CHAPTER 3

Selected issues in financing for development: a subregional perspective

1. Introduction

The previous chapter highlighted various estimates of the considerable investment gaps that developing countries face while pursuing implementation of the 2030 Agenda, and subsequently explored ways to help mobilize development finance for closing such gaps. Under the same conceptual framework, this chapter contains an examination of medium-term aspects relating to financing for development from the perspective of Asia-Pacific subregions. The focus of the chapter is motivated by the fact that the Asia-Pacific region is vast and diverse, and different subregions and countries have varying capabilities in terms of implementing the policy options discussed in chapter II. The region is home to some of the world's largest economies, such as China and India, where changing economic conditions or policies have notable implications at the regional as well as global levels. More importantly, the policy priorities of larger economies and the capacity to undertake a range of policy initiatives are considerably different from that of other relatively smaller countries in the region.

Therefore, the goal of this chapter is to delve deeper into certain aspects of financing for development issues from a subregional perspective, and to share knowledge and lessons learned regarding dealing with challenges that are specific to certain subregions. The underlying premise is that, for countries to be able to undertake the investments required towards implementing the 2030 Agenda, a critical condition is their ability to mobilize sufficient financial resources in a stable and predictable manner. Enhancing their access to finance and financial services, including through the use of technology, is another important consideration, especially from the point of view of the private sector. The issues discussed in this chapter are informed by such considerations.

First, given the importance of public resources in closing the investment gaps, efficiency in mobilizing and administering tax revenues is the key. Corrective measures need to be undertaken if this is not the case or if there is room for improvement. Such measures are explored in

this chapter in the context of the South and South-West Asian subregion, which stands out in Asia and the Pacific for having very low tax revenues as a percentage of GDP. It shows that this subregion needs reforms to simplify tax structures, reduce untargeted exemptions and make tax administration more effective. One motivating concern is the fact that the subregion has a regressive tax system (more reliance on indirect taxes than direct taxes) compared with other subregions.

Second, to strike a correct balance between meeting short-run contingencies, for instance due to natural disasters, and addressing long-run investment requirements, for instance to develop sustainable infrastructure, it is important to have a stable and predictable flow of fiscal resources. Unstable and volatile fiscal resources can prove to be very challenging for Governments when planning budgets and devising policies that can support sustained, inclusive and sustainable economic growth. Thus, in the context of the Pacific, the issue of fiscal volatility is analysed, where several policy initiatives, such as sovereign wealth funds (on the revenue side) and natural disaster risk insurance (on the expenditure side) have been implemented. As has become evident, the effectiveness of such initiatives can be greatly enhanced through regional cooperation and integration.

Third, developed capital markets are critical for mobilizing both public resources (through prudent sovereign borrowings, as analysed in chapter II) as well as private resources. In this context, issues surrounding the development of local currency bond markets are analysed for the South-East Asian subregion. Their development is vital to facilitate sustainable investments that are consistent with the 2030 Agenda, especially by large corporates. While this subregion has experienced growth in this area, there is considerable room for improvement, especially in terms of the development of the corporate bond market. The development of markets for government bonds needs to take precedence, as it can catalyse the emergence of corporate bond markets. The analysis shows that efforts are needed to improve market efficiency, deepen secondary markets and broaden the investor base. The role of regional cooperation and integration is particularly important in this context and for this subregion. In particular, the Association of Southeast Asian Nations (ASEAN) has a key catalytical role to play, as smaller markets can "grow" in size and benefit from the already-established relatively advanced markets in the subregion.

Fourth, given that East and North-East Asia is at the global forefront of development and use of financial technology (FinTech), the chapter contains an analysis of the evolution, opportunities and challenges that FinTech presents. After laying out the vital transmission mechanisms at play, it is argued that effective regulation of FinTech is necessary to maximize its benefits and minimize its disadvantages. Regulating FinTech presents several challenges, not least in such areas as the evolution of cryptocurrencies. Policymakers may wish to monitor closely and coordinate regulation internationally as much as possible in order to avoid regulatory arbitrage across countries.

Finally, issues surrounding access to financing by micro-, small and medium-sized enterprises (MSMEs) are analysed in the context of the North and Central Asian subregion. The continued limitations in accessing both equity and credit in this subregion are constraining its ability to overcome the myriad impediments to diversify and transform the structure of their economies. After discussing the barriers that MSMEs face, policy measures are proposed. The issue is complex, and a multi-layered approach is advocated. Reforms need be targeted at diversifying the supply of finance in order to increase the importance of sources other than banks, favour competition in the financial sector and promote venture capital, among others; capacity building of the demand for finance, especially through entrepreneurship funds or business incubators; and streamlining the regulatory framework to make it more effective. Currently, high collateral requirements imply excessive costs for financial institutions to recover their loans or collateral in cases of default.

2. Potential of financial technology in East and North-East Asia

2.1. FinTech affects the entire economy and is growing phenomenally

FinTech can be broadly defined as the application of information technology (IT) to the financial sector. Its importance is crucial due to the role of the financial sector in channelling savings towards sustainable investments, as it can make them more efficient by circumventing inefficient credit allocation systems that tend to favour State-owned enterprises over innovative MSMEs. Indeed, the rise of FinTech has permeated several aspects of economic dimensions, promoting what is known as the alternative economy: an economic structure that is separate from, and operates largely independently of, the traditional economy. Among many examples of the alternative economy, two well-known global ones are Uber (transport services) and Airbnb (accommodation services).

There are several mechanisms through which FinTech affects the economy. First, FinTech enhances the supply of credit. For instance, crowdfunding can channel savings from large numbers of savers on to borrowers, therefore affecting commercial banks' "monopoly" on supplying credit. Second, FinTech also expands the demand for credit. For example, as potential entrepreneurs and microenterprises see as being more feasible the possibility of accessing credit, they may demand more of it. In turn, as the supply of and demand for credit expands, aggregate supply increases via stronger investments and innovation. Finally, FinTech also stimulates aggregate demand, especially through the creation of easier payment methods, such as payment using cell phones.

These transmission mechanisms illustrate how FinTech stimulates private sector development and specifically key segments, such as innovative small businesses, start-ups and entrepreneurs. Besides driving innovations, these small businesses spur investment, generate employment, increase consumption and facilitate domestic resource mobilization via taxes, all of which actions support

Box 3.1. Categorization of FinTech

FinTech enables pooling and tapping assets of many small investors to provide alternative financing for consumers or small businesses, raise venture capital for start-ups and support the creative industry, among other enterprises. Generally considered as a disruptive innovation, FinTech comprises innovative financial instruments and technology-based platforms, such as crowdfunding, peer-to-peer (P2P) or marketplace lending, impact and social investing, cryptocurrencies, big data, online payments or digital finance, to name a few.

Depending on the ways in which savings are channelled to borrowers, the alternative economy can take many formats, which in turn can lead to several classifications:

- Marketplace/P2P consumer lending: individuals or institutional investors loan funds to consumer borrowers;
- Marketplace/P2P business lending: individuals or institutional investors loan funds to business borrowers;
- Equity-based crowdfunding: individuals or institutional investors purchase equity issued by a company;
- Reward-based crowdfunding: individuals or institutional investor funders provide individuals, projects or companies with finance in exchange for non-monetary rewards or products;
- Others: consumer lending, balance sheet business lending, marketplace/P2P real-estate lending, invoice trading, equity-based real estate crowdfunding, donation-based crowdfunding and revenue/profit-sharing crowdfunding.

economic development (World Economic Forum, 2015). Not surprisingly therefore major East and North-East Asian economies have traditionally been supporting and enabling small businesses to thrive. For instance, China established a national small and medium-sized enterprise development fund through a public-private partnership. Japan provides small and medium-sized enterprises with funds at low interest rates and a credit enhancement system to guarantee loans from commercial banks for such enterprises.

The global financial crisis that started in 2007 is generally considered as having been a turning point (Arner, Barberis and Buckley, 2015). In 2016, FinTech grew by 10 per cent globally, attracting $23.2 billion in investments, a tenfold increase relative to that of 2010 (Accenture, 2017). FinTech investments in the Asia-Pacific region, at $11.2 billion, more than doubled in 2016 relatively to a year previously, exceeding that of North America for the first time (North America attracted $9.2 billion in such investments) (Accenture, 2017). Furthermore, the sources of FinTech investment are from within the region, especially from East and North-East Asia. China's alternative online finance market dominates the global market, as it concentrates 99 per cent of the total (table 3.1). Alibaba and JD.com are the two major FinTech investors that are focused on providing end-to-end services, including payments and lending. In 2015, Japan and the Republic of Korea accrued investments worth $360.2 million and $41.2 million respectively (Zhang and others, 2016).

Not all the areas of FinTech are growing equally. In China's online alternative finance market, marketplace consumer lending and business lending constitute 52 and 39 per cent respectively of the total. Meanwhile, Japan's business lending share is almost 90 per cent, as FinTech becomes an investment option vis-à-vis low-interest yields offered by commercial banks. Crowdfunding in Japan has also been on the rise, averaging 60 per cent in the last four years (Yano Research Institute, 2017).[1] The Republic of Korea's FinTech market is heavily concentrated in consumer lending (figure 3.1).

With such fast transformation, the FinTech architecture is also rapidly transforming the digital payments systems in East and North-East Asia. China is at the forefront of using mobile messaging applications, or "apps",[2] and has introduced biometric payment services.[3] Similarly, cashless payments are widely used through mobile wallets and the acceptance of various types of e-money in Japan and T-money[4] payments in the Republic of Korea. In Mongolia, the infrastructure for electronic payments is growing rapidly, particularly Internet and mobile banking, although it remains underdeveloped outside of Ulaanbaatar (IFC, 2014).

Thus, FinTech offers very large potential benefits for various aspects of the economy. For example, digital financial services, together with effective oversight and supervision, can expand the scale, scope and reach of financial services

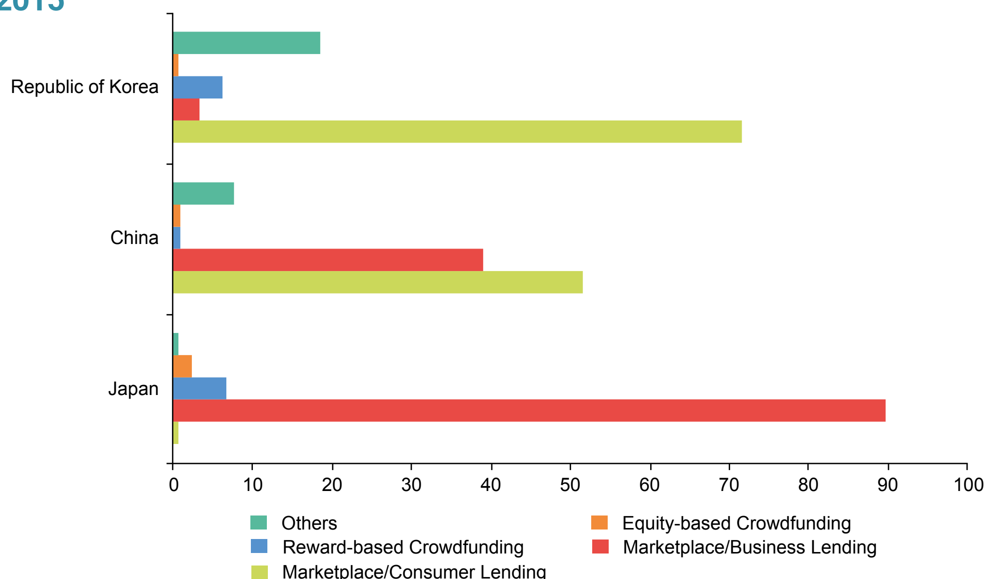
Table 3.1. Online alternative finance market in East and North-East Asia, 2013-2015

(Millions of United States dollars)

	2013	2014	2015
China	5 560.0	24 300.0	101 690.0
Japan	92.7	125.2	360.2
Republic of Korea	2.2	2.9	41.2
Asia-Pacific region (excluding China)	137.2	271.9	1 120.0

Source: Bryan Zhang and others, *Harnessing Potential: The Asia-Pacific Alternative Finance Benchmarking Report* (Sydney, 2016). Available from http://sydney.edu.au/business/__data/assets/pdf_file/0005/262166/Harnessing-Potential-Report.pdf.

Figure 3.1. Percentage share of the alternative finance market in East and North-East Asia, 2015



Source: Bryan Zhang and others, *Harnessing Potential: The Asia-Pacific Alternative Finance Benchmarking Report* (Sydney, 2016). Available from http://sydney.edu.au/business/__data/assets/pdf_file/0005/262166/Harnessing-Potential-Report.pdf.

in order to close gaps in financial inclusion. Similarly, blockchain (the underlying technology cryptocurrencies potential for efficiently managing various stakeholders and parties in complex, cross-border projects, especially those involving public-private partnerships. Indeed, such projects will be vital from the perspective of furthering regional integration with sustainable infrastructure. The policy aim should be to promote digital solutions in accelerating financial inclusion and to balance the risks and opportunities of digital financial inclusion, through an enabling and proportionate legal and regulatory framework (ADB, 2016b).

In this vein, China has undertaken efforts to improve financial infrastructure through an integrated city and rural approach. In 2010, a pilot test to provide financial services to farmers through bank cards and point-of-sale devices was aimed at expanding access to digital finance (G20 Global Partnership for Financial Inclusion, 2017). Similarly, China's Financial Inclusion Plan (2016-2020) encourages the use of technology by financial institutions and leveraging on the Internet for digital inclusion. In the Republic of Korea, the Seoul Metropolitan Government catalysed a market for impact investing through procurement ordinance for goods and services from social enterprises, and supported incubation and social entrepreneurship education; it also launched a fund for public crowdfunding.

2.2. Major drivers of the FinTech revolution

Several factors have made the rise of FinTech possible. At a more fundamental level and across countries, high levels of mobile phone adoption, massive use of the Internet in all aspects of everyday life and an increasing urban population with higher financial literacy have clearly favoured its spectacular rise.

Country-specific factors that have facilitated the expansion of FinTech are a developed financial infrastructure and paradoxically inefficient credit allocations. In some countries where State-owned enterprises were given a clear preference for credit allocation, FinTech has made possible the development of alternative financing schemes. In China, a well-developed e-commerce business, high demand for inclusive finance, a trial-and-error capability (McKinsey & Company, 2016) and wide use of so-called smartphones are at the root of the unprecedented growth of digital finance.

Several financing mechanisms, tax and incentive schemes have also supported the development

of the FinTech ecosystem directly or indirectly in East and North-East Asia. For instance, Japan's amendment of its Banking Act in June 2016 enabled bank financing for finance-related IT companies and those engaged in settlement services. Japan and the Republic of Korea allowed equity-based crowdfunding to encourage investments among non-listed small- to mid-sized companies, subject to a threshold value and/or years of business operations.

