENTRAL
Clear.Bank
CLOUDBEST
Assets
NEQUI
Banistmo
COINPLUS
COINRULE
COLENDI
Comply Advantage
comviva
CONDA
zero21
conio
CONSERVACO
CORL
JUNE TECH
COVERY
SOLVE FRAUD
crassula
WOWO!
co.ke
Business Made in AFRICA
CrediFace
CREDIMI
CredQ
Mangwee
CROSSFLOW
The Working Capital Marketplace
The Crowd Angel
Crowdbazaar
crowdcapital
crowdcube
CROWDDESK
CROWDE
CROWDO
CROWDPROPERTY
together we build
Crown Agents Bank
CONCRETE
INVESTING
Craft Silicon
Thinking. Crafting. Transforming.
CUBE
cuentas
Cultura Flokk
cumplo
Currencycloud
CX PAY
CYBAVO
cybertonica
trust in transaction
DANA
danabijak
Danakini
kini ada membantu anda
DANK
Data Catalyst
DAVIplata
dealflow
Deep Data
Deepscope
LaboRiusa
delta
FINANCIAL SYSTEMS
DEMOCRANCE
Democratizing Insurance
DESTACAME


DIAMAN PARTNERS
DINERO FULL
DizzitUp
d·local
donate-ng
dotxml
DREAMOVAL
dxFeed
EASYPAY
ebpSource
ecoligo.investments
ecozins
ETHIS DUBAI
EESPA
enova.
enso
ENTERPAY
ENVESTORS
ePesos
ephamoney
eqseed
Equitech Group
equitise
ESTATEGURU
esusu.africa
EthicHub
ethixbase
etranzact
欧洲通 EuroPass
eusoh
evergreen finance
evva
eWARREN
ExoAlpha
EXPORO
FACILITA PAY
Facturedo
FAIRCENT.com
FairMoney
Fawry Microfinance
FilmChain
FEAST Greece
FEATURE SPACE
OUTSMART RISK
FeedStock
FinFabrik
Financial Fitness Group
FilmChain
FinanCash
Finance Technology
finanzarel
Fintech Hamburg
finbee
finclude
finnu
Fino Payments Bank
finology
finplace
FinREI .com
fintech
FINTEUM
FINVERITY
finzy
Flexfin
flexfunding
flexys
FLOW
FNALITY
Namaste Guatemaya
fongogo
FOO_
FriendsNow
FRISS
funding societies | modalku
ftcash faster than cash
Fundary
fundaztic PEER-TO-PEER FINANCING
Fundbox
Funder Nation
Fundfina
Funding Circle
Funding Partner
FUNDKISS
FUNDS AXIS


fundwise
Fusions 360
FutureLink Technologies
GA Gen Advisory
Think Evolve Solve gather360
SynchroLife
GIVE&FUND
GIVE Nation
give India
global sadaqah
GLS Bank das macht Sinn
GO GLOBAL CORPORATION
GRADANA
20 GrapeCity Mongolia
GRAPPLER
GRC solutions
GreenVesting
GROW*LY
GUANXI Crowdfunding for Africa
GUARDA
gulungo
HAASONLINE
HAPPY
Harmoney
HighCastle
Hiveage Simply great invoicing
Horn of Africa Insurance
Hollard money
HomeCrowd
honcho
HANDJA
HOOPOUN
iAdvance
iCard
gyandhan
identitii
Inclusive Guarantee
iGrant.io Your data, your choice.
INCOMLEND
INFINITY
infordata ltda
ingemann Group
inixar
INNOVATE security
inno vest ment
INSTAVAL
instnt
INSUBIQ
insurescan
INTERNATIONAL AIRTIME TOP UP
INVESDOR
newshore invest
InvestSure
INVOICE EXCHANGE
invoice interchange
iTAX
Jacobi
jamii.one
JaSure
JazzCash
Jibrel
judobank
JUMO
Jumpstarter
JUNE TECH 桔恩科技
Jventures
Kabbage
Kalepa
KANZU CODE
Kapilendo
KASKO
Keeper
Kitabisa
kite FINANCIAL
Kiu
kiva
klear
KNAB FINANCE
kompany
kontigo
KOSOVA ideas
KOVRR Cyber Risk Modeling
Koyo
KodyPay

