

The Investment Case for Emerging Markets Financial Technology (FinTech)

Executive Summary

Financial Technology (FinTech) is a catch-all term referring to the technology and software improving and automating financial applications for businesses and consumers. FinTech encompasses everything from smartphone apps to complex blockchain-enabled networks that facilitate financial transactions.

In emerging markets, which are home to 84% of the global population, the importance of FinTech is even more paramount¹. Access to financial services in countries where there are more smartphones than bank accounts is critical for helping to reduce poverty, facilitate financial inclusion, and stimulate economic prosperity.

“Fintech has shown its potential to close gaps in the delivery of financial services to households and firms in emerging markets and developing economies,” said Caroline Freund, World Bank Global Director for Finance, Competitiveness, and Innovation.²

FinTech plays an increasingly pivotal role in expanding financial inclusion for people in emerging economies, helping reduce service costs and making it possible to reach more people. As a result, the FinTech companies addressing these important needs, offer a compelling investment opportunity for both purpose-driven and returns-seeking investors.

In this paper, we aim to explore:

- FinTech 101
- FinTech’s brief history (infographic)
- EM FinTech development, impact, and role during COVID-19
- Why invest in EM FinTech: opportunities amid challenges
- Our investment approach

¹ Bank for International Settlements “*BIS Working Papers No 973 What does digital money mean for emerging market and developing economies?*” by Erik Feyen, Jon Frost, Harish Natarajan and Tara Rice Monetary and Economic Department October 2021 <https://www.bis.org/publ/work973.pdf>

²:World Bank “*Fintech Market Reports Rapid Growth During COVID-19 Pandemic*” Dec. 3, 2020 <https://www.worldbank.org/en/news/press-release/2020/12/03/fintech-market-reports-rapid-growth-during-covid-19-pandemic>

FinTech 101³

Financial technology (FinTech) can apply to any innovation impacting how people transact financial-related business. Since the internet and mobile internet/smartphone revolution, financial technology has grown exponentially, and FinTech, which originally referred to computer technology applied to the back office of banks and trading firms, now encompasses a broad variety of technological interventions into personal and commercial finance.

Many disruptive FinTech innovations have challenged the traditional business models of incumbent financial services providers. Today, FinTech covers a variety of financial activities, including:

- money transfers;
- depositing checks using smartphones;
- bypassing a bank branch to apply for credit;
- raising money to start a business; and
- self-management of investments.

Early forms of FinTech included data processing and the automation of routine tasks, following systems that executed decisions according to specified rules and instructions. FinTech has since evolved into decision-making applications based on complex machine-learning algorithms, where computer programs are able to “learn” how to complete tasks over time.

The FinTech industry encompasses technology-enabled firms offering financial services, those employing technology to support financial transactions among businesses and consumers, as well as entities providing technology services directly to financial institutions.

Moreover, technological advances, changing demand for financial products, and competition in financial services are all driving a new wave of FinTech startups and investments that have drawn attention to the industry in recent years. “Startup companies are creating products and services to penetrate new areas of the financial system and to change the competitive landscape.”⁴

³ Investopedia “*Understanding Fintech*” <https://www.investopedia.com/terms/f/fintech.asp>; CFA Institute “*Fintech in Investment Management*” by Barbara J. Mack and Robert Kissell, PhD 2008 <https://www.cfainstitute.org/-/media/documents/support/programs/cfa/cfa-program-level-iii-fintech-in-investment-management.ashx?la=en&hash=7E8E4B151F5FA24E1B21D3A17A3F1BE9E8F3960E>; S&P Global Market Intelligence “*An introduction to fintech: Key sectors and trends*” October 2016 <https://www.spglobal.com/marketintelligence/en/documents/an-introduction-to-fintech-key-sectors-and-trends.pdf>; PricewaterhouseCoopers “*Global FinTech Survey 2016*” <https://www.pwc.com/gx/en/industries/financial-services/publications/emerging-markets-driving-payments.html>

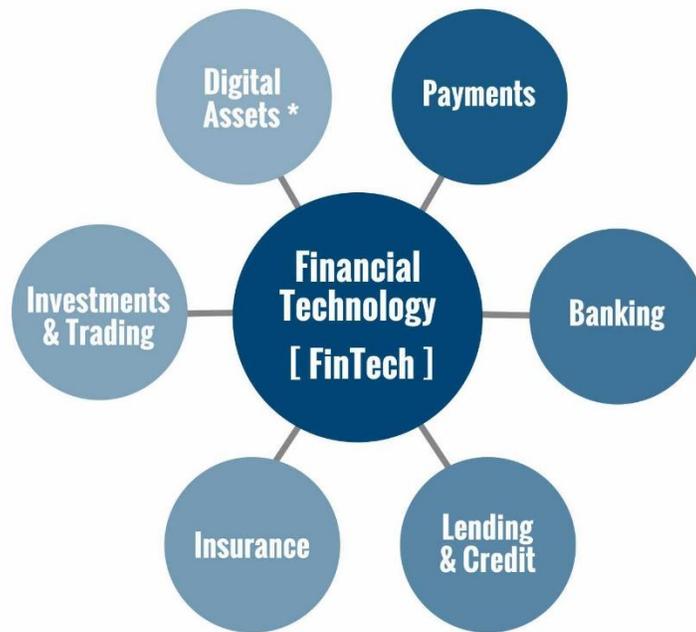
⁴ S&P Global Market Intelligence “*An introduction to fintech: Key sectors and trends*” October 2016