Credit schemes have also improved the access to finance of small and medium-sized enterprises and start-ups. For example, the Republic of Korea has a guarantee system to support small and medium-sized enterprise innovation (Korea Technology Finance Cooperation, 2018) using technology appraisal and a credit infrastructure to which financial institutions may refer in evaluating start-ups' viability, including management, intellectual property, marketability and business feasibility, in order to provide them with credit financing.[5]

Preferential tax schemes, such as the so-called angel scheme in Japan, assist in financing newly founded venture enterprises by individual investors known as "angels" (National Association of Trade Promotion, 2016), through a reduction in income and capital gains taxes for investing in such enterprises. The Republic of Korea also offers a wide range of tax incentives to small and medium-sized enterprises for FinTech, tax relief for venture businesses and tax deductions for technology research and development.

Hong Kong, China intends to become a FinTech innovation hub and has established a steering/advisory group and a FinTech facilitation office. This kind of support is similar to the FinTech support centres or support desks in Japan and the Republic of Korea; both of these countries cater to FinTech start-ups and the development of a FinTech ecosystem.

Box 3.2. Bitcoin, cryptocurrencies and blockchain technology

Bitcoin is a digital currency that was created by Satoshi Nakamoto in 2009. It was designed as a peer-to-peer payment system to be used in online transactions; it is considered to be the world's first completely decentralized digital currency. The unique and revolutionary aspect of Bitcoin is that, unlike prior payment systems, financial transactions can be accomplished without an intermediary, that is, Bitcoin does not have a central authority; it is the network itself. Relying on the "cryptocurrency" concept, Bitcoin uses encryption to control the generation of units of currency and secure the transfer of funds. The transfers are recorded in a publicly distributed ledger called a "blockchain", in which "blocks" of new information can be continuously added (Schueffel, 2017).

Blockchain is a shared database that exists across different locations or between various participants, with entries that must be confirmed and encrypted (Meola, 2017) by a previously authorized group or even a single user (in a "permissioned" ledger), or the changes in the database can be made and verified by any user in the network (in a "unpermissioned" ledger). The entries have a logical relationship with their predecessor and all the users in the network have a copy of the database. In this ledger, all the changes made by the nodes are reflected in all copies within minutes (United Kingdom, Government Office for Science, 2016), thus maintaining its accuracy and integrity.

As a publicly distributed ledger, one of the advantages of the blockchain is that it enables trust. The transactions, once they are verified, cannot be undone or falsified and are transparent to everyone in the network. The transactions in the Bitcoin network are made using public-key cryptography, assigning each user one public key, which could be roughly compared with a bank account number, and a private key, which can be compared with a password. To transfer bitcoins from one user to another, one message is created, and this message is added to the blockchain. To verify the authenticity of this message, that is, to verify if the "signature" (private key) of the sender is the same as the "bank account number" (public key), users called

Box 3.2. *(continued)*

"miners" perform computer hardware mathematical calculations to confirm these transactions (bitcoin.org, 2017). This process, although costly, rewards the users with newly created bitcoins. Consequently, those users compete among themselves to provide faster proof of work and record these transactions in a new block. By making it costly, the process of validation is secured in the sense that it would be contingent upon massive computational power and not solely on the number of identities someone controls to falsify a transaction (Nielsen, 2014).

Despite having existed since 2009, the value of bitcoins peaked against the United States dollar only recently before dropping considerably. By end-2017, the value of bitcoins reached astonishing values, from an average of $958.96 per bitcoin in January 2017 to $17,550 in December of that year. More recently, however, its value collapsed dramatically to $8,175 as of 15 March 2018. Conceptually, although Bitcoin offers some potential benefits, the sudden increase in the value of bitcoins followed by that considerable decline clearly indicates that there is a speculative bubble surrounding Bitcoin. Therefore, caution is needed when buying bitcoins as an individual or adopting the system at the institutional level.

Nevertheless, some potential benefits of Bitcoin can be mentioned. Transactions with bitcoins are quicker and involve lower transactions fees than those performed in usual payment networks (Brito and Castillo, 2013). The lower transaction fees hold promise for a low-cost remittance system and for enabling a cost-effective micropayments system. Bitcoin also has the potential to promote financial inclusion by providing cheap and global financial services and to increase trade by making transaction costs cheaper (bitcoin.org, 2017). Finally, the Bitcoin Protocol can also serve as a stimulus to innovation. As the blockchain technology is a register of ownership, its transparency can be used in many other sectors, such as financial transactions, intellectual property or public records (McKinsey&Company, 2017).

Notwithstanding their benefits, there are significant challenges attached to the broader usage and acceptance of cryptocurrencies as a payment system. Bitcoin's lack of consumer protection or supervision by public authorities contributes to its perception as a risky innovation (Sveriges Riksbank, 2014). Furthermore, the risk of unknown technical flaws in the protocol and security breaches in cryptocurrency exchanges, such as the hacking of the Mt. Gox Bitcoin exchange in 2014 and the Coincheck wallet and exchange service in 2018, increases the uncertainty surrounding cryptocurrencies. Moreover, payments in the Bitcoin network are not performed in real time, and Bitcoin is still not widely accepted (Sveriges Riksbank, 2014). The common perception that digital currencies are used to finance illegal activities online also discourages broad public use.

Policymakers should regulate cryptocurrencies in order to maximize their benefits and minimize possible negative consequences. In the short term, Governments should decide whether to create new regulation especially for cryptocurrencies, or whether old regulations should be adapted to better accommodate them. In the longer term, however, new regulations should be created to foster innovations, such as blockchain, keeping in mind that bitcoins and cryptocurrencies can be highly risky assets, and investing in them should be very carefully considered.

2.3. Regulatory framework as a driver of FinTech: policy considerations

Innovation-driven growth strategies, supportive regulatory framework and financial assistance have had, and are having, strong influence in the growth of FinTech in East and North-East Asia. The regulatory environment is arguably the most crucial factor explaining the rise of FinTech in that subregion. Initially, countries adopted a "wait-and-see" approach that led to considerable growth in FinTech. For instance, China allowed the nascent e-payment system and P2P platforms to operate without setting a legal and regulatory framework, thereby allowing developers space to innovate, expand and contribute to the growth of the digital ecosystem (G20 Global Partnership for Financial Inclusion, 2017).

Several concerns have arisen more recently, however, notably about consumer protection and cryptocurrencies. This is because, by its very nature, FinTech facilitates the development of shadow banking, understood broadly as financial intermediaries that are not subject to regulatory oversight by central banks.[6] Using Internet finance, debt-based lending platforms have greatly expanded with relatively loose regulatory policies in such countries as China (Zhang and others, 2016), which has introduced an array of risks and challenges due to inexperience among new investors and the limited information available on best practices. Similarly, from the beginning of Bitcoin (the first cryptocurrency), there were worries that it could be used for illegal activities. Generally, unregulated or poorly regulated FinTech can translate into poor consumer protection, which can exacerbate vulnerabilities and inequality in a society. There have been cases involving cryptocurrency exchanges where people lost their savings due to theft, such as the Mt. Gox "hack" in 2014 and that involving Coincheck in 2018. In January 2018, after detecting an unauthorized access Japan's cryptocurrency exchange Coincheck found that $400 million in NEM coins had been stolen.

In response, countries have started examining closely and regulating FinTech, especially cryptocurrencies. Two broad approaches have been adopted. On one hand, such countries as China have become increasingly restrictive. After the collapse of the peer-to-peer lender Ezubau,[7] China implemented "know your client" measures for the administration of online payments performed through non-bank payment institutions.[8] Amid worries about financial scams and money-laundering activities, the Government also began to tighten its grip on Bitcoin by banning companies from making initial cryptocurrency offerings, and in September 2017 closed some Bitcoin exchanges.

Recent guidelines[9] issued by Chinese financial regulators have been aimed at developing Internet (digital) finance while reducing emerging risks, such as fraud, money laundering, illegal fundraising and the unauthorized disclosure of users' personal information. New regulations cover non-bank payment services, licensing procedures and investor requirements and a centralized clearing platform. As with China, the Republic of Korea (one of the countries with the world's largest volume of exchange in cryptocurrencies) has turned increasingly restrictive towards cryptocurrencies. This does not mean, however, that all FinTech activities are being hindered. China continues to promote innovation and venture capital under its 13th Five-year Development Plan and has since then considered policies towards crowdfunding, online lending and Internet-based financing, among others. The rapid growth of FinTech, advancement of digital infrastructure and risks prompted not only the shift towards regulation, but also towards self-regulation in the FinTech sector (NIFA, 2016).

On the other hand, Japan has taken a more permissive approach and regulates FinTech to promote it. Registration and verification requirements are some examples of compliance measures to protect consumers and users and maintain strong healthy development of FinTech in East and North-East Asia. In the wake of the collapse of the Mt. Gox exchange[10] in 2014, Japan provided for the registration and capital requirements for virtual currency exchanges as well as cybersecurity and self-regulation to enhance customer protection and prevent money laundering (Okano, 2016). In April 2017, Japan, through its

Virtual Currency Act, began to recognize Bitcoin and other virtual currencies as legal tender and a method of payment, and it exempts the purchase and sale of such currencies from consumption tax. Cryptocurrency exchange operators are now required to register with the Financial Services Agency under an amendment to the Payment Services Act and undergo regular controls. Japan's active revitalization strategy towards the fourth industrial revolution includes promotion of artificial intelligence, FinTech and cashless payments. As entrepreneurs are aware of the new clearly set rules, this is expected to stimulate innovation and future development of the sector.

As there are no internationally agreed financial regulatory standards and the pace of change is exponential, regulators should keep a close eye on the evolution of FinTech in their countries. There are some key aspects that policymakers should consider when they adapt their regulations. First and foremost, there is a need for regulators to strike a balance between facilitating innovative financing services and performing varying mandates, such as consumer protection, market stability, market competition and prudential regulation (ADB, 2016a). For instance, recent regulatory requirements can be an obstacle to new market entrants and an added burden to promote access to finance. In China, marketplace and P2P lending platforms must now hold borrower and lender funds in an escrow custodian account with registered financial institutions separate from their own alternative platform. In the Republic of Korea, limitations on financial firms, that is, the scope of their permissible business or mismatch between supply and demand, as well as hefty capital barriers for FinTech start-ups and business regulations, are stumbling blocks to market-driven FinTech innovation (Lee, 2017).

Second, the benefits of FinTech should be inclusive, and policymakers have a central responsibility in this regard. In 2017, the Republic of Korea introduced Internet-only banking to cater to the marginalized or "unbanked" members of society. Another example of policy adjustment to enhance inclusiveness and competition in the financial sector is the deregulation of money transfer services, which traditionally had been provided only by banks and licensed depository institutions. In 2010, companies in Japan other than banks have been authorized to perform such services subject to a threshold value.

Third, regulation can become very complex, especially in such a fast-evolving environment as FinTech. In the Republic of Korea, FinTech firms argued that the country's complex legislation was unable to keep pace with the technological and market developments (Korea Chamber of Commerce, 2017). In 2017, the Government revised the regulations on electronic financial transactions and announced an innovative FinTech regulation plan to support convergence of finance and technology, maintain technology neutrality and lower entry barriers in such areas as remittances of foreign exchange, P2P finance and robo-advisors.[11] Japan's Financial Services Agency is also reviewing currently fragmented financial regulatory frameworks and envisages restructuring the framework with the enactment of a new law associated with FinTech in 2018.

Fourth, in the era of "big data", ownership and control of data is a key issue for all stakeholders as financial institutions seek to increase the amount and variety of data that they collect. For instance, in the Republic of Korea, there is a proposal for an open data policy to allow third parties to access financial firms' customer information (Lee, 2017). Currently, FinTech data are subject to relevant protection on personal information, such as Japan's Act on the Protection of Personal Information and China's Cyber Security Law, which provides for civil, criminal and administrative liability (effective June 2017). The Republic of Korea's law on personal information protection applies to processing entities regardless of whether they are located overseas. Meanwhile, the protection of data privacy has been expanded to reputational risk in Hong Kong, China, where the commissioner would be allowed to publish the name of an organization that is the subject of an investigation for violation of privacy.

Fifth, regulatory technology (RegTech) is emerging in response to FinTech. RegTech is an evolving area to promote risk-based and technology-neutral approaches by facilitating more efficient

regulatory monitoring, reporting and compliance and helping to avoid regulatory arbitrage through so-called regulatory sandboxes or test-and-learn approaches (ADB, 2016b).[12] In Hong Kong, China, the FinTech supervisory sandbox allows banks to conduct testing and the trial of innovative technologies without full compliance with the monetary authority's supervisory requirements. However, applicant firms need to provide ex ante customer protection and effective complaint-handling measures. In the Republic of Korea, its regulatory test bed is defined as a temporary, limited mitigation of regulations during a pilot period to test innovative financial business models. RegTech also provides an opportunity to help create transformative big data to support a paradigm shift from the know-your-customer to know-your-data approach (Arner, Barberis and Buckley, 2016). Such data could, for example help create a system of credit scoring for small and medium-sized enterprises and risk data for regulators to inform due diligence.

Finally, East and North-East Asia is characterized by differing regulatory priorities, technological capabilities and customer conditions that could challenge the narrative of FinTech to finance development. Fragmented regulations across countries can create competing interests and negative externalities. Hence, regulatory convergence is a vital concept to monitor; international coordination will be critical to maximize the benefits of FinTech and minimize its potential negative effects.

3. Developing local currency bond markets in South-East Asia

3.1. The role of local currency bond markets in mobilizing financial resources

Countries in South-East Asia, in common with those in other subregions, face the challenge of efficiently deploying financial resources to effectively pursue implementation of the 2030 Agenda. The private sector, particularly non-bank private institutions and individuals, can play a vital role in providing financing for sustainable development. This would bolster the resources that Governments obtain from taxation and that which the corporate sector obtains from bank loans, thereby facilitating investments. Thus, fostering government and corporate bond markets can be an important avenue by which Governments and the corporate sector can diversify and increase their financing sources. Along with enhancing local capital markets' infrastructure, bond markets help to reduce excessive reliance on short-term funding from the banking sector. South-East Asia remains highly dependent on banks for private financing. It is estimated that commercial banks account for more than 80 per cent of the total financial institution assets in ASEAN (Lee and Takagi, 2014). Moreover, development of local currency bond markets in the subregion can help mitigate currency and maturity mismatches,[13] which some Asian economies experienced during the 1997/98 Asian financial crisis.

