

5. Fintech: Unlocking the Potential for the MENAP and CCA Regions

After a late start, fintech¹ is gaining momentum in some countries of the Middle East, North Africa, Afghanistan, and Pakistan (MENAP) region,² and there are green shoots in the Caucasus and Central Asia (CCA) region. For both regions, fintech has the ability to address the critical challenges of enhancing financial inclusion, inclusive growth, and economic diversification through innovations that help extend financial services to the large unbanked populations, and facilitate alternative funding sources for small and medium-sized enterprises (SMEs). Fintech could also make an important contribution to financial stability by harnessing technology for regulatory compliance and risk management, and can facilitate trade and remittances by providing efficient and cost-effective mechanisms for cross-border payments, while the use of electronic payments can improve the efficiency of government operations. To unlock this potential, further reforms are needed to close gaps in the regulatory, consumer protection, and cybersecurity frameworks as well as improve the business environment, information communication technology (ICT) infrastructure, and financial literacy.

The Fintech Revolution

Global investments in fintech registered rapid growth over the past five years, and projections are for continued strong growth. The value of investments in fintech increased more than tenfold between 2012 and 2015 (Figure 5.1). Although consolidation in the US fintech sector led to a decline in global investments in 2016, other regions, including the Middle East and North Africa (MENA), continued to grow, and

Prepared by Inutu Lukonga with research support from Sebastian Herrador. For a more detailed discussion, see Lukonga, forthcoming.

¹Fintech, short for financial technology, is defined by the Financial Stability Board (FSB) as technologically enabled financial innovation that could result in new business models, applications, processes or products—with an associated material effect on financial markets and institutions, and the provision of financial services.

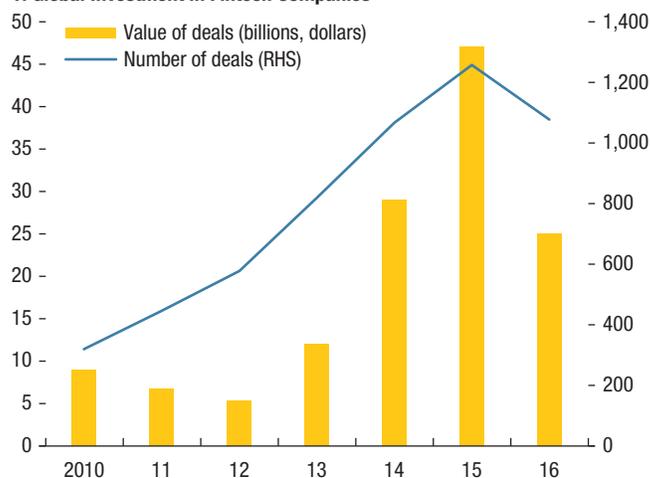
²The presence of fintech in Afghanistan is insignificant.

investments in the first half of 2017 showed a strong rebound (KPMG 2017).

The fintech ecosystem is still in the developing stage in the MENAP and CCA regions, but there is strong momentum toward adoption of fintech by both incumbent banks and other companies.

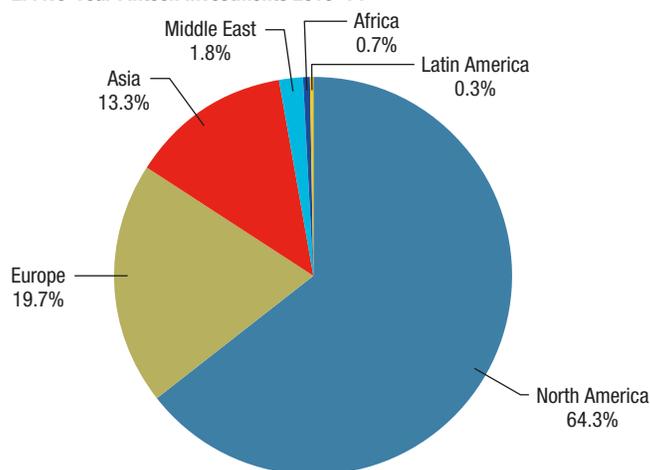
Figure 5.1. Global Trends in Fintech

1. Global Investment in Fintech Companies



Source: KPMG 2016.
Note: RHS = right scale.