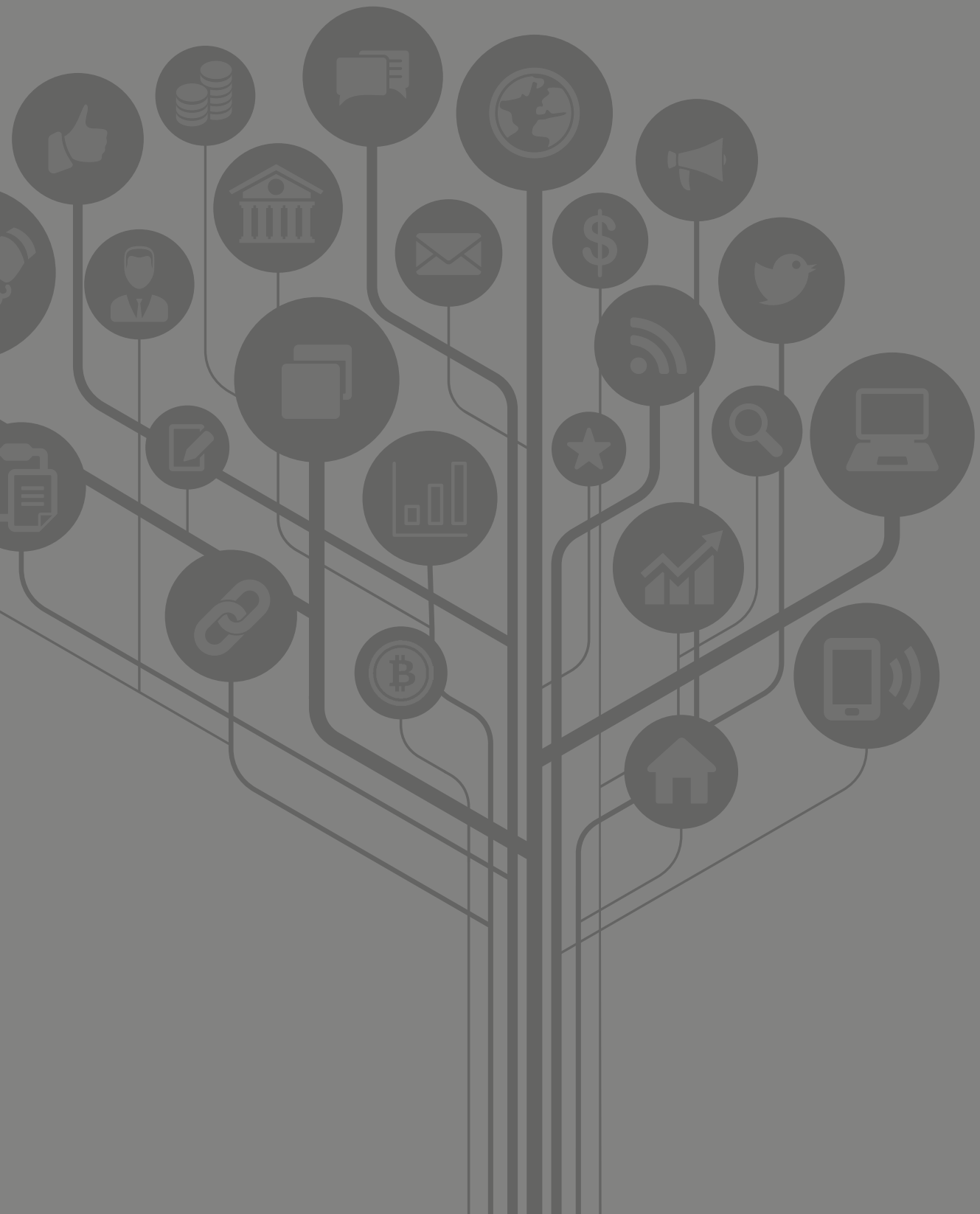

kredX
KuBitX
kubo.financiero
kueski.
lana.
LandlordInvest
lanissimo
LANZANOS
LEMONWAY
lendahand
LenDen
Lend in a Box
LendingClub
Lending Loop
LendingWorks
LendingCrowd
THINK OUTSIDE THE BANK
lendinvest
LENDIT
LENDURANCE
Lendwise
Education Finance.
LENEO
Let'sVenture
LITA.CO
LiveOn
LOKO FIN
LOOK&FIN
Lenderwize
vodacom m-pesa
maat.ai
Mama Money
MANDARIN
Mangwee
MARKETFINANCE
MARQETA
MAX BILL
Modern Billing
MAXIMUS
Assuring Payments Ensuring Security
MeaWallet
Meerkat
MERCADO BITCOIN
merimen
meseenatti.me
M-ESkUDO
MiFinanzas
Vínculos rentables
mibolsillo
microgram
people investing in people
microLEAP
migranodearena
FUNDACIÓN
Milaap
mimoni
MINEBEST
minsait
An Indra company
mintos
modefinance
monelec
Money &Co.
moneybrain
moneyhub
Monner
monzo
M.O.S.S
POWERING MOBIRR
MotionsCloud
movi
MOYO AI
MUJERES WOW
MS
music securities
musoni
N26
nagro
Naked
NAMASTE CREDIT
NANO
nbpl
MANAGING TECHNOLOGY
neocredit.ch
NEO Finance
NET PAISA
Future of paisa
NEXOOS
NICKEL
COMPTE POUR TOUS
NODEVENTURE
nomanini
noverde
NoviCap
NOVO BANCO CROWDFUNDING


nowigo
NUAPAY
oasis
Octet
october
oink
OKO
OMNIPAY
ondeck
oneplanetcrowd
onfido
opolo
OTOMA
OUR DEMOCRACY
OurCrowd
Oval
OVAMBA
Oyster.
Pandco
patasente
PATROCINA
payvault
PAY1
Payclide
PAYCODE
paydunya
Payer
payfo
PAYMENTS INSIDERS
PayPal
PayPoint
PayThunder
Payvalida
PayWay
pdb.
peak invest
PBC
Pebuu
Peerlend
peoplefund
pera247
PERX
PesaKit