While many of 2021's biggest fundraisers in FinTech were concentrated in the U.S. and Europe, firms in emerging markets also attracted significant funding such as Viva Republica in South Korea and CRED in India. This is a trend that is expected to continue in 2022 as FinTech companies seek to cater to the underserved customers in the region. In Asia, there was record FinTech deal activity, with 352 deals and in Latin America, Fintech funding more than tripled, hitting \$12.9 billion, driven by megarounds which made up almost 70% of the funding in 2021 according to Dealroom.⁵

EQM Indexes identifies the following sectors within the financial technology industry:

FinTech is segmented into three broad categories: technology, services, and applications.

FinTech innovation spans multiple market segments and use-cases.



*Digital Assets = digital wallets, mining and exchange platforms

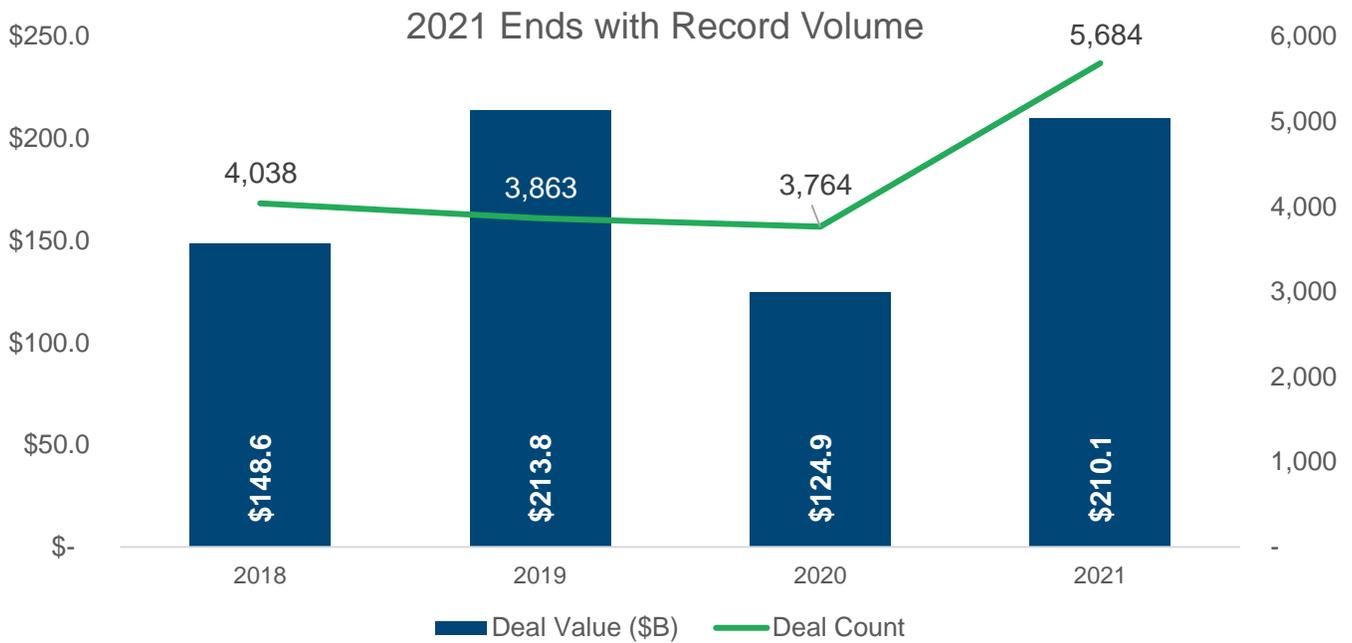
Source: EQM Indexes, 2022

As evidenced by the popularity of digital applications among businesses and consumers in recent years (and especially during the pandemic), it is clear that continued innovations within the financial technology space are motivating traditional financial firms to invest in technology and to address the changing needs and preferences among their customers.

5 Paige, William, 2021 fintech funding in LATAM and Asia hits record levels, but US firms still dominate. eMarketer Insider Intelligence, Jan 27, 2022.

As mentioned, FinTech innovation has also given rise to start-up companies dedicated to harnessing the FinTech potential, with a record number of Initial Public Offerings (IPOs) in 2021 as firms take advantage of the enormous pent-up demand for FinTech services and the need for democratized access to financial services.