2. Five-Year Fintech Investments 2010–14



Source: ITA Fintech Market Report, 2016.

The MENAP region has made comparatively greater strides than the CCA region in developing its fintech ecosystem, although investments remain concentrated in a few countries. In the MENAP region, governments are playing a leading role in fostering fintech innovation, with the entry of international fintech companies providing further impetus.³ A recent survey covering 12 MENAP countries (WAMDA 2016) shows a sevenfold increase in fintech start-ups since 2009, with investments concentrated in Egypt, Jordan, Lebanon, and the United Arab Emirates (Figure 5.2). These start-ups have emerged alongside and in competition with banks, which are also harnessing digital technologies to move toward more customer-focused business models. In some countries (Djibouti, Egypt, Iraq, Pakistan, Somalia, Sudan), Internet penetration is more limited, but telecommunication companies have entered the marketplace and are providing mobile payment services. In the CCA region, investments in digital financial services have, thus far, been mainly undertaken by banks (ADB 2014), and Armenia and Kazakhstan seem to dominate.⁴

The payments and lending segments account for the bulk of fintech investments in the MENAP and CCA regions, in line with global trends.⁵ In the MENAP region, payments and lending account for 50 percent and 30 percent of the startups, respectively (Figure 5.2). However, cash transactions still dominate, and fintech remains a relatively small channel for providing access to finance by SMEs. In the CCA region, investments in financial technology are still modest but have also focused on payment solutions (mobile wallets, cryptocurrencies).

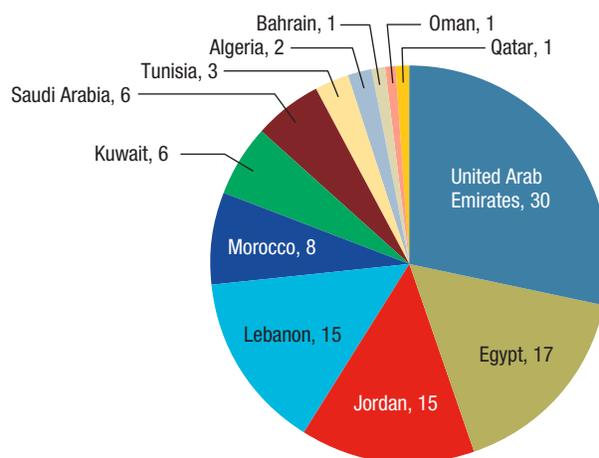
Figure 5.2. Trends and Characteristics of Fintech Investments in MENA

1. MENA-Based Fintech Start-ups (Cumulative, 2002–15)



Source: WAMDA Research Lab 2016.

2. Number of Fintech Start-ups



Source: WAMDA Research Lab 2016.

Impediments to Fintech’s Growth Potential

Domestic conditions in the MENAP and CCA regions are favorable for greater adoption of innovative financial solutions. The high share of millennials⁶ provides a large pool of potential consumers, and growing e-commerce creates

⁶More than 60 percent of the population in the MENA region is younger than 25, and the share of youths in the CCA region is also large.

³Government support has included development funds, incubators and accelerators, and regulatory sandboxes. In addition, more than 20 start-ups from Australia, Europe, the United States, and elsewhere have established a presence in the MENAP region.

⁴Data on the number and value of Fintech start-ups were not available for the CCA region.

⁵Payment solutions include mobile and online payments, digital wallets, international money transfers, and blockchain-based services such as cryptocurrencies. Lending and capital-raising solutions account for 30 percent of the start-ups, including loan comparison platforms, crowdfunding, and peer-to-peer (P2P) lending.

demand for digital financial products, while the high mobile phone penetration in many countries facilitates customer reach. There is also high latent demand for alternative funding sources and cross-border payments because of the large unbanked populations, underserved SMEs, migrant workers, and refugees.⁷