PHANDA MOZ
piggyvest
Pineapple
PIONR
PIXELPAY
PLAID
Plata
PledgX
Plenti
PlicKS
POKKET
Policy Street
PPL
PREMONITION
Prevalent
p|r|!|n|u|m
produzionidalbasso.
ProfitShare Partners
PROJECTFRED
PROJEKTU BANKA
prolendo
PS
PROPERTYSHARES
Proplend
PULA
pulpey
PuntoSeguro.com
qadre
qBayar
QuickCash
QuickTap
quo fintech
QWIKWIRE
RainFin
RangDe
RapiCredit
RateSetter
ready2order
realx


REALVIEW
reask
≠Rebel
REBRIC
REDAH
RedCloud
REDD
ReGal
regbot
Remit Analyst
Repact
Revolut
rezolve
instant salesware
RISE
FINANCIAL
riskpriorities
RISKflo
Rnwl
ROBOCASH
INVESTMENT ROBOT
ROBOBO
ROCK PAPR
roger
Rupee Redee
RISKEX
Safaricom
saffe
SalaryFits
sancus
straightforward financing
SatSure
SAVY
SBH
Sunbelt Holdings Ltd.
SCALED INSIGHTS
SCF
SCX
SDRUŽENÍ VIA
sedicii
Seed out
seed[in]
TAKE YOUR BUSINESS FURTHER
SEEDRS
SeedVest
SEMPO
Sentro
Service Cops.
SESAMm
SeSocio
Shamba Records.
Sharein
Sherpa
shield.
SHOJIN
PROPERTY PARTNERS
siembro
SIGNZY
Silver Bills
SILVERBRIDGE
SIMPLE
CROWDFUNDING
SIMPLEKYC
Simplified FinTech
skuchain
Smart
Secure, Fast, Access
SmartCredit.io
Take back control over your money
SPECTRUM
MESSAGE SERVICES
SNOWBALL EFFECT
sō.capital
Social Bank
SMA
SoFi
SOLARIS OFFGRID
SPHONIC
SPINANALYTICS
SPITCH
SPOON Money
Spotcap
spotii
Squirrel Money
SQUIRREL
SS&C
INTRALINKS
SSC CAPITAL
#STACS
Blockchain for Finance
START LAB
Startskudd
STARTUP SPIDER
stobox
StockCrowd
Technologies
STOKR
SUM & SUBSTANCE
SUNRATE
swys
SympliFi