Continued excessive reliance on bank loans, from both local and foreign banks, by the corporate and household sectors remains an issue and a source of currency and maturity mismatches. Similarly, Governments' external financing requirements as a percentage of GDP have increased considerably since 2010 in several South-East Asian economies, with the largest rise being seen in Malaysia, followed by Indonesia and Thailand. The ratio stands at nearly 40 per cent of GDP for Malaysia, with Thailand and Indonesia each standing at nearly 10 per cent of GDP, with the emerging markets' average being about 20 per cent of GDP (IMF, 2017). On the corporate side, the foreign currency share of non-financial corporate debt is particularly high in Indonesia, standing at more than 50 per cent of total non-financial corporate debt, with the global emerging markets' average being about 45 per cent (IMF, 2017). As shown in chapter I, even more of a concern is the increasing total external short-term debt (public and private) to GDP ratios, with the largest rise being for Malaysia. This situation has led to rising macroeconomic and financial stability risks.

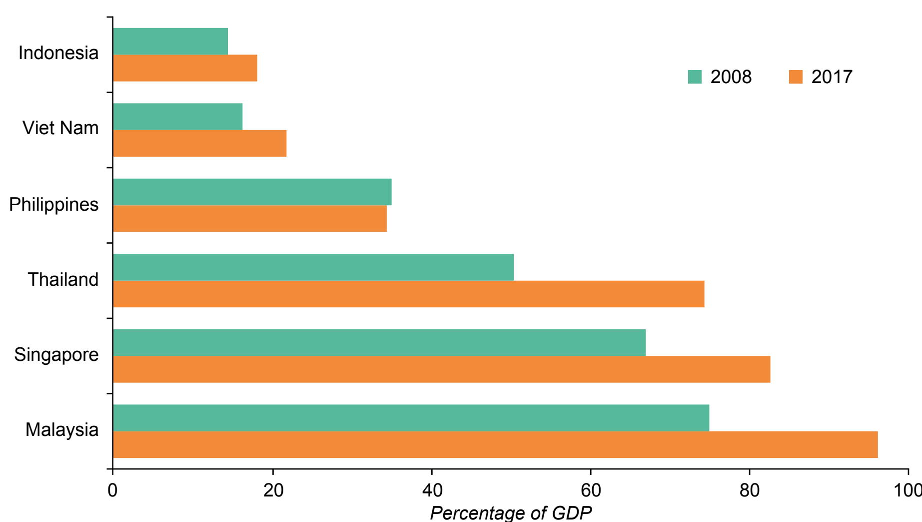
The robust growth in local currency bond markets in South-East Asia in recent years is a positive development. The size of the market in ASEAN economies stood at $1.19 trillion by mid-2017 (Zakariah, 2017). However, this growth remains unbalanced across countries due to the continuing prevalence of a range of obstacles. The size of corporate bond markets remains small in most economies as local currency bond markets are concentrated by far in government bonds. Thus, the challenge is how to stimulate growth in the local currency corporate bond market to strengthen the financing options of the corporate sector. The potential demand pool for such bonds exists, given the high rate of savings in the region, which are invested mostly in low-yielding foreign assets, such as United States Treasury bills, due to the perceived lack of reliable investment opportunities within the region. Governments therefore should undertake policies on the supply side to overcome obstacles to the greater issuance of local currency bonds, particularly by the corporate sector.

3.2. Segments of the market: government and corporate bond markets

A few countries in South-East Asia have a developed local currency bond market in terms of relative size to GDP. The development is led by Malaysia and Singapore, followed by Thailand and to a lesser extent the Philippines (figure 3.2). Indonesia has the smallest bond market in the region, followed by Viet Nam, while Cambodia, the Lao People's Democratic Republic and Myanmar currently do not have an active bond market. The reasons for the lack of a bond market in the smaller economies include lack of sufficient macroeconomic stability and the strength of legal protection of borrowers (Burger, Warnock and Warnock, 2015).

Government bonds dominate local currency bond markets, accounting for an estimated 65 per cent of total local currency outstanding bonds (figure 3.3). Government local currency bond issuance in South-East Asia in 2017 stood at $902.3 billion (Asian Bonds Online, 2017).[14] While this amount was nearly double the size of the corporate local currency bond issuance of $435 billion, it is important to note that both classes of bonds have seen strong growth in the last 10 years. In general, corporate bonds have grown more rapidly than government bonds in countries where the local currency bond markets are smaller (figure 3.4). Between 2008 and 2017, total local currency bond issuance in South-East Asia grew by 241 per cent, which can be decomposed as follows: government local currency bond issuance increased by 233 per cent, while corporate local

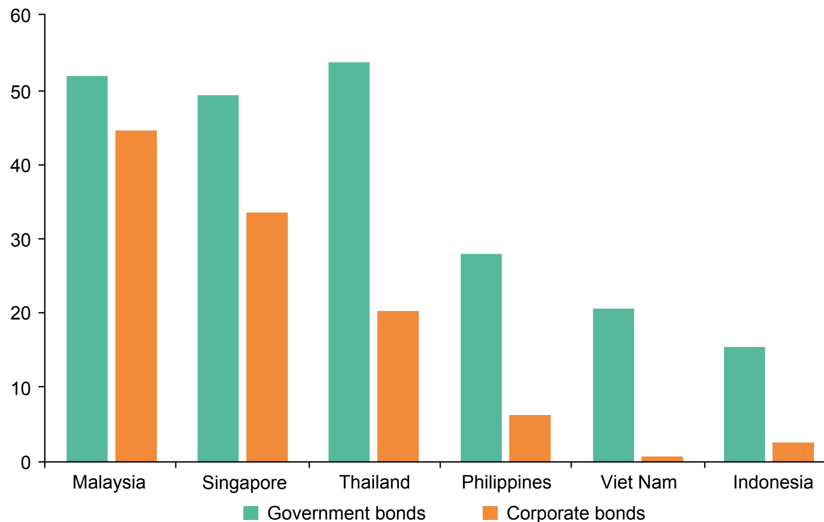
Figure 3.2. Local currency bond market size, 2008 and 2017



Source: ESCAP, based on Asian Bonds Online, Asian Development Bank. Available from https://asianbondsonline.adb.org/. (accessed 1 March 2018).

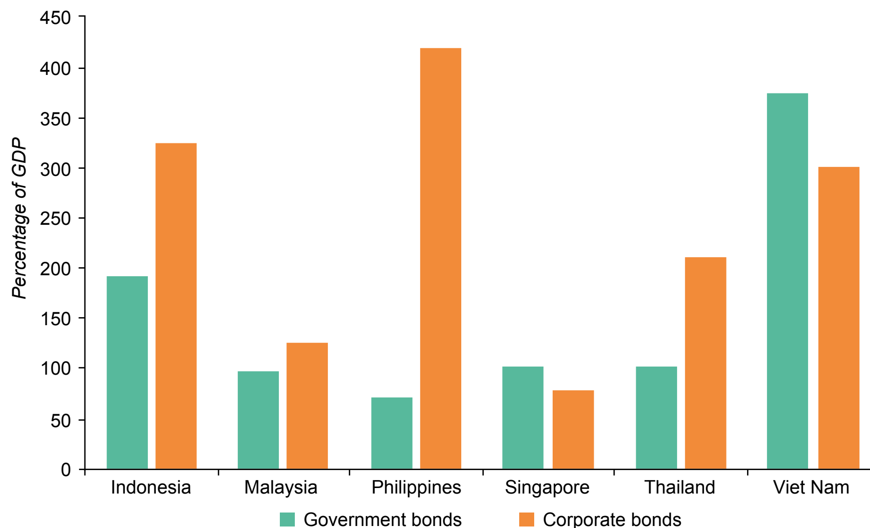
Note: Data for 2008 are as of December 2008; 2017 data are as of December 2017. The total local currency bond market comprises both government and corporate bond markets.

Figure 3.3. Local currency government and corporate bond markets in 2017



Source: ESCAP, based on Asian Bonds Online, Asian Development Bank. Available from https://asianbondsonline.adb.org/.
Note: Data for 2017 as of December 2017.

Figure 3.4. Percentage growth of local currency bond market, 2008-2017, by segment



Source: ESCAP, based on Asian Bonds Online, Asian Development Bank. Available from https://asianbondsonline.adb.org/
Note: Data for 2017 as of January 2018.

currency bond issuance increased by 321 per cent (Asian Bonds Online, 2017).[15] At the same time, foreign currency denominated bond issuance in ASEAN also expanded, but not at as fast a pace as local currency bonds. In 2016, foreign currency debt issuance increased from $37 billion to $37.8 billion (ADB, 2017b).

The 1997/98 Asian financial crisis played a catalytic role in propagating local currency bond issuance in the region, as issuers sought to avoid currency and maturity mismatches in the future. Subsequently, the 2008 global crisis further fuelled the growth of local currency bond issuance as a new source of funds for both government and corporate issuers. Governments turned to local currency bond markets to finance their fiscal stimulus packages in the post-crisis period. Corporate borrowers also turned to issuing more local currency bonds, as banks became

reluctant to lend to them when global banking liquidity dried up.

In 2017, the purchasers of local currency government bonds were primarily domestic, with the highest foreign participation being nearly 40 per cent of total buyers in Indonesia, while Malaysia saw about 25 per cent and Thailand about 15 per cent (ADB, 2017c). Among domestic purchasers, banks are the major group as compared with institutional investors, such as insurance or pension funds.

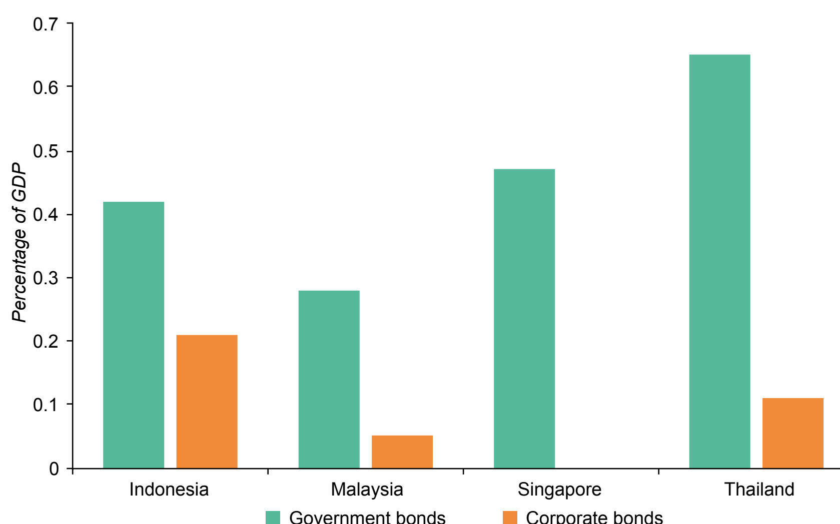
3.3. Challenges: liquidity, number and types of issuers and credit quality

Several challenges remain for local currency bond markets' development in South-East Asia. First, despite considerable growth in the primary issuance of bonds, there is the challenge of secondary market liquidity, that is, there is a "buy-and-hold mentality" in the market. This aspect is particularly pronounced for the corporate bond markets. Examination of turnover ratios, measured as the ratio of total turnover to the average outstanding amount of debt securities, is one way to gauge the extent of the liquidity problem in the secondary market; a higher turnover ratio implies a more active and liquid secondary market. As shown in figure 3.5, turnover ratios for corporate bonds in South-East Asian countries range between 0.1 and 0.2, as compared with between 0.4 and 0.7 for government bonds.

One reason for low liquidity is the lack of depth in the corporate bond markets in terms of the length of maturity of the instrument issued. Most bonds issued are of short-term maturity, which discourages liquidity because investors tend to hold the bonds to maturity. Apart from Malaysia, the Philippines and Singapore, more than 60 per cent of corporate bonds in other South-East Asian economies have maturities of less than five years. Notably, 87 per cent of Indonesia's corporate local currency bonds have maturities of less than five years, and 58 per cent have maturities of less than three years. Longer maturities favour a wider choice of investments, allowing for more participation of the private sector in projects that require sustainable capital investments.

A second challenge for the development of local currency corporate bond markets is the concentration of issuers, with the top 10 issuers accounting for 60-90 per cent of individual South-East Asian countries' total corporate bond issuance. This implies a clear profile of the corporations

Figure 3.5. Bond turnover ratio, 2017



Source: ESCAP, based on Asian Bonds Online, Asian Development Bank. Available from https://asianbondsonline.adb.org/ (accessed 1 March 2018).

Note: Bond turnover ratio is defined as the ratio of total turnover to the average outstanding amount of debt securities. Data are not available for the corporate bond turnover ratio of Singapore. Data for 2017 are as of December 2017.

that have access to bond market funding: it is primarily available to large and well-established corporations. Hence, this is a form of "pseudo-public borrowing": most corporate bond issuance originates from government-owned corporations, banks and other non-bank financial institutions. In terms of sectors, the main ones are energy, transport and other utility companies.

The third area requiring development is the range of credit quality of the corporate bonds issued. Currently, corporate bonds are clustered in higher credit ratings and do not cover the entire range of the credit curve. This situation limits market depth and reflects investors' conservative behaviour due to perception of high risk, leaving lower-rated companies without bonds as a financing option. Only the best-rated sovereign-risk countries issue bonds, and even those are not top rated by international standards, such as Thailand being rated Baa1 in July 2017 by Moody's; corporations usually have lower credit ratings than countries, which limits investors' appetite for such bonds.[16]

3.4. Initiatives to boost the development of corporate local currency bond markets

All these elements show that corporate bond markets in many South-East Asian countries are relatively underdeveloped in terms of size, liquidity and maturity, which impedes the channelling of existing savings into long-term investments, such as sustainable infrastructure projects. To address these challenges, first it should be recognized that local currency bond markets are not developed overnight, but through an incremental and slow process. Furthermore, a developed government bond market is a prerequisite for corporate bond markets. Such an incremental process has been observed in South-East Asia; such countries as Indonesia, the Philippines and Viet Nam first established a government bond market before the corporate one – other countries, such as Malaysia, Singapore and Thailand, have more advanced bond markets because they are wealthier economies and have more advanced financial sectors. Although a government bond market does not automatically lead to the development of a corporate bond market, a reliable benchmark yield curve provided by the government bond market is a necessary condition to allow for efficient and transparent pricing of corporate bonds. Specific elements required to develop a government bond market are regular issuance, a well-functioning primary dealer system, a vibrant hedging market and active liquidity enhancement facilities (BIS, 2006). In a similar vein, developing corporate bond markets require well-operated infrastructure, including such elements as standardized credit rating systems, risk management products and a functioning legal and regulatory framework.