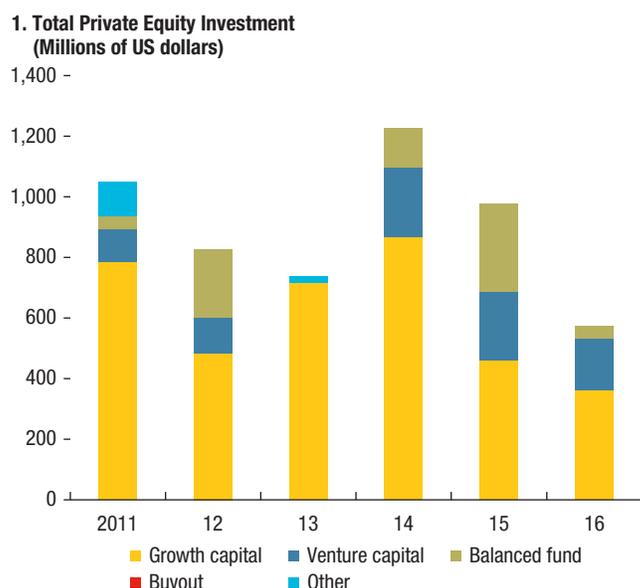
However, significant structural, institutional, and policy impediments to fintech growth remain:

- *The overall business environment is weak.* At the end of 2016, only four countries (Armenia, Georgia, Kazakhstan, United Arab Emirates) were in the top quartile of the World Bank's Doing Business Index. Continued restrictions on foreign entry limit the scope for already established global fintech companies to enter the market.
- *Private equity and venture capital, which have underpinned growth of fintech in advanced economies, remain scarce.* For instance, the value of all private equity and venture capital investments in the MENA region has stagnated at about \$1 billion and declined further in the face of low oil prices (Figure 5.3). The investments also remain concentrated in the United Arab Emirates, and several factors constrain growth, including restrictive regulations (BVCA 2013).
- *Regulatory gaps create legal uncertainties that hamper growth of the sector.* Although regulatory frameworks for digital financial services are being developed⁸ and most countries now have laws governing issuance

⁷For instance, SME lending accounts for 8 percent of total bank lending in the MENA region, compared with 18 percent in middle-income countries globally, despite the crucial role played by SMEs in the region in providing employment and driving growth (Lukonga and others 2014). The Gulf Cooperation Council (GCC) is a major source of remittances, while Armenia, Egypt, Georgia, the Kyrgyz Republic, Jordan, Lebanon, and Tajikistan are major recipients of remittances (Lukonga and others 2016).

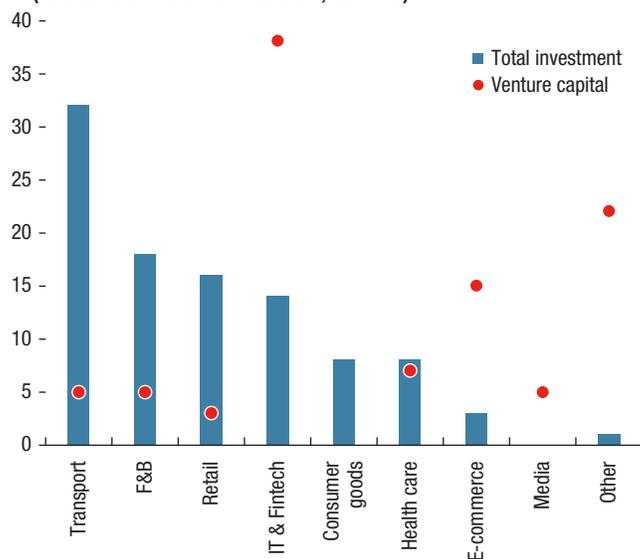
⁸Azerbaijan, the Kyrgyz Republic, and Tajikistan have programs with the World Bank to develop regulations related to electronic and digital payment services, enhance public awareness of the benefits of such services, and advise private firms on rolling out mobile financial services products, with a view to promoting financial inclusion of the unbanked population as well as bringing remittance flows into the formal financial system.

Figure 5.3. Private Equity and Venture Capital Investments



Source: Thomson Reuters Datastream, 2016.

2. Sectoral Composition of Total¹ and Venture Capital Investment (Percent of cumulative investment, 2011–16)



Source: Thomson Reuters Datastream, 2016.

Note: F&B = food and beverages.

¹Total investment as the sum of private equity investment through growth capital, venture capital, balanced funds, buyout, and other.