TALA
tamweeli
Tarya Fintech
TEMPEST GOLD
TERRA KAAPE
Tesabiz
Visión de negocios
THALESIANS
THE DISRUPTION HOUSE
thefundingcrowd
THE MUSIC FUND
the spark project
The Tiny Seed
The SME Chain
THINCATS
Thought Machine
Thundafund
AFRICAN RAINMAKERS
tigo money
TINKOFF
todo movil
toffee
INSURANCE
TOKENISM
tonik
touco
TRADE LEDGER
Transcard
TransferWise
TransFICC
trine
Triodos Bank
triple A
TrocCircle
TRUSTDOCK
tudi
tunaiku
TurnKey Lender
turtlemint
TWINO
ualá
UALET
UIE
ULULE
UPCOVER
upgrade
Upstart
urban jungle
NETWORK
VADIS Technologies
vakinha
VALIDUS
VALIFY
value3
VANACCO
VAYA
Veridate
VERIFIER
Verqor
VIRGIL
Your insurance nerd
Visor
VNX
Walliance
网贷之家
WWW.WDZJ.COM
WEDOGOOD
Webankit
BANCO BPM
WeLab
WHISPLI
WIDE GROUP
wisr
WORKINVOICE.IT
WorldRemit
worldcoo
WotGateway
yalu
yielders
INVEST. GROW. YIELD
Ying Ying Group
Yo!
YO UGANDA LIMITED
yobota
yonk.io
ZAAR
ZEGO
zest
EMI FOR EVERYONE
ZIG WAY
ŽLTÝ MELÓN
zowasel
ztudium