Regional cooperation and integration have a significant role to play in the development of local currency bond markets, and ASEAN has undertaken several important initiatives in this regard (table 3.2). Notably, in 2003 the ASEAN+3 countries (ASEAN countries plus China, Japan and the Republic of Korea) launched the Asian Bond Market Initiative (ABMI), which is aimed at strengthening regulatory frameworks and necessary market infrastructure and promoting the issuance of local currency bonds. AsianBondsOnline was launched in 2004, which has greatly facilitated access to data in South-East Asia. In 2010, the Credit Guarantee and Investment Facility (CGIF) was established by ABMI in collaboration with the Asian Development Bank to foster standardization of market practices and the harmonization of regulations relating to cross-border bond transactions in the region (table 3.2) and to provide credit guarantees for investment-grade local-currency bonds (Sahay and others, 2015). A bond-pricing portal among five banks across ASEAN economies was launched in 2013 to serve as a precursor for an electronic trading platform in line with a similar project to integrate equity trading. Five banks in Indonesia, Malaysia, the Philippines, Singapore and Thailand are participating. Hong Kong, China; and Malaysia also launched a pilot platform for cross-border clearing and settlement of debt securities in 2013; the platform is aimed at promoting standardization and dissemination of corporate announcements across Asian markets. In May 2016, the latest elements of the ABMI were green bonds, infrastructure finance, small and medium-sized enterprise finance and housing finance. As of March 2017, CGIF had issued 17 credit guarantees valued at $1.06 billion for bonds issued by 13 companies in 8 ASEAN member countries.

Table 3.2. Bond market development timeline

Year	Initiative
2003	Asian Bond Market Initiative (ABMI) is launched under ASEAN+3 to develop a liquid and well-functioning bond market.
2003	Asian Bond Fund 1 (ABF1) is launched by central banks of the Executives' Meeting of East Asia and the Pacific countries to invest pooled savings in the region's (sovereign and quasi-sovereign) bond markets.
2004	ABMI launched AsianBondsOnline as a one-stop data and information portal for institutional investors, policymakers and researchers participating in local currency debt markets.
2005	Asian Bond Fund 2 (ABF2) started channelling investments into local currency bonds as a follow-up to ABF1. The primary goal is to reduce market barriers for investors and to improve liquidity in sovereign bond markets.
2008	ASEAN+3 ministers sign the New ABMI Road map to set up task forces to address specific issues in local bond market development.
2010	ASEAN+3 establishes the Asian Bond Market Forum (ABMF) as a platform to foster standardization of market practices and the harmonization of regulations relating to cross-border bond transactions in the region.
2010	The Credit Guarantee and Investment Facility is started as a trust fund within the Asian Development Bank to provide guarantees for local currency corporate bonds issued in the region.
2013	ASEAN+3 established the Cross-Border Settlement Infrastructure Forum to discuss the preparation of a road map and an implementation plan for the improvement of regional cross-border settlement infrastructure.
2015	ABMF released implementation guidelines for the ASEAN+3 Multi-currency Bond Issuance Framework (AMBIF), which helps facilitate intraregional transactions through standardized bond and note issuance and investment processes.

Source: Cyn-Young Park, "Developing local currency bond markets in Asia", ADB Economics Working Paper Series, No. 495 (Mandaluyong City, Philippines, 2016). Available from www.adb.org/sites/default/files/publication/190289/ewp-495.pdf.

3.5. Policy considerations

Despite progress, there is considerable room for development of local currency bond markets in South-East Asia as the outstanding amounts of corporate bond volume relative to GDP remain small. To this end, several areas of policy focus can be considered that are closely interrelated: improving market efficiency, deepening secondary markets and broadening the investor base.

Improving market efficiency will involve increasing the size and liquidity of secondary markets. As discussed above, despite fast growth in primary issuance in some countries, secondary market trading volumes and liquidity remain limited. A deep and liquid secondary market can reduce liquidity risks and enable investors to exit from long-term bonds before maturity, leading to greater demand for such issues. Key reforms could include improving prudential norms and risk management practices of market participants; promoting institutional investors, who tend to have longer investment horizons, and foreign participation in domestic markets to increase the investor base and diversify risks; enhancing primary and secondary market architecture to provide the appropriate level of market transparency; promoting market-making activities to increase liquidity; increasing the size of benchmark bonds and extending the yield curve. These improvements in market infrastructure will require such aspects as standardized credit rating systems, risk management products and more efficiency in the trading and settlement system.

In terms of broadening the investor base, there is a clear need to move beyond banks to attract other profiles of investors. Currently, banks are often the largest investors in corporate bond markets in South-East Asia, but global, progressive tightening of capital requirements could contribute

to lack of liquidity in secondary markets. Lack of investor diversity creates the risk of high volatility and exposure to sector-specific risks. Encouraging institutional investors, such as pension funds and insurance companies, can help contribute to the development of long-term bond markets. Encouraging foreign institutional investors would be particularly useful as their investment horizons and preferences may differ from that of domestic investors, which can result in improved demand structure and secondary market liquidity. However, allowing foreign investors to enter local bond markets should be done cautiously: illiquid markets could undermine financial stability in case there is a sudden capital outflow, which would create volatility in interest rates and exchange rates.

In line with the three areas of policy focus, domestic bond market policies should be supplemented by subregional cooperation and integration to improve subregional market infrastructure. While regional integration in South-East Asia is arguably the most advanced in the Asia-Pacific region, financial integration has traditionally been weaker than that in trade, and South-East Asian economies often developed closer linkages with advanced financial markets rather than among themselves (Monetary Authority of Singapore, 2007). Furthermore, integration of domestic bond markets has lagged the interconnectedness seen in other markets, such as for equities, although the degree of integration varies across countries (Levinger and Li, 2014). Some markets, such as Malaysia and Thailand, are relatively better integrated than others, such as Indonesia and the Philippines. A road map for capital market integration has been agreed as part of the ASEAN Economic Community, which should facilitate development of corporate bond market development. In this regard, it is critical to enable regional regulatory authorities to develop and implement appropriate regulatory frameworks to facilitate market development and integration, while safeguarding financial stability through the monitoring of increased competition and financial innovation, which could otherwise lead to increased risk-taking.

Subregional cooperation will also be important to create economies of scale for smaller economies in South-East Asia. Indeed, in the short term it may not be feasible to establish corporate bond markets for some small countries in South-East Asia due to their very low volume of transactions. However, subregional cooperation can support the access of these economies to other subregional bond markets. For example, under ABMI, the ASEAN+3 Multi-Currency Bond Issuance Framework (AMBIF) can facilitate intraregional transactions by promoting common market practices and standardized conditions for bond issuance, such as disclosure standards and common documents.

The Lao People's Democratic Republic in recent years has been a leader among smaller South-East Asian economies in intraregional bond issuance, through the issuance of government bonds in the Thai market for infrastructure investment. A trading company recently became the first corporate entity from that country to issue baht-denominated bonds. The Governments of Cambodia and Myanmar and corporate entities could also consider Thailand's market for financing their large infrastructure and corporate needs. In this fashion, not only can economic actors raise the financial resources they need, they can do so in a currency other than the United States dollar, which would help them diversify their portfolio of currency-denominated debt and therefore reduce the risk of exchange rate misalignments.

In the long run, however, it will still be important to encourage development of local currency bond markets to avoid excessive foreign-denominated debt and offer investment diversification opportunities to the domestic corporate and banking sectors. Cambodia has led the way in South-East Asia, announcing plans to establish a local currency bond market in the near term. In general, small South-East Asian countries looking to establish local currency bond markets will have to engage in a step-by-step process. The pace of financial development is of consequence: evidence shows that too fast a pace leads to instability – the main reason being poor regulatory supervision (Sahay and others, 2015). Hence, the critical first step is to establish strong macroeconomic fundamentals to ensure that capital market development does not risk financial stability.

4. Managing fiscal volatility in the Pacific

4.1. Fiscal volatility is an impediment to stable and predictable fiscal resources

As noted in the introduction, to undertake investments with a long-term horizon, countries need not only to have sufficient fiscal resources but also to ensure that such resources are stable and predictable. In some contexts, such as in the Pacific subregion, this is not always the case, which complicates the planning and execution of public investments. For instance, such shocks as natural disasters constrain the capacity of Governments to allocate sufficient and predictable flows of funds to implement development priorities over the medium term. Other impediments include the structural features of these economies: Pacific island developing countries are generally characterized by small population size and limited land area, remote geographic location and exposure to natural hazards, such as tropical cyclones, floods and droughts. The economies of the subregion are mostly open and highly dependent on the global economy, especially through remittances and aid flows, tourism, imports of basic foods and fuel, fishing license fees, employment and investment returns on trust funds and sovereign wealth funds. These characteristics of Pacific island developing countries make fiscal management particularly challenging, as national budgets are subject to several sources of volatility due to large fluctuations in GDP, terms of trade, tax and non-tax revenues, procyclical remittances or the negative impact of disasters. Indeed, over the past decade, most Pacific island developing countries have experienced considerable volatility in their fiscal balances. The volatility is most noticeable in Kiribati, the Federated States of Micronesia and Tuvalu, which are small States highly dependent on fishing license revenues (figure 3.6).

Keeping in view the structural features of the Pacific, a context-specific design of fiscal policies, along with effective risk management, can help to improve resilience to shocks, improve economic growth potential and facilitate the implementation of sustainable development priorities. Strengthening fiscal frameworks and building buffers, with

Figure 3.6. Fiscal balance in Pacific economies, 2014-2016

Source: ESCAP, based on data from Asian Development Bank, Key Indicators for Asia and the Pacific 2017 (Mandaluyong City, Philippines, 2017). Available from www.adb.org/sites/default/files/publication/357006/ki2017.pdf.

revenue volatility smoothed as a precondition, can help manage risks to fiscal sustainability in Pacific island developing economies.

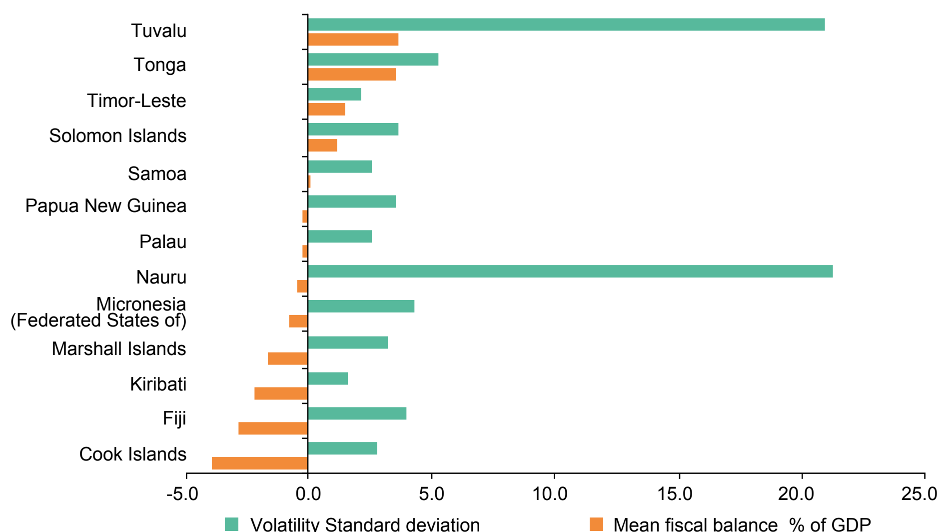
A country may experience considerable fiscal volatility despite having a reasonably stable and small fiscal deficit of, say, 3 per cent for several years in a row.[17] Figure 3.7 illustrates the extent of the volatility in the fiscal balances between 2014 and 2016. The highest levels of volatility can be seen in Kiribati and Tuvalu where the standard deviations in the level of their fiscal balances were 21.3 (mean fiscal balance of −0.4 per cent of GDP) and 20.9 (mean fiscal balance of 3.6 per cent of GDP) respectively. Micronesia, Papua New Guinea and Vanuatu had the next highest levels of fiscal volatility, with standard deviations of 5.3 (mean fiscal balance of 3.6 per cent of GDP), 4.0 (mean fiscal balance of −2.8 per cent of GDP) and 4.3 (mean fiscal balance of −0.8 per cent of GDP) respectively.

4.2. Root causes of fiscal volatility

A few reasons, specific to the Pacific, explain the high fiscal volatility in Pacific island developing economies. On the expenditure side, geographic isolation and dispersed populations mean that government expenditure per capita, especially recurrent costs and spending to supply essential services, is quite high relative to GDP. For example, in Kiribati and Tuvalu the level of government expenditure averaged about 100 per cent of total GDP between 2007 and 2016. Although the amount was less in Marshall Islands, the Federated States of Micronesia, Nauru, Palau and Solomon Islands, government expenditure averaged between 40 and 80 per cent of GDP during the same period.[18] Such high current spending levels occur because the public sector is typically the main employer[19] and the main provider of goods and services. This implies very limited budget allocations for public investments, which are often pursued through foreign grants and loans.

The long-run impact of natural disasters on fiscal position and economic development is also substantial. It has been estimated that damage and losses due to natural disasters reduced the average GDP growth rate in Pacific island developing countries by 0.7 percentage points per year during the period 1980-2014 (Cabezon and others, 2015). From a related estimate in the same study, it was suggested that, for damage and losses equivalent to 1 per cent of GDP, the fiscal balance would deteriorate by 0.5 per cent of GDP in the year after a

Figure 3.7. Fiscal balance and volatility of Pacific island economies, 2014-2016



Source: ESCAP, based on data from Asian Development Bank, Key Indicators for Asia and the Pacific 2017 (Mandaluyong City, Philippines, 2017). Available from www.adb.org/sites/default/files/publication/357006/ki2017.pdf.

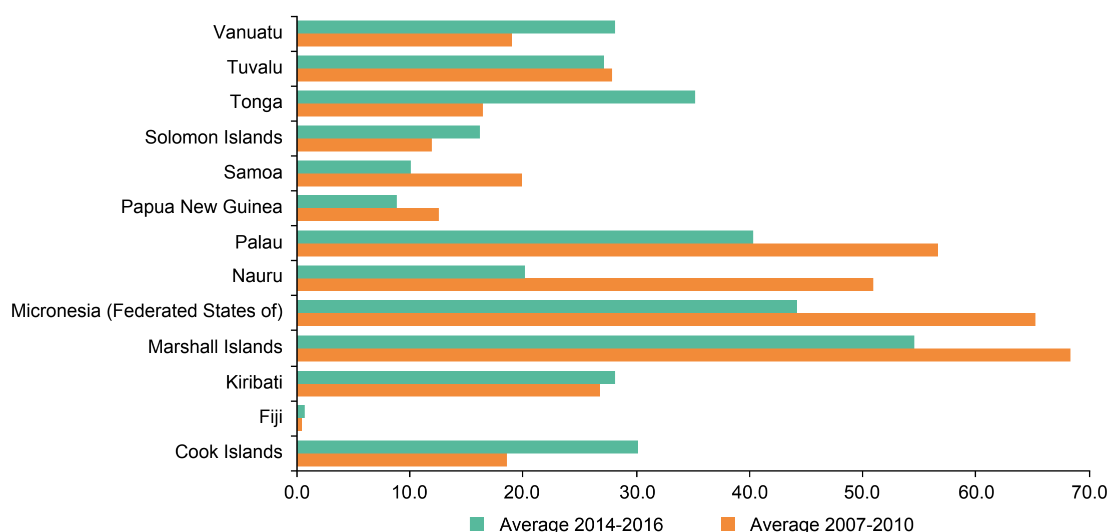
disaster, as spending on reconstruction rises while tax revenue falls. Another study found that among Pacific island developing countries, a natural disaster that affects 1 per cent of the population causes a contraction in tax revenue of 0.2 percentage points of GDP in the year of the disaster, followed by a revenue rebound in the following year (Cabezon and others, 2015). The rebound generally stems from development assistance flows aimed at supporting recovery and reconstruction activities. Owing to a narrower economic base and vulnerability to exogenous shocks, including from natural disasters and terms-of-trade shocks, revenue volatility in small States is larger than in developing non-small States (Cabezon and others, 2015).