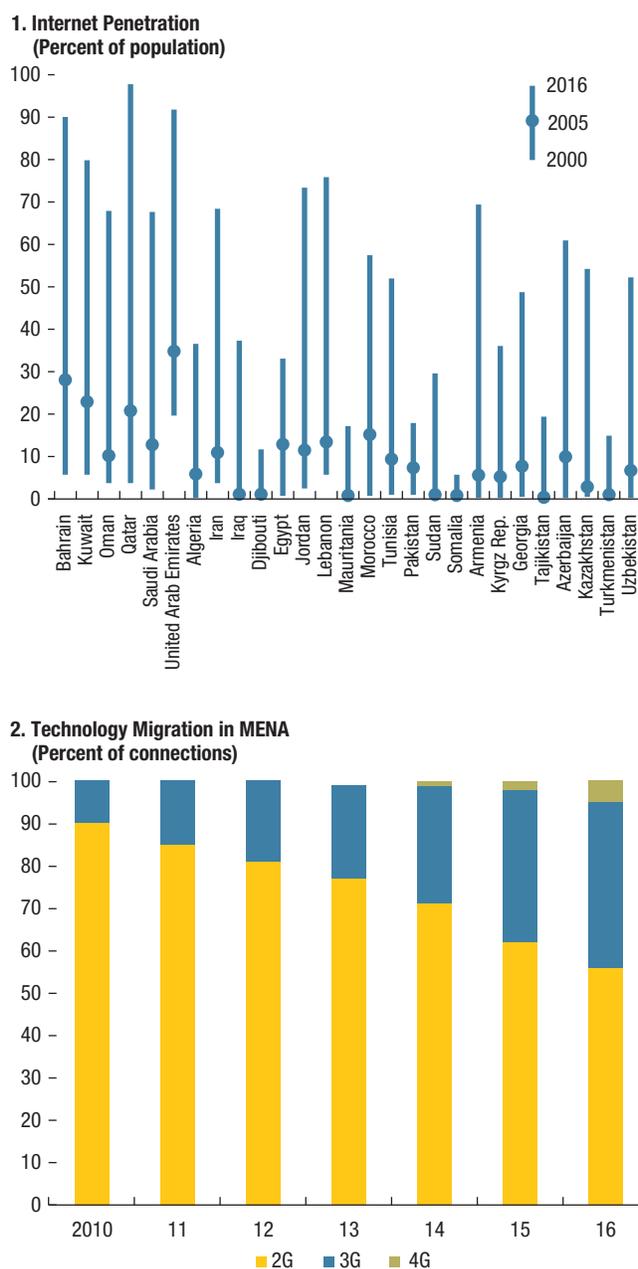
of electronic money (e-money), less progress has been made in other regulations relevant for fintech.⁹ For instance, only a few countries (Egypt, Morocco, Tunisia) have mobile money regulations. Consumer protection frameworks for financial services and data privacy laws have also not been developed in many countries (World Bank 2014). Prudential regulations have not been adapted to fintech specifics, and large capital requirements for banks represent a significant barrier to entry for fintech start-ups.

- *ICT penetration ratios have increased significantly in recent years, but the quality and cost of Internet and mobile phone services continue to be impediments to the adoption of fintech.* The Internet has reached every country, but for several countries the penetration rate is still low, and high-speed Internet is limited and costly. Azerbaijan, the Gulf Cooperation Council countries, and Lebanon have made the most advances, with high penetration ratios for both Internet and mobile phones. Some countries (Djibouti, Pakistan, Sudan, Tajikistan, Yemen) have low penetration rates for both Internet and mobile phones (Figure 5.4). Lack of interoperability of mobile payment systems also fragments the markets, while in some countries (Armenia, Georgia, Kyrgyz Republic) mobile costs are prohibitive.¹⁰
- *Broader institutional support is still limited.* Very few countries have established incubators and accelerators (Egypt, Lebanon, United Arab Emirates) to help scale up start-ups, or regulatory sandboxes (Abu Dhabi, Bahrain, Saudi Arabia) to allow fintech companies and traditional financial institutions to test innovations in a live environment.

⁹The United Arab Emirates is among the few countries proactively introducing fintech-related regulations, including for crowdfunding and digital currencies.

¹⁰More than 80 percent of the population in Armenia, Georgia, and the Kyrgyz Republic need to spend at least 10 percent of household income to afford a basic mobile phone plan (World Bank 2017a).