# Endnotes



# Endnotes

1. When interpreting the results of this study it is important to note that responses were not weighted to account for the size of firms or their relative market share. For more information on the research methodology see Chapter 1.
2. https://www.bsg.ox.ac.uk/research/research-projects/coronavirus-government-response-tracker
3. See Arner, Douglas W., et al. "Digital Finance & The COVID-19 Crisis." *University of Hong Kong.* 26 March 2020. www.papers.ssrn.com/sol3/papers.cfm?abstract_id=3558889
4. Doyle, Sean. "Systems of Cyber Resilience: Secure and Trusted FinTech." *World Economic Forum.* 23 July 2020. http://www3.weforum.org/docs/WEF_Systems_Cyber_Resilience_2020.pdf
5. Agur, Itai, Soledad Martinez Peria, and Celine Rochon. "Digital Financial Services and the Pandemic: Opportunities and Risks for Emerging and Developing Economies." International Monetary Fund, July 2020; Auer, Raphael, Giulio Cornelli and Jon Frost. "Covid-19, cash and the future of payments", BIS Bulletin No 3, April 2020.
6. Jurd de Girancourt, Francois, Mayowa Kuyoro, Nii Amaah Ofosu-Amaah, Edem Seshie, and Frederick Twum. "How the COVID19 crisis may affect electronic payments in Africa." McKinsey & Company. June 2020. https://www.mckinsey.com/~/media/mckinsey/industries/financial%20services/our%20insights/how%20the%20covid%2019%20crisis%20may%20affect%20electronic%20payments%20in%20africa/how-the-covid-19-crisis-may-affect-electronic%20payments-in-africa.pdf
7. For example, a recent study by the Swiss Finance Institute that draws on mobile application statistics from 74 countries found that the spread of Covid-19 and related government lockdowns led to between 33.1 and 36.6 increase in the relative rate of daily downloads during the peak of the pandemic. Fu, Jonathan and Mrinal Mishra. Fintech in the times of covid-19: Trust and Technological Adoption during Crises, Swiss Finance Institute, Research paper Series 20-38.
8. See Arner, Douglas W., et al. "Digital Finance & The COVID-19 Crisis." University of Hong Kong. 26 March 2020. www.papers.ssrn.com/sol3/papers.cfm?abstract_id=3558889
9. Doyle, Sean. "Systems of Cyber Resilience: Secure and Trusted FinTech." World Economic Forum. 23 July 2020. http://www3.weforum.org/docs/WEF_Systems_Cyber_Resilience_2020.pdf
10. Agur, Itai, Soledad Martinez Peria, and Celine Rochon (2020) and Sahay et al
11. Weisman, Ben. "The Impact of COVID-19 on the Global Financial System." World Economic Forum. 8 May 2020. http://www3.weforum.org/docs/WEF_Impact_of_COVID_19_on_the_Global_Financial_System_2020.pdf
12. World Bank and CCAF (2020) The Global Covid-19 FinTech Regulatory Rapid Assessment Report, World Bank Group and the University of Cambridge
13. This was through personalized emails to pertinent contacts in the firms, direct messages via social media channels and telephone calls to platform management.
14. No noticeable differences were observed between the market performance indicators of Retail-facing FinTechs compared to Market Provisioning FinTechs, on average. Specific verticals categorized within the Retail-facing FinTech category did deviate from the overall FinTech averages presented here, with specific analysis by vertical included in Chapter 3.
15. For instance, 480 firms in the Digital Payment and Digital Custody verticals responded to the question concerning changes in services, with 30% of them indicated that they had deployed additional payment channels, and a further 15% reported that they were in the process of implementing this change.
16. The Cambridge Centre for Alternative Finance (2020) *2020 Global COVID-19 FinTech Regulatory Rapid Assessment* Available at: https://www.jbs.cam.ac.uk/faculty-research/centres/alternative-finance/publications/2020-global-covid-19-fintech-regulatory-rapid-assessment-study/

17. As logic was presented in the survey instrument, only Digital Lending, Digital Banking and Digital Savings firms responded to 'access to liquidity facilities'.

18. ibid

19. *"The Oxford COVID-19 Government Response Tracker (OxCGRT) provides a systematic cross-national, cross-temporal measure to understand how government responses have evolved over the full period of the disease's spread. The project tracks governments' policies and interventions across a standardized series of indicators and creates a suite of composites indices to measure the extent of these responses."* Source: BSG working paper series, Variation in government responses to COVID-19, version 7.0

20. The analysis team used data from Q2 which represents the data following official recognition, by WHO, of the Covid-19 outbreak as a global pandemic on 11th March 2020. Consequently, the team calculated the averages for Q2 of 2020 based upon daily data of each country. (https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020)
The analysis was standardized according to 109 headquarter countries and the number of observations in the dataset (1410). This data was then split into newly defined categories of 'lowstringency', 'mediumstringency' and 'high stringency' measures, as can be seen in the below table.

| Index | Number of Countries | # of responses |
|---|---|---|
| Low Stringency | 37 | 302 |
| Medium Stringency | 37 | 709 |
| High Stringency | 35 | 399 |
| **Total** | **109** | **1410** |

21. Retrieved from: (https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020)

22. The only vertical to have seen a decline in total volume is that of Digital Lending. It is worth noting that the relative decline in low vs high stringency jurisdictions is comparable, with Digital Lending firms in the low-stringency quantile reporting a larger decline in volume than those in high Highstringency jurisdictions.