Global FinTech investment exploded in 2021, recording \$210 billion with 5,684 deals⁶



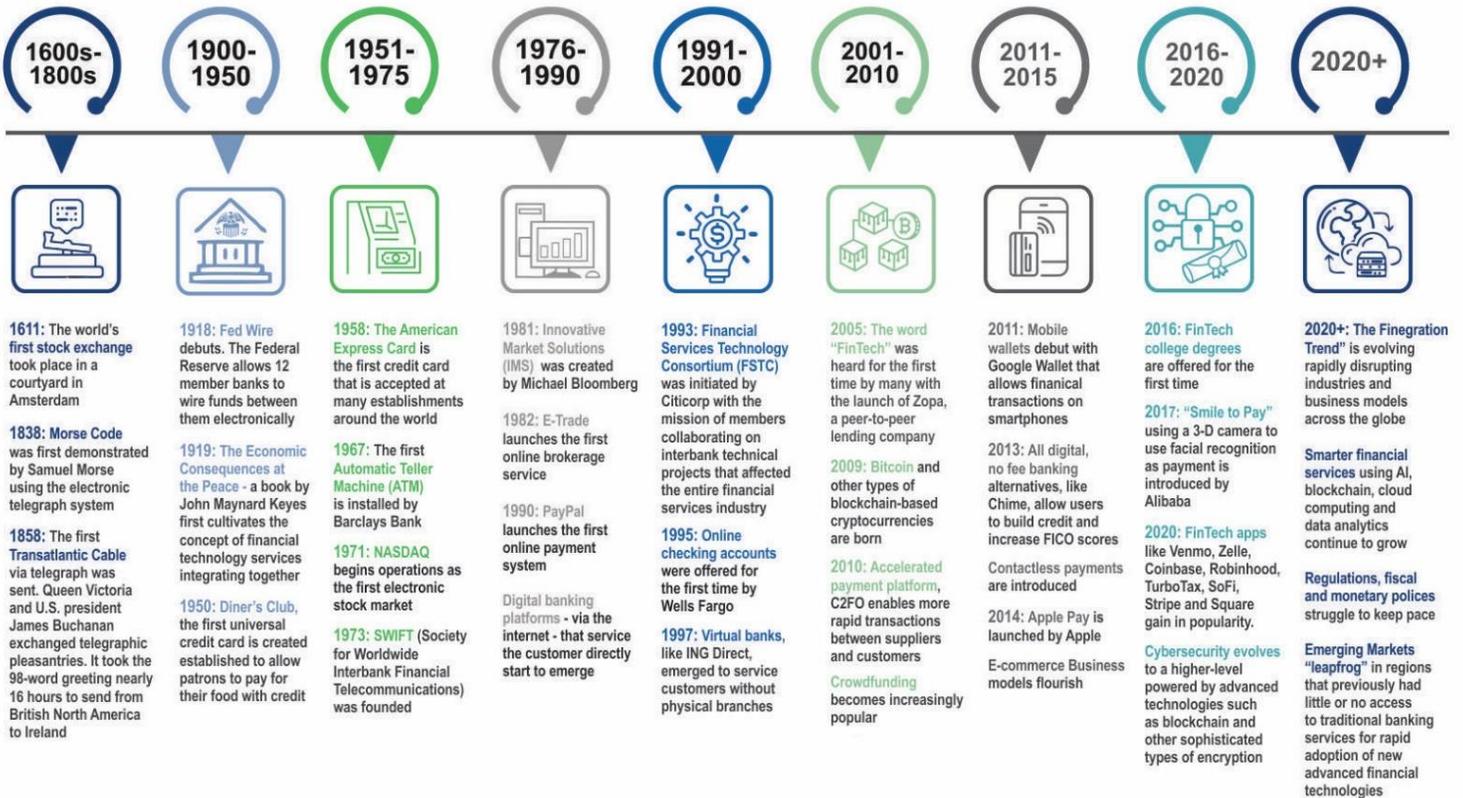
⁶ KPMG, Pulse of Fintech H2'21, January 2022, <https://assets.kpmg/content/dam/kpmg/xx/pdf/2022/02/pulse-of-fintech-h2-21.pdf>

FinTech: A Brief History

While technological innovation in finance dates back to the 1600s, the 1900s and 2000s marked significant milestones, from the first electronic fund transfer system to the full digitalization of banking services. The evolution of existing technologies—from blockchain, artificial intelligence and biometrics—could present attractive opportunities for companies and investors.

MAKING CHANGE

The evolution of modern FinTech might seem like a fairly recent phenomenon, but finance and technology have been interconnected since the beginning of modern society. Today FinTech is changing finance, banking, insurance, back offices and consumer behavior at revolutionary rate.



FinTech Development in Emerging Markets⁷

Despite near-universal access to financial services in developed economies, financial exclusion is stubbornly persistent in many emerging markets, leaving huge swaths of low-income populations “unbanked” or “underbanked,” according to an International Finance Corporation (IFC) study.