Figure 5.4. Internet Penetration and Mobile Infrastructure



Sources: International World Internet Statistics 2016; and GSMA (Groupe Spécial Mobile Association) 2016.

Note: MENA = Middle East and North Africa.

- *On the demand side, the “trust gap” and financial literacy constitute major constraints to fintech start-ups.* The use of fintech as a payment channel requires trust to reduce uncertainty and contain transaction costs (He and others 2017). The recent MENA survey of fintech start-ups identifies trust as one of the main obstacles, along with visibility and customer education (WAMDA 2016). The “trust gap” is also cited as a key driver for the more prevalent collaboration between fintech start-ups and banks.

Cyberattacks can lead to operational disruptions, financial loss, reputational damage, and systemic risk, and could become a binding constraint unless cybersecurity frameworks are strengthened. Although cyber risks are not unique to fintech, greater connectivity from digital solutions expands the number of entry points for cyber hackers. In addition, while there have only been a few incidents of successful cyberattacks on financial institutions in the MENAP and CCA, the number of attacks on banks in the region is reported to have increased (Symantec 2017), and the nature of cybercrime is evolving rapidly and becoming more sophisticated. Meanwhile, overall cyber risk preparedness remains weak in many countries. At the end of 2016, only seven countries in the MENAP region (Algeria, Egypt, Oman, Morocco, Qatar, Tunisia, United Arab Emirates) and four countries in the CCA region (Azerbaijan, Georgia, Kazakhstan, Uzbekistan) were reported to have cybercriminal and cybersecurity legislation in place (ITU 2017).

Fintech: A Value Proposition for MENAP and CCA

Fintech presents important benefits (Box 5.1) and could ease some of the critical challenges facing the two regions. Beyond efficiencies in the delivery of financial services and improved customer experience, fintech can contribute to the broader objectives of inclusive growth, economic

diversification and financial stability through several channels:

- *Inclusive growth and economic diversification through financial inclusion:*¹¹ With mobile phone penetration exceeding the number of bank accounts in many countries in the MENAP and CCA regions (Figures 5.4 and 5.5), mobile payments can, with appropriate regulations, help reduce the share of unbanked populations (Box 5.2). Fintech could also provide alternative sources of funding to households and SMEs through marketplace lending platforms such as peer-to-peer (P2P) lending and online trade finance, as demonstrated by China and the United Kingdom (Box 5.2). In addition, fintech can help increase bank lending to SMEs through the application of technologies that reduce information asymmetries (such as *big data* analytics), as well as provide superior record keeping for collateral registries through distributed ledger technology (DLT). Moreover, digital payments create a data trail that enables lenders to assess the creditworthiness of even microenterprises. By improving access to finance, one of the binding constraints facing SMEs in the MENAP and CCA regions (Lukonga and others 2014), fintech could spur economic diversification and job-creating growth.
- *Cross-border trade and remittances:* Fintech and related innovative financial solutions—such as virtual currencies, blockchain-based DLT, and P2P platforms—may provide more efficient, transparent, and cost-effective mechanisms for cross-border payments than traditional banks or money transfer operators that depend on correspondent banking relationships. This could ease the challenges posed by the loss of correspondent banking relationships in some countries in the MENAP and CCA regions (Erbenova and others 2016, IMF 2017).

¹¹In April 2016, the Council of Arab Central Bank Governors adopted an Arab Day of Financial Inclusion demonstrating the commitment to accelerate financial inclusion in the region.