An emerging source of revenue is the windfall fishing revenues in recent years for six of the eight Parties to the Nauru Agreement.[20] For Kiribati, Marshall Islands, the Federated States of Micronesia, Nauru, Palau and Tuvalu, estimates show a twofold increase in average fishing license revenues across these economies between 2012 and 2015. Collections climbed from the equivalent of 7.1 per cent of GDP in the period 2008-2011 to 17.7 per cent in the period 2012-2015 (ADB, 2016c). In the case of smaller States in the Pacific subregion, fishing license fees provide lumpy non-tax revenues (about 38 per cent of current government revenues on average – for Kiribati 90 per cent of current government revenue), a situation which further increases revenue volatility. Fishing license fees are intrinsically volatile (IMF, 2014) because ultimately, they are determined by the amount of fish caught, which is uncertain in itself.[21]

Fiscal positions in Pacific island developing countries are also vulnerable to large inflows of foreign aid and grants that typically follow natural disasters. High dependence on foreign aid is a source of fiscal volatility, given the unpredictability of the flows and direction of spending. Over the 10 years from 2007 through 2016, aid accounted for an average 29.4 per cent of total revenues,[22] including grants. There were wide variations both between countries and between the average grants in the first three years (2007-2010) and the final three years (2014-2016) of the 10-year period (figure 3.8). Cook Islands, Tonga and Vanuatu reported higher proportions of grants in their total revenues during the final three years of that 10-year period.

Volatile revenue flows, including from aid and natural resource rents, combined with rigid recurrent expenditure commitments and the impossibility to benefit from economies of scale in the provision of public services contribute to

Figure 3.8. Grants as percentage of total revenue in Pacific economies



Source: ESCAP, based on data from Asian Development Bank, Key Indicators for Asia and the Pacific 2017 (Mandaluyong City, Philippines, 2017). Available from www.adb.org/sites/default/files/publication/357006/ki2017.pdf.

underpin fiscal volatility. As a result, predictability of funding and the capacity to fund national development plans, including basic services and infrastructure, are compromised. This makes it difficult for Pacific island developing countries to engage in sustainable development projects in the medium-to-long run.

4.3. Policies to manage implications of fiscal volatility

In view of the specific characteristics of Pacific island developing economies and the varied country-specific implications of fiscal volatility, tailored policy measures are required. These measures should be supported by a multipronged approach towards enhancing fiscal resilience. Ongoing efforts in applying fiscal policy tools, together with risk management approaches on both the revenue and expenditure side, and broader structural reforms are all important for managing fiscal volatility. Pacific island developing countries have adopted several measures to smooth out revenues over time, including transferring windfall revenue to public trust and sovereign wealth funds, and participating in a subregional risk-pooling insurance scheme. These initiatives and a selected few policy principles and options, noting the stage of implementation of reforms in Pacific island developing countries, are highlighted below.

Strengthen public financial management and build buffers and fiscal frameworks. Further strengthening national fiscal frameworks is necessary to minimize fiscal risks from both volatile revenue and high and recurrent expenditure rigidities, create fiscal space for strategic investments in support of the 2030 Agenda, build buffers to support macroeconomic stability and allow for timely countercyclical spending. While several Pacific island developing countries have made some progress in building fiscal buffers since the 2008 financial and economic crisis, most of them still have higher debt and lower fiscal balances than they did before the crisis (Cabezon and others, 2015). A fiscal framework built around simple fiscal anchors, such as debt-to-GDP ratios and underlying fiscal balances, could help to minimize volatility by creating consensus on medium-term budget allocations to specific sectors, such as education. As a specific policy tool in this regard, the use and maintenance of a complementary medium-term expenditure framework may also help build political consensus on budgeting plans and spending priorities. In the subregion, Fiji has had such a framework in place for several years.

Improve domestic revenue flows. Higher flows of domestic revenues can support the build-up of fiscal buffers and mitigate the impact of unpredictable external inflows, such as revenue windfalls, development aid or multilateral finance. To build the domestic tax base, introducing tax measures on natural resources, such as fisheries and minerals, and tourism-related activities could yield a higher revenue base for Pacific island developing countries. The imposition of various levies and taxes on tourism activity in Fiji and Palau, and application of duties on prescribed volumes of mineral water extracted in Fiji provide some other examples.

Continue to broaden the economic base. Broadening the economic base can create more sources of domestic revenues. More effort is required to implement reforms to create an enabling environment for private sector development and strengthen areas of comparative advantage in the Pacific, such as agriculture and tourism. Tapping further into global employment opportunities in the security industry, sports, caregiving, seafaring and various seasonal work schemes can contribute to higher remittances and improved tax returns.[23]

Sovereign wealth fund or national trust fund. Most Pacific island developing countries[24] with budget surpluses arising from resource rents and royalties have sovereign wealth and national trust funds. These provide a means to build fiscal buffers that may be used to smooth windfall revenue flows into the annual budgets and to ensure sustainability over the longer term. Sovereign funds can be drawn down when required, subject to the established fund rules. Recent sharp increases in fisheries license revenues have enabled recipient countries to increase savings in public trust funds, including the Tuvalu Trust Fund (ADB, 2016d) (see Box 3.2).

Box 3.3. Tuvalu Trust Fund

In terms of fiscal policy, Tuvalu has devised a structure with a primary trust fund operating alongside a secondary "buffer" fund. The purpose of the Tuvalu Trust Fund (TTF), established in 1987, is to contribute to the long-term financial viability of Tuvalu by providing an additional source of revenue for recurrent expenditure.

Over the years, the original contribution of A$27 million has been supplemented by additional contributions from Tuvalu, including from the lease of the ".tv" Internet domain name and fishing license fees, and some of its development partners, including Australia and New Zealand, two of the original contributors. By September 2017, the market value of the fund had grown to A$172.3 million (equivalent to about 360 per cent of its GDP).

A "distribution" from TTF is made when the market value exceeds the so-called "real maintained value". This adjusts the underlying market value of the funds against the Australian consumer price index. If the market value exceeds the real maintained value, the excess is transferred to the Consolidated Investment Fund (CIF), which can be freely drawn on by the Tuvalu Government to finance budget spending, or be reinvested in the core TTF.

The objective of CIF is, however, to build a targeted minimum balance or "buffer" reserve, which is the equivalent of 16 per cent of the TTF value. This is designed to enable the Government to smooth the volatility of distributions and to enable the Government to continue making drawdowns from CIF for up to four years when the core trust fund distribution is zero. Such a situation arose in the periods 2001-2004 and 2008-2012, when the CIF balances were drawn down as TTF did not distribute. In 2016, a budget deficit was funded by a drawdown of CIF, while the target balance of 16 per cent of the maintained value of TTF was broadly maintained.

Good governance practices are well established and remain a key success factor. For example, TTF is managed and audited by reputable firms. TTF has very strict rules relating to distributions and withdrawals. These are specified in the Agreement Concerning an International Trust Fund for Tuvalu. Only in very exceptional circumstances would the core capital of the Fund be drawn down by the Government. It should be mentioned that, in 30 years of the Fund's operation, this has never occurred.

Consider specific measures to tackle the risk of natural disasters. Several ex ante and ex post options are available and have been implemented by Pacific island developing countries (ESCAP, 2016c). A structured risk management approach should be tailored to every country's specific circumstances, as it should balance the long-term value of disaster risk reduction measures, such as building more resilient infrastructure or investing in community-level preparedness, versus financial preparedness measures, such as purchasing insurance.[25] Specific measures adopted recently are discussed next.

Emergency funds and contingency budgets set aside by Governments annually can provide a resource that can be called on immediately to support disaster response. For example, Tonga has established a statutory emergency fund that can be accumulated from year to year. While such funds can support early recovery, further replenishment is likely required to respond to the occurrence of major damage and loss. In terms of cost effectiveness and quick access to funds for frequent disaster events causing relatively low levels of damage and loss, the use of both national emergency and contingency funds is applicable. In comparison, trust and sovereign wealth fund arrangements are more efficient for less frequent but higher-cost events.

Empirical available evidence shows that the effectiveness of funds in the Pacific to protect budgets from high revenue volatility and strengthen

fiscal prospects was hampered by lack of integration with budgets, institutional weaknesses and inadequate controls (Le Borgne and Medas, 2007). However, it is also recognized that if funds are well designed, they could be used as a tool to support a sound fiscal framework, but should not be seen as a substitute for fiscal reforms (Le Borgne and Medas, 2007).

Insurance against natural disaster risk has been implemented for several years, and the results seem quite positive. Notably, a risk-sharing mechanism called the Pacific Catastrophe Risk Insurance Company, provides limited insurance cover for five Pacific island economies, namely Cook Islands, Marshall Islands, Samoa, Tonga and Vanuatu (see box 3.3).[26] This insurance programme provides an immediate payout on the occurrence of an insured disaster event that meets specified parametric triggers. This provides participating economies with access to liquidity immediately after a natural disaster in a cost-efficient way as the risk is pooled across several countries.

Donor participation should supplement annual contingency budgets and emergency funds. For example, an innovative contingent financing product worth $25 million recently provided to Cook Islands, Samoa, Tonga and Tuvalu by the Asian Development Bank will provide a source of near-immediate financing for early recovery activities from disaster events.[27] However, a valuable use of aid would be to contribute to the funding of countries' insurance premiums against natural disasters. This would help reduce fiscal volatility and enhance preparedness against natural disasters.

Box 3.4. Pacific Catastrophe Risk Assessment and Financing Initiative

A project involving five Pacific island developing economies (Cook Islands, Marshall Islands, Samoa, Tonga and Vanuatu), the Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI), is a regional response to the perennial losses associated with natural disasters. Launched in 2007 as a pilot project, PCRAFI is aimed at providing disaster risk management and finance solutions to help build the resilience of Pacific island developing countries.

PCRAFI enhances financial preparedness against climate and disaster risk by: (a) pooling risks into a single, more diversified, less risky portfolio; (b) retaining some risks through joint reserves/capital; and (c) transferring the excess risks to the reinsurance and capital markets when it is most cost-effective to do so. The economies are insured for amounts based on independent and economy-specific parametric criteria, such as the strength and proximity of a cyclone. The amount of any payout is determined based on the level of insured risk and the estimated losses calculated by economy-specific models rather than actual losses, which allows for prompt payouts. A pilot was implemented over four cyclone seasons, with participating economies choosing to cover both the type and severity of natural hazard risk and the payout amount.

In 2014, Tonga received a payout of $1.27 million following Cyclone Ian, and Vanuatu received $1.9 million after Cyclone Pam in 2016. No payouts have been triggered since. The total value of insurance coverage for the 2016/17 season for cyclones and earthquakes, including tsunamis, amounted to $38.2 million for the five participating economies.

On 2 November 2016, the start of the fifth season of the Pacific Catastrophe Risk Assessment and Financing Initiative was announced, along with the recent establishment of a new Cook Islands-based insurance company, called the PCRAFI Facility, for the delivery of this insurance. The Facility has issued its first insurance policies to Cook Islands, Marshall Islands, Tonga, Samoa and Vanuatu, which will be complemented by reinsurance provided by Sompo Japan Nipponkoa Insurance, Mitsui Sumitomo Insurance, Tokio Marine and Nichido Fire Insurance, Swiss Re and Munich Re via its subsidiary NewRe, thus securing these Pacific island economies with total coverage of $38.2 million against the destructive effects of tropical cyclones, earthquakes and tsunamis.

Based on positive experiences with programmes such as PCRAFI, other countries are exploring innovative insurance approaches to manage their risk to natural disasters. For example, in August 2017 a new catastrophe risk insurance programme was launched by the Government of the Philippines.[28] The programme provides the Philippine peso equivalent of $206 million in coverage against losses from major typhoons and earthquakes affecting national government assets; protection is provided to 25 participating provinces against losses from major typhoons. Insurance payouts are made when predefined parametric triggers are met.

5. Reforming tax systems in South and South-West Asia

5.1. Government challenges in financing sustainable development through tax systems

As previously highlighted, countries should have significant resources to invest in sustainable and inclusive development. To do so, the most common yardstick is the tax-to-GDP ratio, which is a measure of the economic importance of the public sector in a country's economy. On average, South and South-West Asia's tax-to-GDP ratio is 12.6 per cent, one of the lowest in the world, below that of other developing countries in the Asia-Pacific region, at 15.2 per cent, and much lower than that of OECD countries, at 25.1 per cent.[29] Several countries in the subregion have tax-to-GDP ratios under 10 per cent: Afghanistan, Bangladesh, the Islamic Republic of Iran and Pakistan, with Afghanistan's being the lowest in the Asia-Pacific region at just 7.6 per cent.[30]

Given the considerable financing requirements of the 2030 Agenda, the current tax-to-GDP ratios will not suffice. Consequently, the 10 countries comprising the South and South-West Asian subregion are unlikely to achieve the Sustainable Development Goals without first implementing comprehensive and difficult reforms to improve this situation. Hence, investing in domestic resources through smarter tax policies and more inclusive public expenditure is the largest untapped finance opportunity for those countries to effectively pursue implementation of the 2030 Agenda (Long and Miller, 2017). Domestic resource financing must be infrastructure- and public service-intensive to support the various generational transformations under way in South and South-West Asia, such as urbanization, women's empowerment, youth bulge and population ageing; such financing is also needed for the economic transformation from labour-intensive agriculture to capital-intensive industry and services (ESCAP, 2017j).