FinTech companies have begun to tap into the enormous unmet demand in emerging markets. These companies have started to thrive in emerging markets, although regulatory issues, particularly weak consumer protection measures, remain unresolved in many countries. But governments are generally supportive of FinTech initiatives as financial inclusion equates to economic growth and GDP (gross domestic product).

Mobile phones are the primary tool used by FinTech providers to reach current and potential clients, the IFC reports. Two out of three adults who do not have access to financial services do have access to mobile phones. To put this in context, more members of the global population now have access to smartphones than bank accounts and running water.⁸ This dynamic has enabled FinTech companies to be successful in entering emerging markets and scaling up their services in the age of digital disruption.

More smartphones than bank accounts and running water.



Global Population
7.9 B



Smartphones
6.6 billion
89.9%



Bank accounts
6.2 billion
78.4%



Running water
5.7 billion
72.2%

Source: Bankmycell, World Bank, CDC

⁷ International Finance Corporation “Banking on FinTech in Emerging Markets” January 2022 https://www.ifc.org/wps/wcm/connect/publications_ext_content/ifc_external_publication_site/publications_listing_page/banking+on+fintech+in+emerging+markets;PricewaterhouseCoopers+Global+FinTech+Survey+2016 <https://www.pwc.com/gx/en/industries/financial-services/publications/emerging-markets-driving-payments.html>

⁸ Cisco Annual Internet Report.

This expanding access to technology, together with overwhelming levels of unmet demand, is driving sustained investor interest in FinTech. Digital innovation is transforming financial services with innovations such as mobile money, peer-to-peer (P2P) or marketplace lending, robo-advisory, insurance technology (insurtech), and crypto-assets – all of which have emerged around the world over the past decade. But FinTech has particularly thrived in emerging market economies where the financial system has been less developed. Until recently, cash transactions were ubiquitous in developing countries. In Emerging Markets, FinTech is the infrastructure on-ramp to digital commerce.

In Emerging Markets, FinTech is the infrastructure on-ramp to digital commerce.

The graphic below shows the different modes and payments infrastructure in emerging markets.

| | | MERCHANT | |
|----------|--------|---|---|
| | | CARD | MOBILE |
| CUSTOMER | CARD |  <p>POS ATM</p> <ul style="list-style-type: none"> Brazil, Urban India, Urban Mexico, Urban Nigeria, Urban South Africa |  <p>mPOS Mobile Wallet</p> <ul style="list-style-type: none"> India, Urban China Urban Brazil Urban (Stelo) |
| | MOBILE |  <p>NFC Contactless</p> <ul style="list-style-type: none"> Brazil, Urban |  <p>Mobile Remote</p> <ul style="list-style-type: none"> Kenya South Africa Nigeria |

TERMINOLOGY

POS - Point of Sale
 ATM - Automated Teller Machine
 NFC - Near-Field Communication
 mPOS - Mobile Point of Sale
 Mobile Wallets - Wallets that live in mobile devices instead of backpacks
 Mobile Remote - Remotely controls mobile devices.

Source: PwC Analysis

POS-Point of Sale; ATM-Automated Teller Machine; NFC-Near-Field Communication; mPOS-Mobile Point of Sale; Mobile Wallets: Wallets that live in mobile devices instead of back pockets; Mobile Remote: Remotely controls mobile devices.

Other common trends in supporting the development of payments processing in emerging countries include:

- **Promotion of centralized fund transfer systems and retail electronic payment systems:** –There have been concerted efforts by different countries to introduce and promote retail e-payment instruments and systems and enhance the development of the acceptance infrastructure, in parallel with development of centralized fund transfer systems.

- **Use of innovative payment instruments like wallets, mobile payments and one click payments** – For example, in Nigeria, usage of mobile-based payment systems has increased due to wide access to mobile phones as a payment form, both on the customer usage side and acceptance (merchant) side.
- **Revamping the technology system** – The revamp of technology systems that manage retail e-payment instruments is a common trend across emerging countries. For example, in India, the National Payments Corporation of India has revamped the central ATM switch for processing and promoting all retail ATM transactions.
- **Real-time payments a growing reality** - India’s instant payment system, UPI, recently passed the 2 billion-per-month transactions per month mark and Brazil’s first-ever instant payment system Pix that launched in November of 2020, confirmed 92.5 million transactions, totaling \$83.4 billion in volume in its first month.⁹

FinTech Impact on Emerging Markets¹⁰

According to a BNP Paribas report, gaps in the banking system have been limiting business growth in many emerging markets, constraining consumer demand and hampering overall economic growth. “For instance, many traditional banks are reluctant to engage with the less wealthy individuals and small and micro enterprises. As a result, millions have no access to financial services such as a bank, savings or any other transaction account. They are ‘unbanked’,” the report states.

By harnessing financial technology, however, remarkable business success has been achieved in countries as diverse as Kenya and China, the BNP report states. Fintech has helped advance one of the pivotal goals for sustainable global development—financial inclusion—providing access to payment platforms and services including credit, helping to reduce inequality and alleviate poverty.