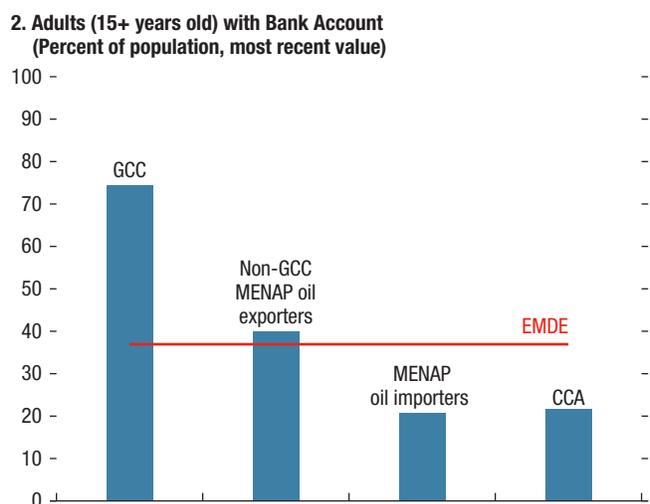
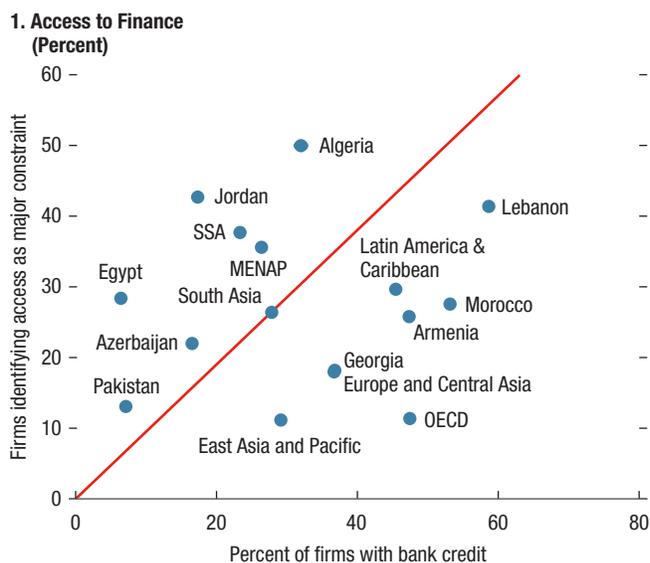
- Financial stability and integrity:* Fintech can contribute to financial stability by reducing banks' operating costs and facilitating the analysis of large amounts of data for risk management and for fraud detection. In addition, with ongoing geopolitical tensions increasing the criticality of anti-money laundering/combating the financing of terrorism (AML/CFT) issues, data-driven technologies could play an important role in facilitating regulatory compliance as countries shift from improving regulations for AML/CFT to the implementation stage.
- Fiscal and monetary operations:* Digitization can facilitate efficiencies in government revenue collection and payments, while greater use of e-payments can reduce fraud and contribute to effective monetary policy transmission. Indeed, Oman is already promoting government e-payments and Kazakhstan has plans to issue government bonds using DLT and mobile phone technology.

Unlocking the Potential of Fintech for the MENAP and CCA Regions

Policymakers in the MENAP and CCA regions recognize the potential fintech presents, and some countries are proactively creating an enabling environment; however, more is needed. Priorities include reforms to close gaps in the regulatory, consumer protection, and cybersecurity frameworks, improve the business environment, and tackle ICT infrastructure gaps along with measures to address the trust gap.

To support development of fintech and ensure risks are managed, changes are needed to legal frameworks and regulatory practices. Reviews of legal, regulatory, supervisory, and licensing frameworks could help ensure that existing laws provide clarity with respect to digital financial products and that evolving risks from innovative products and business models are adequately addressed. Greater use of *regulatory sandboxes*

Figure 5.5. Access to Finance in the MENAP and CCA



Source: World Bank.
 Note: CCA = Caucasus and Central Asia; EMDE = emerging market and developing economies; GCC = Gulf Cooperation Council; MENAP = Middle East, North Africa, Afghanistan, and Pakistan; OECD = Organisation for Economic Co-operation and Development; SSA = sub-Saharan Africa.

would facilitate better understanding of fintech risks and ensure that regulations are appropriately designed. Regulations also need to shift from being entity based to being activity based (He and others 2017), while the framework for collaboration needs to include telecommunication regulators.

Reforms to achieve compliance with international regulatory standards should be sustained

and coupled with enhanced surveillance. Although existing regulatory standards address risks associated with fintech innovation, the evolutionary nature of fintech requires constant monitoring to identify and address emerging financial stability risks. As fintech scales up, regulators and central banks should give priority to monitoring macro-financial risks and ensuring that new technologies do not become tools for fraud, money laundering, and terrorism financing; to identifying and managing operational risks from third-party service providers; and to maintaining the soundness of financial institutions and the safe and efficient functioning of payments systems given the increasing role of nonfinancial companies. Supervisory capacity should be strengthened to remain relevant and effective.