It is possible and advisable to increase the tax-to-GDP ratio in this subregion because the ratio is considerably below its potential. Various international standards have suggested that tax-to-GDP ratios should be between 15 and 20 per cent; this range remains a realistic goal for South and South-West Asian countries to achieve before reaching in 2022 the halfway point for achieving the Sustainable Development Goals.[31] Recent studies would suggest that developing countries in the Asia-Pacific region are realizing only one half to two thirds of their tax potential (ESCAP, 2014). For the South and South-West Asian subregion, these estimates of tax potential would suggest tax-to-GDP ratios of 12-13 per cent for the Islamic Republic of Iran and Pakistan.[32] Countries in the subregion are working to improve their tax-to-GDP ratio. For example, in Bangladesh a flat 15 per cent value-added tax has been introduced – although, owing to pressure from the business sector, its implementation (initially planned for 1 July 2017) has been pushed forward to 2019 (EIU, 2018a).[33]

5.2. Problems facing tax systems

It should be noted first that South and South-West Asian countries have different tax structures and therefore face different challenges. Such diversity is reflected in the average tax rates – and especially in the tax types that are zero (table 3.3). While some countries such as Bangladesh have gaps in social security, others such as Afghanistan could reinforce their revenue from indirect taxes.

Table 3.3. Average tax rates, by type, in selected countries in South and South-West Asia

	Indirect	Corporate	Individual	Social security (Employee)	Social security (Employer)
Afghanistan	0	20	20	20	50
Bangladesh	15	25	30	0	0
India	15	34.61	35.43	12	12.5
Pakistan	17	31	20	0	0
Sri Lanka	11	28	16	8	12

Source: KPMG Tax Rates Online Tool. Available from https://home.kpmg.com/xx/en/home/services/tax/tax-tools-and-resources/tax-rates-online.html.

Tax rates by themselves do not explain the fundamental sources of the diversity of tax systems; specific country circumstances should also be considered. For instance, the fragile security situation and weak government control over parts of Afghanistan pose great challenges for the collection of taxes. It is estimated that about 48 per cent of the country's total revenue comes from domestic resources, with the remainder being derived from external grants (EIU, 2018a). In India, while it has been acknowledged that its goods and services tax has reduced the complexity of its taxation system, its tax laws still are perceived to be second most complex in the Asia-Pacific region – after those of China. Well over half of private sector companies in India believe that complexity in the tax regime has increased in the last three years – "complexity" referring to the perceived level of difficulty in interpreting the tax law and rules in the relevant jurisdictions (Deloitte, 2016). In Sri Lanka, the 2018 budget is aimed at streamlining the corporate income tax system and reducing exemptions in order to improve compliance and increase revenues (EIU, 2018b). In Pakistan, most tax revenue is derived from indirect taxes, making the tax system relatively regressive, which does not favour inclusion.

To the extent that generalizations can be made about the tax systems in South and South-West Asia, it may be said that they are complex, inefficient and not very conducive to the collection of large tax volumes. For example, based on the calculations in chapter II, India has a tax administration index of 58.4 per cent, which is below the average index for the entire Asia-Pacific region at 60.3 per cent.

Inefficiency in the tax system does not favour inclusion, which in turn lowers tax morale. Financial contributions by people and businesses to their Government depend on the perception of the public goods and services received, such as education, health care, basic utilities or responsive government administration. In most countries and sectors in the subregion, this social contract is broken. The result can be a vicious cycle of tax avoidance which hampers financing decent public goods and government services, and subsequent low-quality, exclusionary service delivery.

5.3. Factors limiting tax system effectiveness

The complexity of the structure and composition of tax systems in South and South-West Asia can be gauged by considering the multiplicity of taxes, cumbersome assessment procedures, inefficiency of tax administrations, delays in resolving disputes, unequal exemptions granted to certain groups and corruption. Because of such complexity, the subregion's tax systems tend to be dependent on indirect taxes for most tax revenue. Value-added taxes (VAT) are increasingly popular and expanding in coverage as a strategy to capture tax revenue without the complex assessment of household incomes and wealth, and they lower the disincentives to business compared with direct corporate taxation.

An element that can aggravate complexity in the tax system is the highly decentralized structures of countries in the subregion. Subnational public expenditures are one third greater than subnational public revenues in Bangladesh. They are twice as large in India and more than six times as large in Pakistan (ESCAP, 2017a). Central tax collection

results in greater uniformity and simplicity across provinces, states and districts, but requires a transparent and equitable process for distribution of revenues. In addition, various provincial/state and local-level taxes typically remain in place, which increases coordination costs. For example, Indian states apply a separate state goods and services tax along with the federal equivalent on relevant transactions. In Pakistan, property taxes are collected at the state and provincial levels, but are more difficult to administer and apply due to valuation requirements and their greater complexity. Some cases in other regions show local taxation as more effective than central grants in delivering good-quality social infrastructure when coordination is poor.[34]

Goods and services taxes and VAT have often been introduced without differentiation and adopt various rates and exemptions during passage of legislation in order to appease key interest groups, or attempt targeting to lighten the burden on those left behind.[35] Each modification imposes additional complexities, making tax administration more difficult. India's recent introduction of national and state goods and services taxes occurred after some delay; its final form currently affords goods and services exemptions for food and agricultural products. Sri Lanka increased VAT rates from 11 to 15 per cent in 2015 and expanded VAT to include telecommunications and private health care (IMF, 2016), but left food and medicine VAT exempt. In Bangladesh, a new VAT law increasing the rate from 11 to 15 per cent was supposed to be implemented in 2017; however, implementation has been delayed until 2019 after resistance from various special interest groups (EIU, 2018a).[36]

Indirect taxes instead of direct taxes tend to be applied in the subregion. In effect, this means that those who are wealthier pay relatively less tax, because indirect taxes have regressive scale effects. Consequently, well-designed and well-administered tax systems are necessary to offset regressive indirect taxation. Fragmented indirect taxes and regressive tax revenue streams can be addressed and offset by direct taxation policies, pro-poor public spending and more effective tax administration. However, South and South-West Asian countries face additional challenges in all three areas, leaving regressiveness as a key characteristic of subregional tax systems.

Across South and South-West Asia, the collection of personal income tax and property tax tends to be below potential as a result of high thresholds and various exemptions, thus making tax administration burdensome and inefficient. In 2013, the subregion's share of personal income tax in total tax revenue was only 14 per cent on average, the lowest in Asia and the Pacific.[37] Tax reforms in various countries in the subregion have increased personal income tax thresholds over time, decreasing the scope of their tax net (Bhutan, Ministry of Finance, 2017). By taking such measures, countries "untax" or remove the tax burden for the vast majority of the poorer population, in particular those who work informally,[38] but they also leave much of the population permanently outside the tax administration system (ESCAP, 2017a). Property taxes also contain numerous exemptions in the subregion's tax systems, often being undervalued and poorly implemented. In Pakistan, property tax intake is low due to generous exemptions and undervaluation, such as in Pakistan's Punjab Province; the level of undervaluation has been estimated at 45-80 per cent (Bahl and others, 2015).

Corporate tax rates in many South and South-West Asian countries are not considerably lower than those in other regions of the world, mirroring the relatively high rates for many businesses in developing countries (World Bank, 2017e). However, corporate taxes across countries also contain numerous exemptions in an attempt to increase investment and encourage productivity. These exemptions can be arbitrary and create vested interests in maintaining special conditions when economies and structures have substantially changed. In Bangladesh, corporate income tax rates are not especially lower, but revenue is diminished by numerous exemptions, tax holidays and depreciation allowances, as well as challenges in enforcing compliance (Mansur and others, 2011). In Pakistan, broad discretion in exemptions to the payment of corporate taxes meant for industries involved in the China-Pakistan Economic

Corridor and in special economic zones, has led to exemptions being applied to unrelated projects (Abbasi, 2017).

Poor capacity and ineffective tax administration is also hampering resource mobilization in South and South-West Asia. The problem of adding complexity to each tax is that it burdens the tax administration and its capacity for accurate, timely and transparent tax collection. Across the subregion there are large gaps in capacity to administer the complex tax web. As a result, on one hand the frequent thresholds and exemptions leave large shares of the population outside the tax system. On the other, the complexity of the tax system delays tax administration and gives extensive discretion to working-level officials to make tax assessment decisions, thus making those decisions less transparent and reducing overall accountability. A simpler progressive tax system with fewer loopholes and greater manageability would outperform designs that are only better on paper (ESCAP and Oxfam, 2017).

Small tax bases are a key constraint in the subregion's tax systems, driven by informal economies, loopholes, exemptions and poor administration for obtaining compliance. Afghanistan's small tax base includes a miniscule group of large taxpayers contrasted with the wider potential taxpayer population that is largely non-compliant and unidentified (Grut, 2017). In Bangladesh, the top 10 large taxpayers paid more than 78 per cent of VAT collected by the large taxpayers unit, and 50 per cent of all tax revenue collected by the unit came from just one company (World Bank, 2017e). For business and corporate taxation in Nepal, about 1,000 companies contribute half the tax revenue (GIZ, 2008). Pakistan had only 750,000 payers of income tax registered in 2014 in a country of 190 million people; moreover, almost half (46 per cent) of the 1,167 members of the 6 houses of parliament (national assembly, senate and four provincial assemblies) paid no tax at all, thus demonstrating the weak tax morale even among legislators (ESCAP, 2017a).

Tax competition and base erosion is also hampering domestic resource mobilization. The capacity to capture tax revenues on a sustained basis from corporations and enterprises is also challenged by the increasing globalization of production and value chains. Countries in the subregion have responded with tax competition, among other investment incentives, for attracting corporate presence into the country with benefits of tax flows, productivity and employment, although the evidence for these gains is weak (ESCAP and Oxfam, 2017). At the same time, multinational enterprises are more strategic in their use of profit shifting and transfer pricing to erode traditional tax bases and take advantage of arbitrage gains in tax loopholes between countries. Increasing the corporate tax based and avoiding its erosion for countries in the subregion requires unanimous cooperation for reversing eroding tax incentives and for coordinating treatment of multinational enterprises to close tax loopholes between countries (KPMG, 2017).

5.4. Policy recommendations

The countries in the subregion need to design tax systems and taxes that incentivize and accelerate transitions to sustainable economies and environmentally friendlier technologies. In South and South-West Asia, inclusive tax design requires addressing disincentives and perverse effects in two areas: gender equality and environmental sustainability. Tax design is gender blind in the subregion. Personal income tax structures are often based on traditional household models of a single male head of household and breadwinner, with women being dependents. Rates reflect this model and penalize secondary income earners, mostly women, with higher marginal tax rates and fewer options for tax deductions (ESCAP and Oxfam, 2017). Greater gender mainstreaming in tax design should be matched by improved pro-poor gender-responsive budgeting to link tax revenues to spending priorities that better empower women and promote equal voice and control in society and the economy (ESCAP and Oxfam, 2017).

In leveraging technology, both filing tax returns and making payments are vital as they address the complexity of taxation systems. Both operations should be done electronically, and countries in the subregion have been active in opening up their tax systems so that taxpayers can file their tax returns electronically and make payments electronically as well. Afghanistan has introduced electronic filing for large taxpayers and plans to roll out a system for medium-sized taxpayers in the coming year (Byrd and Payenda, 2017). The country also has an electronic revenue collection system for making payments (Afghanistan, Ministry of Finance, 2017). Bangladesh and Nepal have also recently introduced electronic filing and a payments system which simplifies individual and VAT processes. In Nepal, 98 per cent of income and VAT returns were filed electronically in 2016 (GIZ, 2008).

Tax and spending coordination and negotiation between different levels of government is critical for revenues collected centrally to be spent effectively at the provincial/state and municipal levels. This is very country-specific, but countries should consider reforming the bottlenecks that they experience in overall fiscal management. Specific tools that they can use to identify those bottlenecks may be, for example public expenditure benefit-incidence analysis, which can capture the distributional impacts of public spending across categories of gender, geography and social groups. That tool showed that access to and utilization of public spending is regressive in India, with gender-differentiated patterns.

Increasing the tax base requires a carrot-and-stick approach, which also can be highly country-specific. In Bangladesh, the stick approach in 2017 increased the number of individual tax filers from 1 million to 1.55 million by requiring tax submission from all government officials with monthly salaries exceeding 16,000 taka (about $190) and by requiring private sector managers and executives to file returns so that their employers would not be fined (World Bank, 2017e). In contrast, Bhutan increased its number of personal income tax filers by more than 10 per cent in the 2016 financial year, despite reduced exemptions, because individuals were encouraged to file their returns in order to claim refunds owed to them as a result of tax changes (Bhutan, Ministry of Finance, 2017).

Environmental and green taxes that internalize negative externalities are necessary in the subregion, but their design needs to accommodate two challenges. One of the challenges is to create adequate national and subregional markets for environmental taxation and emissions-type trading systems to allow enterprises to internalize costs for the first time. The other is to maintain good principles of tax design towards universal, simple and transparent rules with a few rates that allow for less discretion but greater accountability. Most countries in the subregion have yet to develop national carbon accounts or systems of environmental national accounts. Rigor and transparency would be important to avoid rent-seeking behaviours in establishing methods and designing new environmental taxes.

Transparency is vital to stimulate accountability and strengthen the social contract. Despite the complex systems in South and South-West Asia, greater transparency in decisions and processes would encourage greater tax morale when people are confident that there is equity and a level playing field when it comes to paying taxes. Across the subregion, publishing tax information increases transparency and accountability. Pakistan has set an important good example by becoming the fourth country in the world to introduce a regular complete directory of registered taxpayers and the total amount of tax they paid (Pakistan, Federal Board of Revenue, 2017).

Tax reforms, tax policies and changes often differ from their initial proposals before the negotiation and passage of legislation, and this can be confusing if complying with the new rules is not clear and simple for people and businesses to understand. Public information campaigns and education of individuals and businesses will improve transparency, identify any confusion and enable people to anticipate and plan for costs and compliance. In Afghanistan, a new VAT law came into effect eight months after its official publication and included no reactive penalties, which gave time for businesses to check on how

to comply with the law and plan for doing so (Grut, 2017). However, the same country's 2015 Tax Administration Law came into effect from the date of publication, giving taxpayers no time to prepare how to comply. The publication of the law was delayed and not announced, with many taxpayers subsequently finding out about the bill only after they had received penalties for not complying with it. Information sessions about the tax took an additional year to organize (Grut, 2017).

Tax reforms can have unintended consequences and negative results, which policymakers should carefully try to anticipate. For example, to drive up tax filing and non-cash transactions, Pakistan in 2015 imposed a withholding tax on bank transactions targeting both large bank cash transactions (exceeding 50,000 rupees, or approximately $435) and all non-cash transactions at the rate of 0.4 per cent, with tax filers being able to claim refunds for this tax. Instead of encouraging tax filing, the withholding tax has had a negligible effect on revenue but has led to declines in private deposits and a large increase in the amount of currency in circulation, double the annual rate of the last decade (State Bank of Pakistan, 2017).