23. Designations are based upon the GNI per capita of the country or territory, and can be referred to via the World Bank Held Desk: https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups
The distribution of survey respondents by income classification is as follows

| Designation | Income Level | Number of Respondents | % of Total Dataset |
|---|---|---|---|
| Advanced Economies | High Income | 820 | 57% |
| EMDEs | Low Income | 42 | 3% |
| | Lower Middle Income | 208 | 15% |
| | Upper Middle Income | 348 | 24% |

24. When discussing Digital Lending, it is not uncommon for comparisons to be made to Digital Banking as both verticals engage with borrower groups, albeit under different constraints. When considering key market performance indicators, the two verticals have been impacted by Covid-19 in contradictory ways. Whilst the Digital Lending vertical has, on average, observed a drop in both y-o-y transaction volume and number of transactions, Digital Banking firms reported growth respective to their transaction volume changes (up 10%) and with respect to the number of transactions executed (21%). Similarly, when considering number of new loans issued, Digital Banks reported a 16% increase compared to the 6% decline observed by Digital Lending firms.

25. Bank for International Settlements (2020), "Central banks and payments in the digital era", BIS Annual Economic Report, Ch. 3,

26.

| Region | Sub-vertical | Proportion |
|---|---|---|
| APAC | Money transfer (P2P, P2B, B2P, B2B) (n.36) | 12% |
| | Payment gateways (n.34) | 11% |
| | Acquiring services providers for merchants (n.32) | 10% |
| | Payment aggregators (n.31) | 10% |
| | Top-ups and refill (n.29) | 9% |
| China | Payment gateways (n.6) | 15% |
| | Settlement and clearing services providers (n.5) | 12% |
| | Money transfer (P2P, P2B, B2P, B2B) (n.4) | 10% |
| | API Hubs for Payments (n.3) | 7% |
| | Acquiring services providers for merchants (n.3) | 7% |
| Europe | Payment gateways (n.18) | 14% |
| | Acquiring services providers for merchants (n.17) | 13% |
| | Money transfer (P2P, P2B, B2P, B2B) (n.15) | 12% |
| | Mobile Money (n.12) | 9% |
| | Points of access (PoS, mPoS, on-line PoS) (n.12) | 9% |
| LAC | Payment gateways (n.26) | 12% |
| | Payment aggregators (n.23) | 11% |
| | Money transfer (P2P, P2B, B2P, B2B) (n.22) | 10% |
| | API Hubs for Payments (n.19) | 9% |
| | Acquiring services providers for merchants (n.18) | 9% |
| MENA | Acquiring services providers for merchants (n.13) | 13% |
| | Money transfer (P2P, P2B, B2P, B2B) (n.11) | 11% |
| | Payment aggregators (n.11) | 11% |
| | Payment gateways (n.11) | 11% |
| | Mobile Money (n.9) | 9% |
| North America | Money transfer (P2P, P2B, B2P, B2B) (n.11) | 18% |
| | Mobile Money (n.7) | 12% |
| | Points of access (PoS, mPoS, on-line PoS) (n.7) | 12% |
| | API Hubs for Payments (n.6) | 10% |
| | Digital Remittances (Cross Border-P2P ) (n.5) | 8% |
| SSA | Mobile Money (n.36) | 13% |
| | Money transfer (P2P, P2B, B2P, B2B) (n.31) | 11% |
| | Payment gateways (n.30) | 10% |
| | Digital Remittances (Domestic-P2P ) (n.27) | 9% |
| | Bulk Payment Solutions - Payroll, Grants, etc (n.26) | 9% |
| United Kingdom | Money transfer (P2P, P2B, B2P, B2B) (n.10) | 14% |
| | Mobile Money (n.8) | 12% |
| | Digital Remittances (Cross Border-P2P ) (n.7) | 10% |
| | Points of access (PoS, mPoS, on-line PoS) (n.7) | 10% |
| | API Hubs for Payments (n.6) | 9% |

27. When comparing Digital Payments with another key vertical, that of Digital Banking, some noticeable parallels can be drawn between these two Retail-facing models. During Covid-19, both verticals reported growth respective to their y-o-y transaction volume changes (21% and 10% respectively) and with respect to the number of transactions executed (23% and 21% respectively). When considering customer engagement, both also saw an increase in new customers or users (23% and 30% respectively%), and retention of existing customers also increased (31% and 37% respectively).