Cyberattacks pose systemic risk and preventing them should be a top priority for regulators. Greater connectivity from digital solutions expands the number of entry points for cyber hackers, increasing the risk of successful cyberattacks. Cybersecurity frameworks are needed to comprehensively address prevention, detection, information sharing, monitoring, and recovery plans.

Improvements in ICT infrastructure are needed to enable businesses to capitalize on innovative fintech applications. In many countries, there is a need to increase the penetration of Internet and mobile telecommunication facilities, improve speed, reduce costs, and ensure interoperability of the mobile payment systems.

Broader reforms of the business environment will help support fintech. Easing restrictions on foreign investment could increase the availability of capital and facilitate a more rapid scaling up through entry of established fintech companies. A review of factors constraining private equity and venture capital and broader capital market reforms are also needed.

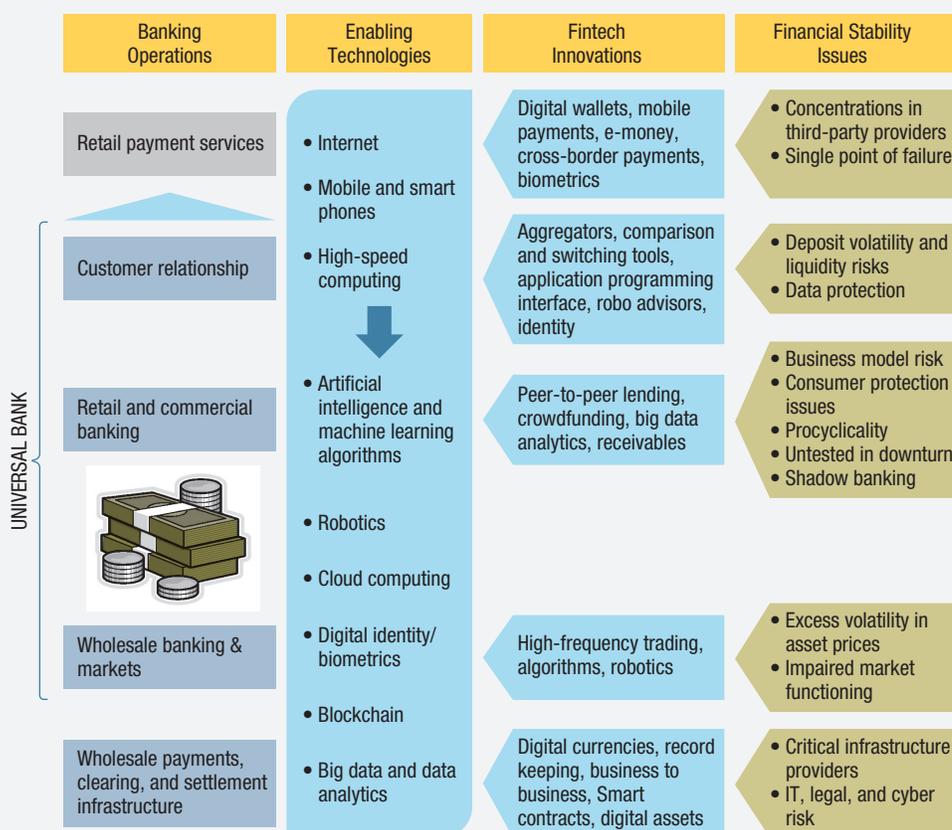
Finally, promoting financial literacy can facilitate the greater uptake and usage of digital financial services. Financial literacy programs should be underpinned by consumer protection frameworks and may require the development of new legal rules to clarify rights and obligations within the new global financial landscape (He and others 2017).

Box 5.1. Fintech: A Primer

Financial technology (fintech) is transforming the financial services landscape. Fintech is not new, but rather has gone through a continuous process of innovation and evolution spanning centuries. However, rapid technological advances and consumer preferences for digital channels have facilitated new business models and the entry of more agile nonfinancial companies (telecommunication, technology) to offer “banking-related services” to clients in core banking areas, including retail and wholesale payments, customer relations, credit provision, and equity capital raising, as well as financial market infrastructures, wealth management, and insurance (Figure 5.1.1).