Finally, countries should try to make further progress in adopting measures that address base erosion and profit-shifting (BEPS) strategies; in this regard, the OECD BEPS Initiative may provide a useful benchmark. An example of ongoing progress is India, which has been active in promoting the OECD BEPS Initiative (KPMG, 2017).[39] In following BEPS recommendations, the country passed amendments in its domestic law to be in line with BEPS regulations (EY, 2018). Several proposals in the Finance Act of 2016 were influenced by OECD recommendations on BEPS, such as implementation of master file and country-by-country reporting (relating to action 13), introduction of an equalization levy which requires withholding on a gross basis for all payments in relation to certain specified digital services (action 1) and a "patent box" tax regime for royalty income (action 5) (EY, 2018).

It should also be noted that, while BEPS may not be an equally important issue for all countries, regional coordination and integration can be a useful dimension for learning from each other. The subregion already has structures for regional cooperation and integration, that is, the South Asian Association for Regional Cooperation (SAARC), which could be more actively used to debate the implementation of measures to tackle BEPS.

6. Boosting the access of micro-, small and medium-sized enterprises to finance in North and Central Asia

6.1. Role of small and medium-sized enterprises in private sector development and structural transformation

Access to financing is one of the fundamental conditions for individuals and small businesses to be able to invest and become entrepreneurs. Several economies in the Asia-Pacific region, including those in the North and Central Asian subregion, however, lag in facilitating such opportunities for potential entrepreneurs. This situation hampers the private sector's potential contribution to the development of the country and impedes the process of inclusive income and wealth creation. MSMEs are a critical potential vector of positive change that can help in the development of the private sector and stimulate structural transformation in the subregion.

The 2030 Agenda and the Addis Ababa Action Agenda recognize the significance of MSMEs in promoting sustained, inclusive and sustainable economic growth, facilitating full and productive employment and fostering innovation. These Agendas also recognize lack of access to finance as one of the challenges for MSMEs to grow, and they call for development-oriented policies that foster MSMEs' growth and formalization. They also call for MSMEs' integration into financial services and global value chains, especially in developing countries.

Several countries in North and Central Asia have achieved higher levels of economic development over the past decade,[40] but structural transformation in several of them remains an ongoing process. For instance, in such countries as Armenia, Kyrgyzstan, Tajikistan and Uzbekistan, agriculture still plays a central role in the economy. At the other extreme, such countries as Kazakhstan have similar shares of the industrial sector in their economies, a development which has been greatly facilitated by having natural resources, such as gas or oil. In countries with poor diversification of their economic structures, the relevance of access to finance of MSMEs is even more crucial: if MSMEs are able to grow and have access to export markets, they would spur innovation and competitiveness in their local economies.

Analysing national definitions and official statistics in North and Central Asia shows that small and medium-sized businesses (often farms and agro-businesses) play a major role in economic activities of lower-middle-income countries. For instance, they account for 58.1 per cent of GDP in Georgia and 56.9 per cent in Uzbekistan (table 3.4).[41] However, the contribution of small and medium-sized enterprises to GDP in oil-exporting countries is relatively modest, but even then, they account for more than 20 per cent of the economy. MSMEs are also a key source of employment in most of countries in this subregion. They account for more than one fifth of total employment, ranging from 21.9 per cent in Georgia to 56.8 per cent in Uzbekistan.[42]

It is important to note that table 3.4 comprises only official statistics. The estimated size of the informal sector is large, which makes it difficult to include the contribution of small and medium-sized enterprises in national statistics and cover them through government support schemes. The estimated size of the shadow economy in North and Central Asia ranges from 26.3 to 35 per cent of GDP, and the lack of available and recent data makes the task of understanding the challenges faced by the enterprises even more difficult (Abdih and Medina, 2013).

6.2. Constraints in access to finance by the micro-, small and medium-sized enterprises

Despite being recognized as major sources of employment and economic growth, MSMEs in North and Central Asia operate in a challenging environment in terms of ease of doing business. The median ease of doing business rank of the countries in this subregion with available data is 52 (figure 3.9). There are several reasons for this, which vary across countries, but overall, figure 3.10 shows that the main obstacles relate to

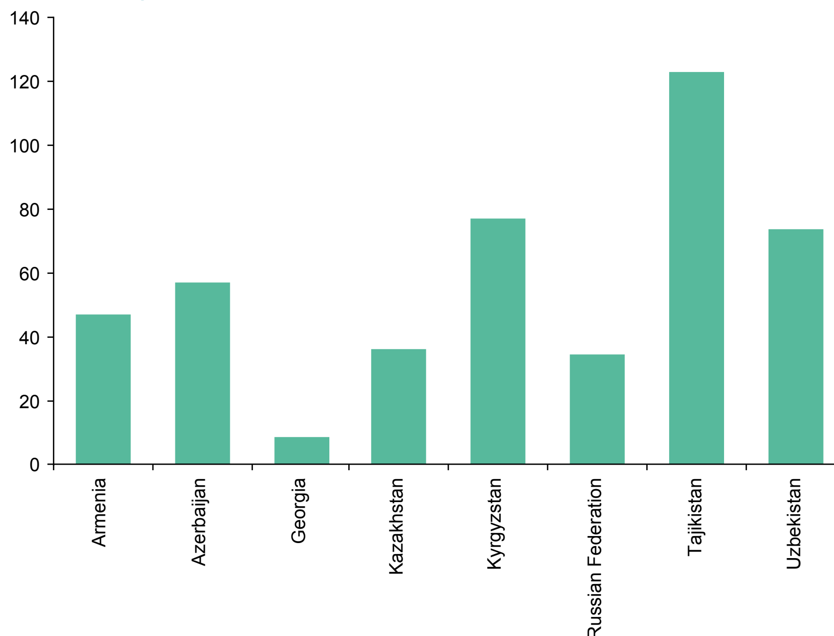
Table 3.4. Percentage contribution of small and medium-sized enterprises to employment shares, by size of the enterprises

Country	Year	SME100	SME150	SME200	SME250	SME300	SME500	SME250 Manufacturing
Armenia	2008	37.4	51.9	56.4	61.2	66.9	74.9	73.5
Azerbaijan	2008	30.3	37.4	40.1	43.0	48.5	53.8	54.7
Georgia	2007	22.1	23.6	26.0	27.7	28.0	35.6	27.8
Kazakhstan	2008	36.4	45.6	53.3	58.2	60.7	72.2	51.2
Kyrgyzstan	2008	42.9	52.9	55.9	58.6	82.7	88.3	47.9
Russian Federation	2008	9.5	12.2	14.5	16.6	19.3	27.2	26.3
Tajikistan	2007	31.0	36.8	40.5	47.5	49.8	59.2	39.5
Uzbekistan	2007	58.1	68.3	70.9	73.9	76.2	82.5	66.0

Source: Meghana Ayyagari and others, "Small vs young across the world", World Banl Policy Research, Working Paper No.5631 (2011). Data are available from http://siteresources.worldbank.org/INTRES/Resources/469232-1107449512766/WPS5631_DataTables.xlsx.

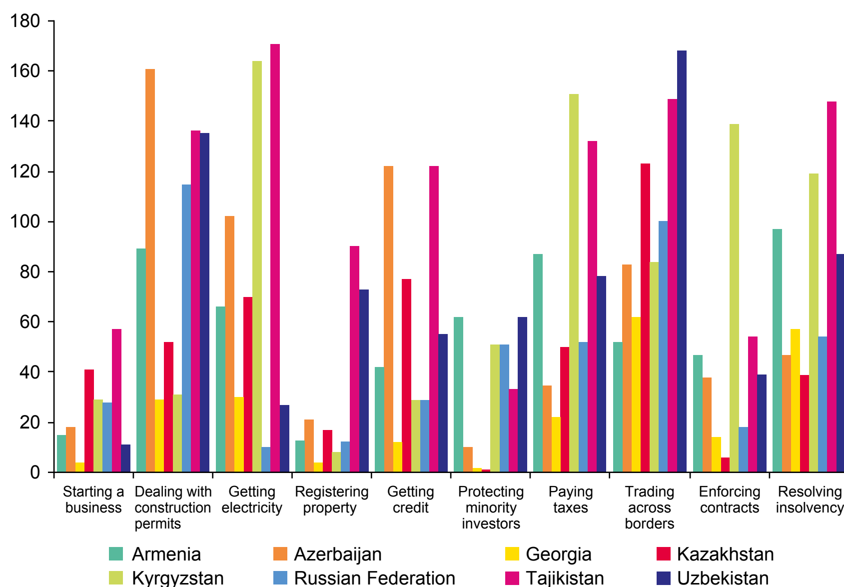
Note: The figures next to the acronym SME in the top row of labels refer to the number of employees in each small and medium-sized enterprise.

Figure 3.9. Ease of doing business ranks in North and Central Asia



Source: ESCAP, based on data from World Bank, Ease of Doing Business Database. Available from www.doingbusiness.org/rankings.
Note: The lower the number is, the more business-friendly is the country.

Figure 3.10. Components in the ease of doing business rankings for North and Central Asia

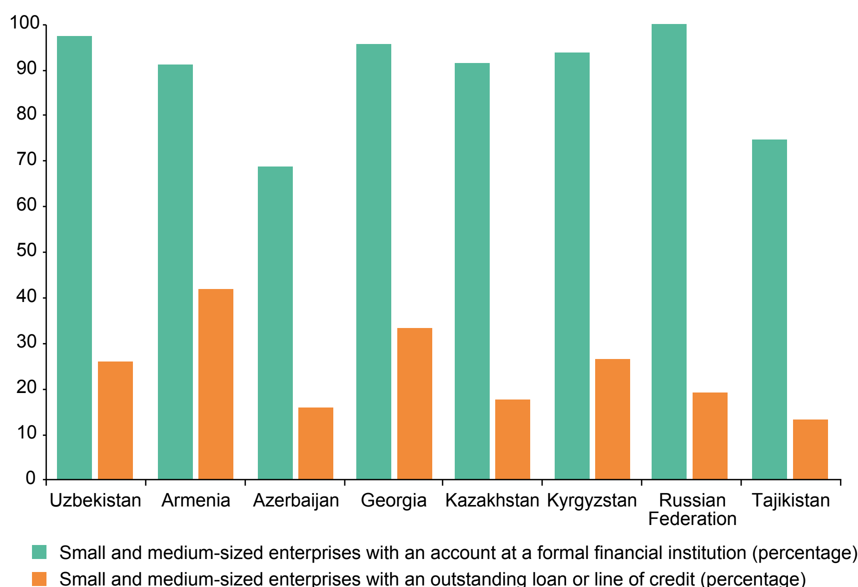


Source: ESCAP, based on data from World Bank, Ease of Doing Business Database. Available from www.doingbusiness.org/rankings.
Note: The lower the number is, the more business-friendly is the country.

permits (for trading, building and getting electricity connection) and finance (paying taxes, obtaining credit and resolving insolvency). Approximately 20 per cent of firms in the subregion identify accessing finance as a major constraint.

Assessment of financial inclusion indicators shows that, although in some countries having an account at a financial institution is widespread among MSMEs in North and Central Asia, having access to a loan or credit line is much more complicated (figure 3.11). Consequently, MSMEs in the subregion tend to rely more heavily on their internal cash flows to finance their investments (relative to the global average), even in countries where MSMEs often have an account

Figure 3.11. Basic indicators of financial inclusion by micro-, small and medium-sized enterprises in selected North and Central Asian countries



Source: Global Findex Database. Available from http://datatopics.worldbank.org/financialinclusion.

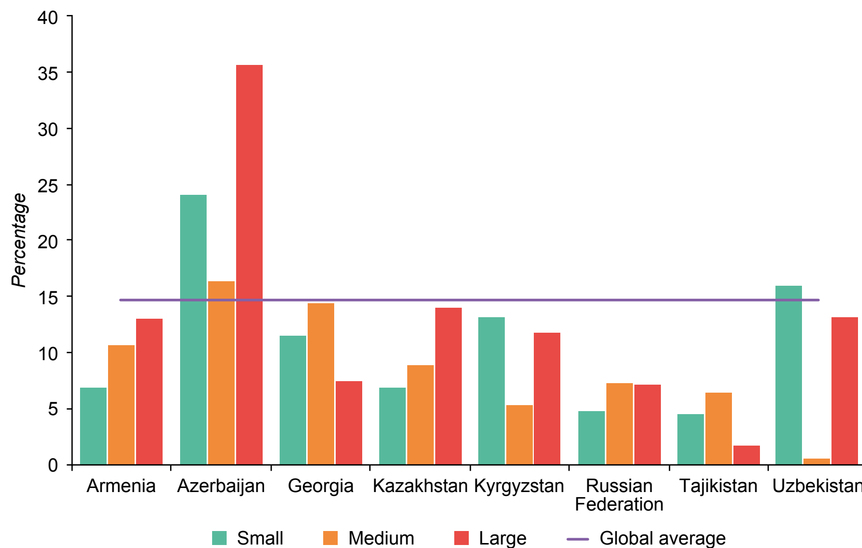
at a financial institution (figure 3.11). Personal savings of families and friends is another source of funds for financing entrepreneurs' ventures; more than 23 per cent of adults older than age 15 borrowed money from friends and family, while only 12 per cent of the same age group borrowed from a financial institution. In some surveys, respondents have identified distrust of financial institutions as a reason for not having an account in a financial institution. This may not be surprising considering the history of bank failures and currency devaluation in North and Central Asia.[43]

Other factors constraining access to finance by MSMEs in the subregion include the high levels of required collateral needed as a percentage of the loan value (approximately 200 per cent in 2013), and high interest rate spreads that on average were 10.87 per cent in 2015 and 9.24 per cent in 2016 (World Bank, 2017h). These two indicators are particularly insightful: high collateral requirements usually imply excessive costs for financial institutions to recover their loan or collateral in the case of default (which is linked to ineffective legal and regulatory frameworks), while high interest rate spreads tend to indicate poor competition in the banking sector.[44] Indeed, it has been noted that crucial issues hindering growth of access to credit and financing for MSMEs in North and Central Asia include weak regulatory frameworks and low diversification of financial products. This finding supports the idea that financial institutions may not have a pressing need to adapt in order to facilitate the supply of financial products (OECD, 2011).

On the supply side, although bank lending is the main source of financing in the subregion, only about 16 per cent of investments by small firms and 17 per cent by medium-sized firms are financed by banks. Moreover, the percentage of firms in the subregion whose recent loan application was denied is above the global average.[45] As a result, the proportion of investments of MSMEs that are financed by banks in North and Central Asia is generally below the global average (figure 3.12).