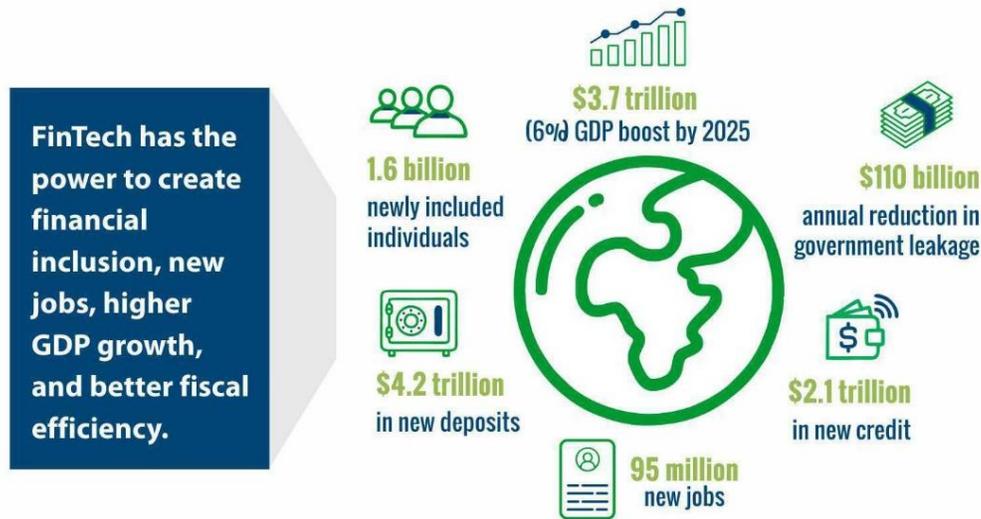
However, while substantial progress has been made over the past 20 years, lifting people globally to ‘banked’ status, one-third of all adults around the world have remained financially excluded. This indicates there is still much to do and much to be gained, the BNP report states.

⁹ Dlocal, “Three Payment Trends in Emerging Markets to Follow in 2021”, January 12, 2021.

¹⁰ Nasdaq, “Why FinTech is Thriving in Emerging Markets,” March 30, 2020

<https://www.nasdaq.com/articles/why-fintech-is-thriving-in-emerging-markets-2020-03-30>; BNP Paribas “Fintech in emerging markets – cracking the code of financial inclusion,” March 8, 2020 <https://investors-corner.bnpparibas-am.com/investing/fintech-in-emerging-markets-cracking-the-code-of-financial-inclusion/>; World Bank “Fintech Market Reports Rapid Growth During COVID-19 Pandemic” Dec. 3, 2020 <https://www.worldbank.org/en/news/press-release/2020/12/03/fintech-market-reports-rapid-growth-during-covid-19-pandemic>

A 2016 report by McKinsey Global Institute, citing research dedicated to quantifying the potential benefits of digital finance, concluded that widespread adoption could increase the gross domestic product (GDP) of all emerging economies by 6%, or \$3.7 trillion by 2025, and lead to the creation of 95 million jobs, as shown in the graphic below.¹¹



Source: McKinsey Global Institute, World Economic Forum

The Role of FinTech in Emerging Markets During COVID-19¹²

COVID-19 has hastened the need for technological solutions among businesses and consumers, and FinTech has played a key role in expanding access to financial services during the pandemic.

This is particularly true in emerging markets, with strong growth in all types of digital financial services except lending, according to a joint study by the World Bank, the Cambridge Centre for Alternative Finance at the University of Cambridge’s Judge Business School, and World Economic Forum.

Fintech has helped minimize the need for face-to-face interactions, essential for maintaining economic activity during the pandemic. “It’s clear COVID-19 has disrupted the global economy with lasting implications for corporates and consumers,” says Matthew Blake, Head of Financial and Monetary Systems, World Economic Forum. “Despite this challenging backdrop, FinTechs have proven resilient and adaptable: contributing to pandemic relief efforts, adjusting operations and offerings to serve vulnerable market segments, like micro, small and medium-sized businesses, while posting year-over-year growth across most regions.”