Fintech presents tremendous opportunities. Customers enjoy reduced cost, real-time payments, increased choice, and greater convenience. Fintech can facilitate greater access to finance for underserved individuals and small- and medium-sized enterprises, and thereby promote higher and inclusive growth. Governments can use digital platforms to enhance efficiencies in revenue collections and government payments. Banks can leverage the technologies to achieve greater efficiencies, strengthen risk management, and enhance regulatory compliance (see Lukonga, forthcoming; FSB 2017).

Figure 5.1.1. Fintech Innovations and Financial Stability



This box was prepared by Inutu Lukonga.

Box 5.1 *(continued)*

Fintech also has financial stability implications. Credit, liquidity, concentration, and operational risks as well as macro-financial and other risks to financial stability, such as procyclicality, shadow banking, and financial integrity, also apply. Although these risks are not new, they may be accentuated given the speed of growth of Fintech, new forms of interconnectedness, and increased dependency on, and possible concentration in, third-party service providers (cloud computing, data services) that are outside the regulatory perimeter. The emergence of systemically important fintech companies, disruptions from big technology companies (like Amazon, Apple, Facebook, and Google) and increased cyber risks (see FSB 2017) are also potential risks.

Box 5.2. Fintech: International Experience

Selected country experiences with financial technology (fintech) point to the importance of balancing regulatory oversight with the flexibility to innovate and the need to manage cyber risks. Growth drivers have included enabling regulations and policies, dedicated incubators and accelerators, close engagement with industry participants (both incumbents and fintech companies), clarity of directives, availability of seed and growth capital (including openness to foreign investment), quality of Internet and mobile infrastructure, availability of local talent, market structure, and degree of financial development.

In the *United States*, fintech companies cover all financial segments, and their growth is underpinned by high-quality infrastructure and abundant talent and capital. Government support has been limited, and the regulatory uncertainty caused by the mixture of multiple federal and state regulators is cited by the industry as a dampening factor. Governance, weak internal controls, and asset quality problems plagued some of the marketplace lending firms (for example, the Lending Club). State-of-the-art technical measures for cybersecurity have been developed. Nevertheless, some successful cyberattacks have resulted in customer data breaches.

The *United Kingdom* has experienced high growth in peer-to-peer platforms, online payments, data and analytic products, capital market trading, and insurance. This growth has been underpinned by favorable government and regulatory support. In 2014, the United Kingdom's Financial Conduct Authority launched the Project Innovate program, which includes an innovation hub and regulatory sandbox. Banks are also required to direct small businesses to alternative finance providers if they are unable to fulfill their financing needs themselves. Though credit by fintechs is still small, the market share of digital first, mobile-only banks ("challenger" banks), and alternative finance providers jumped from 4 percent in 2012 to 12 percent in 2014 (Ernst and Young 2016b). Prudential oversight of peer-to-peer lending has enabled significant credit growth through lending platforms while concurrently containing credit risks. The United Kingdom has also invested significantly in cybersecurity, but the recent Wannacry cyberattack exposed vulnerabilities in several financial and nonfinancial companies, indicating that continuous defense efforts are needed.

In *China*, fintech growth is driven by fast e-commerce growth, rapid increases in online and mobile penetration, and a large number of consumers underserved by incumbent financial institutions, combined with regulatory support and easy access to capital. Underbanked (or unbanked) individuals and small and medium-sized enterprises have significantly benefited from peer-to-peer lending platforms and e-commerce companies leveraging users' merchant data. Prudential regulations and a data privacy framework have been introduced in response to recent challenges in the peer-to-peer sector, as well as data breaches, but regulations remain comparatively lax. China introduced more rigorous cybersecurity laws in the aftermath of the global Wannacry ransomware attack, which affected some bank operations (Ernst and Young 2016a).

Successful models of digital financial inclusion have emerged in *sub-Saharan Africa*, along with new regulatory and supervisory approaches. Some examples include the M-Pesa model in Kenya, which deployed mobile technology to reach 80 percent of households within four years (World Bank 2016). The Central Bank of Kenya also adopted a functional (rather than an institutional) approach to regulation in which banks and nonfinancial corporations (including mobile network operators) are permitted to provide mobile money services. West African countries have also successfully deployed technology for cross-border financial services, including remittances.

This box was prepared by Inutu Lukonga.

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