    Despite reporting growth of their sector, reporting on operational performance indicators suggests that both verticals have experienced a greater number of unsuccessful transactions against the previous year, with both verticals noting a 10% increase in this occurrence. Costs associated with onboarding (15% for Digital Payments and 9% for Digital Banking) and data storage (15% and 12% respectively) were also documented. When considering key risks, operators from both verticals also noted an increase in Cyber-security risk as compared to the previous year (19% and 20% respectively).

28. The CCAF taxonomy has evolved largely from the FCA's general definition of Crowdfunding. In the FCA 2016, Crowdfunding is defined as: "an internet-based business model [...] in which people and businesses (including start-ups) can try to raise money from the public, to support a business, project, campaign or individual" Financial Conduct Authority (FCA) (2016a), Crowdfunding, http://www.fca.org.uk/consumers/financial-services-products/investments/types-of-investment/crowdfunding

29. The World Bank and CCAF (2019) Regulating Alternative Finance: Results from a Global Regulator Survey (Page 9)

30. The World Bank and CCAF (2020) Global COVID-19 FinTech Regulatory Rapid Assessment Study (Page 10)

31. Angola, Benin, Botswana, Burkina Faso, Burundi, Cabo Verde, Cameroon, Central African Republic, Chad, Comoros, Congo Republic, Cote d'Ivoire, Democratic Republic of Congo, Djibouti, Equatorial Guinea, Eritrea, Eswatini, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, South Sudan, Tanzania, Togo, Uganda, Zambia and Zimbabwe.

32. Australia, Azerbaijan, Bangladesh, Bhutan, Cambodia, Fiji, Hong Kong, India, Indonesia, Japan, Laos, Macao, Malaysia, Maldives, Mongolia, Myanmar, Nepal, New Caledonia, New Zealand, North Korea, Pakistan, Papua New Guinea, Philippines, Samoa, Singapore, Solomon Islands, South Korea, Sri Lanka, Taiwan, China, Thailand, Timor-Leste, Tokelau, Tonga, Vanuatu and Vietnam

33. Albania, Andorra, Armenia, Austria, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Curaçao, Cyprus, Czech Republic, Denmark, Estonia, Faro Islands, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Isle of Man, Italy, Kazakhstan, Kosovo, Kyrgyzstan, Latvia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Malta, Moldova, Monaco, Montenegro, Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Svalbard and Jan Mayen, Sweden, Switzerland, Tajikistan, Turkey and Ukraine.

34. DIT. (2020) UK FinTech. The state of nation. Access: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/801277/UK-fintech-state-of-the-nation.pdf

35. Bank of England. Speech given by Tom Mutton, Director, Fintech at the 2nd Bund Summit on digital currency, fintech and inclusive finance on 25 October 2020. Access: https://www.bankofengland.co.uk/-/media/boe/files/speech/2020/response-and-recovery-fintech-during-the-covid-crisis-and-beyond-speech-by-tom-mutton.pdf?la=en&hash=98978EBC816E746878F28DCA4F4D2ED929E66A0C

36. EY UK FinTech Census 2019 A snapshot: two years on (2019). Access: https://assets.ey.com/content/dam/ey-sites/ey-com/en_uk/topics/banking-and-capital-markets/uk-fintech-census-2019/ey-uk-fintech-census-2019.pdf

37. Anguilla, Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, Bermuda, Bolivia, Brazil, Cayman Islands, Chile, Colombia, Costa Rica, Cuba, Curacao, Dominican Republic, Ecuador, El Salvador, Falkland Islands, Greenland, Guadeloupe, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Northern Mariana Islands, Panama, Paraguay, Peru, Puerto Rico, Saint Lucia, Sint Maarten, Suriname, Trinidad and Tobago, Uruguay, Venezuela and Virgin Islands.

38. Afghanistan, Algeria, Bahrain, Egypt, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Sudan, Syria, Tunisia, United Arab Emirates and Yemen.