¹¹ McKinsey & Company “DIGITAL FINANCE FOR ALL: POWERING INCLUSIVE GROWTH IN EMERGING ECONOMIES” September 2016 <https://www.mckinsey.com/~/media/mckinsey/featured%20insights/Employment%20and%20Growth/How%20digital%20finance%20could%20boost%20growth%20in%20emerging%20economies/MGI-Digital-Finance-For-All-Executive-summary-September-2016.ashx>

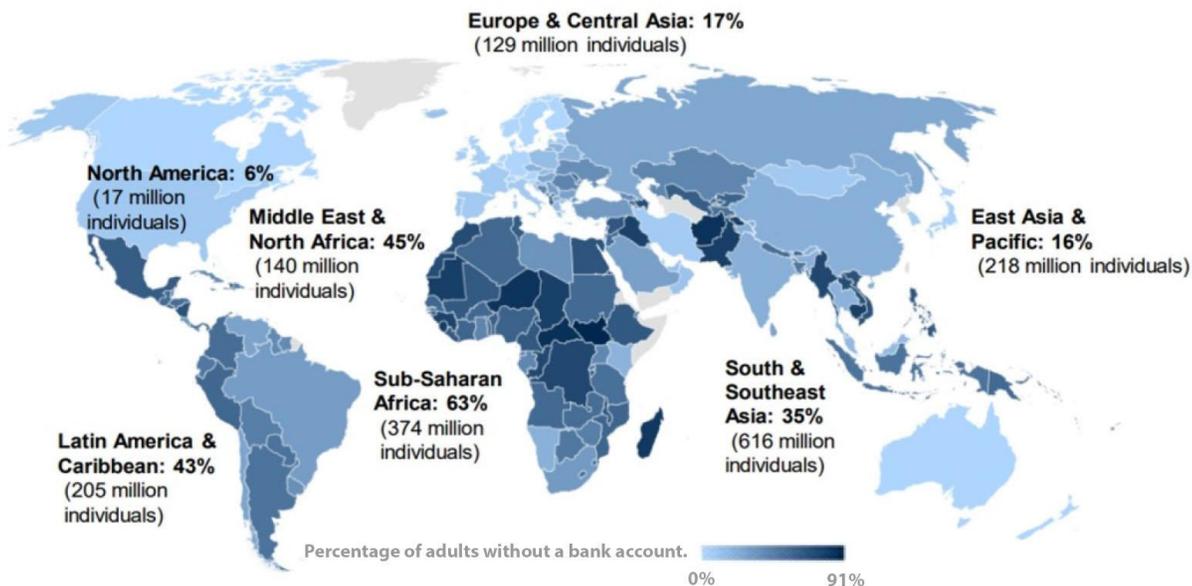
¹² World Bank “Fintech Market Reports Rapid Growth During COVID-19 Pandemic” Dec. 3, 2020 <https://www.worldbank.org/en/news/press-release/2020/12/03/fintech-market-reports-rapid-growth-during-covid-19-pandemic>

Why Invest in EM FinTech: Opportunities Amid Challenges¹³

For investors, it is important to note that FinTech could be especially powerful in emerging markets as it captures an unmet demand and fills gaps left by traditional institutions for banking services and financial products. This represents opportunity among FinTech companies able to meet the growing demand.

Below are examples of the challenges in emerging markets that FinTech can help address:

- **Access to financial services** – 1.6 billion people and 200 million small businesses do not have access to formal financial services.
- **Reliance on cash payments and cash remittances** – More than a billion people who do have bank accounts pay their utility bills in cash, 300 million account holders get paid in cash, and approximately 280 million account holders continue to use cash or over-the-counter services to send or receive remittances.
- **Low savings rates, credit, and insurance** – Formal savings rates are very low, and millions lack sufficient access to credit and insurance.



Source: World Bank

¹³ Nasdaq, "Why FinTech is Thriving in Emerging Markets," March 30, 2020 <https://www.nasdaq.com/articles/why-fintech-is-thriving-in-emerging-markets-2020-03-30>; International Finance Corporation "Banking on FinTech in Emerging Markets" January 2022. https://www.ifc.org/wps/wcm/connect/publications_ext_content/ifc_external_publication_site/publications_listing_page/banking+on+fintech+in+emerging+markets

With the advent of FinTech, expanding financial inclusion in emerging countries presents opportunities for companies and their investors.

Financial inclusion becomes a much more attainable goal because it can be cheaper to reach smaller or underserved segments of the population that might have previously been considered “unattractive” customers. FinTech platforms largely have an upfront cost of developing the program and infrastructure to conduct transactions. By relying heavily on technology, however, ongoing and variable costs tend to be quite low, making it possible to realize profit on perhaps a bank account with limited assets or a micro loan.

An International Monetary Fund (IMF) report, titled “A New Era of Digital Money,” stated that broad and inexpensive access to digital money and phone-based transactions in emerging markets could open the door to financial services for people without traditional bank accounts. Countries may also grow increasingly connected, facilitating trade and market integration.¹⁴

For example, in the near future, a U.S.-based employee could ask her employer to deposit her paycheck in a digital wallet (i.e., a software-based system that securely stores users’ payment information and passwords for numerous payment methods and websites), allowing her to send money to relatives in Guatemala, the Philippines, or any other country more cheaply and efficiently. “Fees for wiring money often take up to 7 percent of the value of a transaction, and the World Bank estimates that cutting fees to 2 percent could give a \$16 billion a year boost to remittances to low-income countries,” the IMF report states.¹⁵

Moreover, the adoption of technological innovations within emerging markets could help create new revenue channels and reduce overheads, positively impacting bottom lines for companies and governments alike.¹⁶

The growth of digital technologies has accelerated new channels like e-commerce and m-commerce, which are opening up new ways for consumers to make purchases such as tapping their mobile phone or a wearable item (like a watch) onto a contactless payment terminal or reading a quick response (QR) code, the study states.

¹⁴ International Monetary Fund “A New Era of Digital Money,” June 2021 <https://www.imf.org/external/pubs/ft/fandd/2021/06/online/digital-money-new-era-adrian-mancini-griffoli.htm>

¹⁵ International Monetary Fund “A New Era of Digital Money,” June 2021 <https://www.imf.org/external/pubs/ft/fandd/2021/06/online/digital-money-new-era-adrian-mancini-griffoli.htm>

¹⁶ PricewaterhouseCoopers “Global FinTech Survey 2016” <https://www.pwc.com/qx/en/industries/financial-services/publications/emerging-markets-driving-payments.html>

To summarize, the following key factors support the investment case for emerging markets FinTech:

- **Transition from Cash-Based to Digital World** - Prior to the pandemic, digital infrastructure in Emerging and Frontier Markets had lagged Developed Markets. But thanks to pandemic-driven consumer needs and behaviors, digital disruption has accelerated, driving rapid innovation in FinTech.¹⁷
- **Favorable Demographics** – Emerging markets make up nearly 85% of the world's population and are home to a burgeoning middle class.¹⁸
- **Opportunity to Provide Access to the “Unbanked”** - According to the World Bank, \$1.7 billion adults worldwide (31%) did not have an account at a financial institution or through a mobile money provider, or were “unbanked,” based on 2017 data. In total, 56% of all unbanked adults were women, and half came from the poorest 40% of households. Nearly half of the unbanked adults lived in seven large developing countries: Bangladesh, China, India, Indonesia, Mexico, Nigeria, and Pakistan.¹⁹
- **FinTech Access via Mobile Phones** – Consider that there are more mobile phones than bank accounts in many emerging markets. Two out of three adults who do not have access to financial services do have access to mobile phones.²⁰
- **A Tech-Savvy Generation Drives Change** – The millennials’ comfort with technology is driving businesses to provide new and more innovative ways of enabling transactions, reflecting the demands of this tech-savvy generation.

¹⁷ World Bank

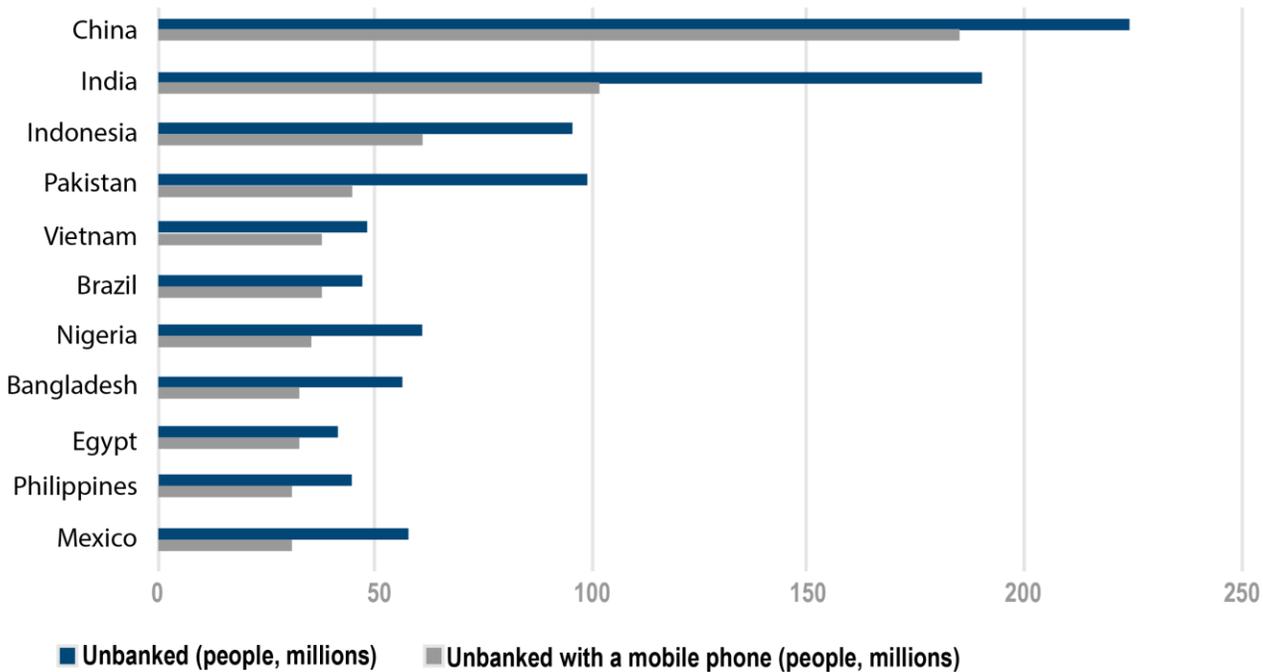
¹⁸ JPMorgan “*The next market star may be in emerging markets*” April 14, 2021 <https://privatebank.jpmorgan.com/gl/en/insights/investing/the-next-market-star-may-be-in-emerging-markets>; World Bank “*Fintech Market Reports Rapid Growth During COVID-19 Pandemic*” Dec. 3, 2020 <https://www.worldbank.org/en/news/press-release/2020/12/03/fintech-market-reports-rapid-growth-during-covid-19-pandemic>

¹⁹ World Bank Group Approach Paper “*The Drive for Financial Inclusion: Lessons of World Bank Group Experience*” June 30, 2021 https://ieg.worldbankgroup.org/sites/default/files/Data/reports/ap_driveforfinancialinclusion.pdf

²⁰ International Finance Corporation “*Banking on FinTech in Emerging Markets*” January 2022

https://www.ifc.org/wps/wcm/connect/publications_ext_content/ifc_external_publication_site/publications_listing_page/banking+on+fintech+in+emerging+markets

The chart below illustrates the high level of mobile phone penetration among the world’s most unbanked populations. This bodes well for the future of both FinTech and financial inclusion in these geographies.²¹



Source: Global Findex DATABASE; Gallup World poll; 2017

One of the best examples of FinTech’s potential in emerging market economies is Chinese tech giant Tencent’s WeChat messaging application. The application has a userbase of more than 1 billion people. WeChat’s primary use is messaging, as one of the primary communication tools in China, preferable even to email. But its scope extends way beyond that, allowing users to do everything from payments to travel bookings to gaming and ride hailing.²²

Our Investment Approach/EM Fintech Index

The EQM Emerging Markets FinTech Index (EMFINQ) seeks to track the combined performance of a basket of emerging market and/or frontier market companies that derive significant revenue from financial technology (FinTech), technology-enabled financial applications disrupting traditional financial service and banking business models. Index components are equally weighted, with the maximum weight of any country of domicile not to exceed 25% in aggregate.

²¹ BNP Paribas “Fintech in emerging markets – cracking the code of financial inclusion”. March 8, 2020 <https://investors-corner.bnpparibas-am.com/investing/fintech-in-emerging-markets-cracking-the-code-of-financial-inclusion/>

²² Kharpal, Arjun, “Everything you need to know about WeChat — China’s billion-user messaging app, CNBC”, Feb 4, 2019. <https://www.cnbc.com/2019/02/04/what-is-wechat-china-biggest-messaging-app.html>

Key Takeaways

- With technological disruption accelerating rapidly, now may be an opportune time for emerging markets investors to tap into a potential source of attractive returns through FinTech.
- Despite near-universal access to financial services in advanced economies, financial exclusion is persistent in many emerging markets, leaving huge swaths of low-income populations “unbanked” or “underbanked.”
- The IFC reports that 1.6 billion people and 200 million small businesses in emerging markets do not have access to formal financial services.
- FinTech plays an increasingly pivotal role in expanding financial inclusion in emerging markets. This may appeal to purpose-driven and returns-seeking investors alike.
- FinTech has the potential to close gaps in the delivery of financial services to households and firms in emerging markets, such as payment platforms and credit.
- COVID-19 has hastened the need for technological solutions, as evidenced by the popularity of digital applications among businesses and consumers during the pandemic.
- Consider our investment approach to Emerging Markets FinTech investing.

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We partner with issuers and work jointly with other index firms to provide benchmarks for Exchange Traded Products (ETPs) such as Exchange Traded Funds (ETFs), Exchange Traded Notes (ETNs), and other similar products. EQM Indexes LLC also assists firms on a fee basis to design and implement their index ideas.

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DEFINITIONS²³

Alpha – The excess return of an investment relative to the return of a benchmark index.

Artificial Intelligence – The intelligence demonstrated by machines.

Biometrics – Unique physical characteristics, such as fingerprints, that can be used for automated recognition.

Blockchain – A distributed database that is shared among the nodes of a computer network.

Digital Wallet – A software-based system that securely stores users' payment information and passwords for numerous payment methods and websites.

E-commerce – Buying and selling of goods via the internet.

M-commerce – Commercial transactions via wireless handheld devices, such as cellphones and laptops.

Near-Field Communication (NFC) - A set of communication protocols that enables communication between two electronic devices over a specified distance.

Quick Response (QR) Code – A type of matrix bar code typically made up of black and white pixel patterns.

Unbanked – Those who are not served by a bank or financial institution.

Underbanked – Those who have a bank account, but often rely on alternative financial services, such as money orders, check-cashing services and payday loans to manage their finances and purchases.

Venture Capitalist – A private equity investor providing capital to companies with high growth potential in exchange for an equity stake.

²³ Sources: Investopedia.com; U.S. Department of Homeland Security