Commercial banks view MSMEs as inherently riskier and as a less developed market than larger enterprises. Many of those small and medium-sized enterprises are agricultural households operating in a cash-based economy, which makes it difficult for potential borrowers to fulfil the collateral and credit requirements. The information asymmetry from low transparency and poor financial reporting standards of MSMEs, intrinsic risks for banks in

Figure 3.12. Proportion of investments financed by banks, by size of the small and medium-sized enterprise



Source: Enterprise Surveys Database. Available from http://microdata.worldbank.org/index.php/catalog/enterprise_surveys/about.

lending to small firms and credit rationing due to insufficient collateral mean that lending to MSMEs is focused mostly on working capital loans, often for trade and agricultural businesses and those with short-term horizons (World Bank, 2018b).[46]

Besides bank lending, the options for MSMEs to access financing from a financial institution are very limited. The stock market is dominated mainly by large firms and is inaccessible to MSMEs; other venture capital options are virtually non-existent in most countries in the subregion.

Credit unions and microfinance institutions are possible alternatives, and several countries in North and Central Asia have implemented initiatives to expand microfinance towards the MSMEs segment. Microfinance volumes are slowly becoming more important in the subregion, as the interest rate differential between microfinance institutions and traditional banks has shrunk over time. However, penetration is still very shallow. For instance, of a population of 80.9 million, only 2.5 million are active borrowers from financial service providers focusing on microfinance, which yields a rate of 3.1 per cent of borrower participation (table 3.5).

Table 3.5. Depth and coverage of microfinance services in selected countries of North and Central Asia

Country	Financial service providers (number)	Gross loan portfolio (Billions of United States dollars)	Active borrowers (Number) Million	Population (Millions)	Deposits (Billions of United States dollars)	Depositors (Millions)
Azerbaijan	30	3.2	0.9	9.8	2.7	1.2
Armenia	9	0.7	0.4	2.9	0.3	0.3
Kyrgyzstan	14	0.3	0.4	6.1	0.1	0.2
Georgia	9	0.3	0.3	3.7	0.0	0.1
Tajikistan	20	0.4	0.3	8.7	0.2	0.2
Kazakhstan	7	0.2	0.2	17.8	0.0	0.0
Uzbekistan	6	1.5	0.0	31.9	1.6	0.4
Total	95	6.6	2.5	80.9	4.9	2.4

Source: The Mix 2018. Avaolable from https://www.themix.org (accessed 3 March 2018).

In fact, several countries have a virtually non-existent number of borrowers (e.g. Uzbekistan), as well as of depositors (e.g. Kazakhstan). In some other countries, professionalism in the microfinance sector can be a concern, and this aspect can undermine sustainability. For example, although leverage ratios (gross loans/deposits) are relatively conservative, in most countries, they have more active borrowers than depositors.

With regard to enhancing the sources of financing through FinTech, it should be noted that unlike other subregions in Asia and the Pacific, such as East and North-East Asia, the North and Central Asian subregion still has to develop an appropriate infrastructure and climate. The basic requirements for the FinTech sector to take off are far from guaranteed. Fixed broadband subscriptions are extremely weak in the subregion, ranking from 0.1 per 100 people in Tajikistan and Turkmenistan to 19.5 per 100 people in the Russian Federation (ESCAP, 2018c). While mobile cellular subscriptions have increased dramatically in the last 15 years and surpass 100 per 100 people, Internet users as a percentage of the population lag considerably behind, ranging from 18 per cent in Turkmenistan in 2016 to 78.2 per cent in Azerbaijan. This poor Internet penetration is partly due to frail infrastructures and partly due to widespread mistrust of the Internet. Of the seven subregional member countries of ESCAP with available data on the Freedom on the Net 2017 index,[47] three are rated "not free", three are rated "partly free" but only one is rated "free" (Georgia) (Freedom House, 2017).

In addition to the structural features described so far, it should be acknowledged that business cycles can aggravate the poor access to financing by MSMEs. For instance, when interest rates are high, MSMEs are more likely to be left out of the credit market, that is, as the cost of finance becomes higher, MSMEs (less likely to have a credit history and thus considered as inherently riskier) face more difficulties in gaining access to bank financing.

6.3. Policy recommendations

On the supply side, credit-granting institutions should consider different methodologies to assess creditworthiness. Credit scoring and risk measurement have traditionally been very difficult for the unbanked in general, because no data exist about their financial history, which in turn prevents them from getting credit. FinTech solutions for credit scoring can ameliorate the lack of credit data as they include decentralization and less intermediation, and promote efficiency, transparency and competition. All these elements lower the cost of supplying credit to MSMEs, which then enables them to develop a credit history.

An alternative for lending institutions is to accompany their MSME debtors and advise them on entrepreneurship ideas and training on basic financial reporting practices etc. This effectively would make the borrowers and the lenders partners and has been shown to succeed in some cases. For example, Damu Entrepreneurship Development Fund, established by the Government of Kazakhstan in 1997, has supported entrepreneurs in 18 rural areas by establishing service centres to provide such training and business support, together with financial assistance, such as interest rate subsidies and loan guarantees.

It is also vital to diversify the supply of financing options available to MSMEs. Financial support by Governments and international financial institutions, such as subsidized interest rates, tax exceptions and direct loans, are increasing in North and Central Asia. For instance, the Russian-Kyrgyzstan Development Fund is an example of intergovernmental cooperation for MSME development in this subregion. Since its establishment in 2015 as a form of Russian financial assistance to modernize the Kyrgyzstan economy, the fund has approved 624 projects and financed more than $82 million in finances through partner banks to foster MSMEs in priority sectors of Kyrgyzstan, such as agricultural processing and textile industries.[48] Its interest

rates are set 2.5-3 times lower than the market average among commercial banks: the fund imposes an interest rate of 12 per cent for loans denominated in Kyrgyz soms and 5 per cent for loans denominated in United States dollars. The fund also developed several financial instruments, such as providing working capital financing to help borrowers in their day-to-day business.

Governments should try to stimulate equity financing as much as possible. An institutional format that has worked well in many countries, especially when accompanied by venture capital and advice on entrepreneurship, is business incubators. To foster more market-based financing, attract foreign and private investors and create a new financial hub in North and Central Asia, Kazakhstan recently established the Astana International Financial Centre (AIFC) within Expo 2017 Astana; it embeds best practices and standards from globally successful financial centres: an independent judiciary based on British law in the AIFC territory; providing an expat-friendly and English-speaking working environment; and provision of preferential tax treatment for corporate investors, among others.

An active role of Government would also be recommended for promoting competition in the financial sector, for example by privatizing State-owned banks or promoting the entry of foreign banks. As most banking sectors in North and Central Asia are still relatively closed, more competition would promote efficiency gains, innovation and the shrinking of interest rate spreads.

Perhaps most importantly, policymakers should work towards achieving a legal and regulatory framework where recovery of assets by lenders is much easier than it is currently. This should push down the value of collateral requirements and facilitate matching the supply of and demand for credit.

On the demand side, financial literacy could be strengthened through mass media and training programmes. It is important that people change their perception and gain trust in financial institutions. Of course, strong transparency measures that tackle corruption would be useful too, because people would then realize that the institutions are solid. In the last 10 years, Georgia has provided a remarkable example; it was one of the first countries in the subregion to establish legislation that holds companies criminally liable for bribery. Public administration reforms, ensuring active and autonomous investigation and prosecution of corruption at all levels, and involving civil society in the implementation and monitoring of national anti-corruption policies were key factors in the successful reduction of corruption.

It might be tempting to advise countries in North and Central Asia to take advantage of FinTech, and hopefully they should aspire to do so: new advances such as crowdfunding or blockchain technology offer great opportunities to mobilize private resources to finance new ideas and businesses – leapfrogging is possible. However, currently most countries in the subregion lack basic infrastructure and essential conditions, such as reliable networks and free Internet, to make such a revolution possible on a massive scale. Hence, Governments should ensure the provision of such infrastructure and promote simpler, better-established technologies, such as mobile payments (e.g. M-Pesa, a mobile phone-based money transfer, financing and microfinancing service, has been around for years and has enjoyed tremendous success overall). Opening the mobile market to experienced foreign companies to provide mobile banking services would be another option with considerable potential.

Finally, policymakers should also consider enhancing the Internet so that people really consider it as a trustworthy option to seek investment/financing opportunities. The introduction of frameworks to regulate FinTech, so that investors do not face regulatory uncertainty and feel more empowered to invest, would be welcome. In this regard, as with other fast-evolving technologies, it would be advisable that they take stock of lessons learned from the experiences of other countries which are ahead of the curve.

7. Concluding remarks

The underlying premise in this chapter was that, for countries to be able to make the investments required towards implementing the 2030 Agenda, a necessary condition is that sufficient financial resources be made available. Depending on the actor that is taken as a reference (public or private sector), this basic premise has different implications. For the public sector, it means that public authorities should be able to mobilize a significant, stable flow of financial resources. For the private sector, this means that firms should have access to credit or equity to undertake investments. In focusing on several cases, it has been possible to study the different angles involved in different subregions, and the lessons learned are as follows.

In East and North-East Asia, FinTech has transformed and will continue to transform considerably the financial sector and its contributions to financing development. Its potential benefits are great and many, but there are also risks, arising especially from the difficulties in regulating this technology – both within and across countries. Policymakers should closely monitor the evolution of FinTech, learn key lessons from other countries and, as much as possible, coordinate internationally in order to avoid regulation arbitrage that could undermine the great promise FinTech has to offer for sustainable development.

In South-East Asia although the growth of corporate bond markets has progressed, there is still room for further development. Policy efforts should be focused on market efficiency, deepening secondary markets and broadening the base of investors. A strategic approach that has been bearing fruit in the subregion is doing so through subregional cooperation and integration and such ASEAN-led initiatives as AMBIF.

In the Pacific, fiscal volatility poses substantial challenges for planning strategic public investments in support of the 2030 Agenda. Countries should consider policies that can help reduce fiscal volatility both from the revenue and the expenditure sides. Sovereign Wealth Funds (on the revenue side) and more recently natural disaster risk insurance (on the expenditure side) have proven to be useful and may provide lessons learned for countries elsewhere; some countries, such as the Philippines, have started to replicate experiences from the Pacific in this regard. In the specific domain of natural disaster risk insurance, regional integration has proven to be particularly useful, because small island developing States are then able to benefit from the economies of scale that they individually do not have.

In South and South-West Asia, tax systems face several challenges which are reflected in poor efficiency in trying to mobilize and manage public financial resources. The complexity of tax structures and the granting of exceptions undermine effectiveness, introduce regressiveness in tax systems and hinder the social contract, all of which factors take a toll on tax morale and promote informality. Tax reforms are necessary to avoid this vicious circle, while streamlining the tax systems to make them simpler, faster and more effective. Special attention should be paid to coordination of tax administration at different administrative levels, increasing the tax base and strengthening transparency to deter corruption – which may thrive due to the many possibilities for interpreting tax systems. Reforms may not be easy to undertake because the costs of implementing them are borne in the short term, but their benefits are realized in the medium to long run. However, reforms will be the only way to go if South and South-West Asia is to implement the 2030 Agenda. The importance of better and more effective governance will be critical to implement them successfully.

In North and Central Asia, MSMEs hold a promising seed to stimulate structural transformation in the subregion. This section contained an exploration of their access to financing as a way in which they could thrive. Short-term business cycle considerations may have some influence in the current context of monetary policy normalization in the face of relatively high inflation in the subregion. However, improving the business environment will require ambitious long-term institutional reforms. Such reforms should be

holistic and enhance the way in which MSMEs operate, from the way in which they are granted permits to how they deal with financial issues, such as accessing credit and paying taxes. Reforms should be targeted at diversifying the supply of finance (among other things, to reduce the importance of banks, favour competition in the financial sector and promote venture capital); building capacity to meet the demand for finance (especially through entrepreneurship funds and business incubators); and especially streamlining the regulatory framework to make it more effective – currently, high collateral requirements imply excessive costs for financial institutions to recover their loans or collateral in the case of a default.

From a more strategic perspective, the policy recommendations across subregions may be summarized in three common elements. First, countries in Asia and the Pacific should boost financing for sustainable development if they want to implement the 2030 Agenda and achieve the Sustainable Development Goals. Second, to do so reforms should be implemented which may require bold action, thus introducing the governance dimension. Third, to undertake the required reforms the regional dimensions provide important opportunities in several areas, especially as they relate to cooperation and integration.

ENDNOTES

1 Crowdfunding market size in Japan increased from to ¥6.9 billion to ¥47.7 billion (estimated) from 2012 to 2016.

2 For example, WeChat or Alipay enables payments by a simple scan of a QR code from a retailer’s point-of-service terminal or a smartphone.

3 Payments can be made by scanning their fingers on a small fingerprint sensor machine.

4 A unified electronic system to pay for public transport services and convenience store purchases, or those for vending machines and parking fees.

5 See National Information and Credit Evaluation Inc. (initially designated as authorized credit rating agency) http://eng.nice.co.kr/main.nice.

6 This would also include the shadow-banking operations of banks subject to regulatory oversight.

7 An apparent Ponzi scheme that has reportedly cost 900,000 lenders over $7 billion.

8 Online payments via non-bank payment institutions are now widely seen all over China. They are not just being used for retail purchases, but also in innovative ways to support payments, investments, loans and money transfers (Zou and Parsons, 2016). The measures adopted apply to all “non-bank payment institutions” (payment institutions), i.e. institutions that are not banks but which – with a payment business permit – are authorized to provide online payment services, including through the Internet and mobile devices, landlines and interactive digital television (Zou and Parsons, 2016). The measures require payment institutions to establish a real-name management system, achieved through following “know your client” rules, registering clients and verifying their identity documentation, creating a client identification number and applying continuing client identification measures over the course of the client relationship (Zou and Parsons, 2016). For more details, see “China regulates online payment business of non-bank players”. Available from www.hlmediacomms.com/files/2016/02/China-regulates-online-payment-business-of-non-bank-players-.pdf.

9 Guidelines further clarified the regulatory mandates of different financial regulators with respect to Internet finance, including online payment (People’s Bank of China), online lending, trust and consumer finance (China Banking Regulatory Commission), equity crowdfunding and online funds sales (China Securities Regulatory Commission) and Internet insurance (China Insurance Regulatory Commission).

10 Formerly, the world’s largest Bitcoin exchange, which experienced massive disappearance of a substantial amount of bitcoins.

11 Robo-advisors are a digital platform that offers customized financial planning services driven by machine-learning technology and asset allocation algorithms. For more information, see www.investopedia.com/terms/r/roboadvisor-roboadviser.asp, www.economist.com/news/finance-and-economics/21730693-automated-wealth-managers-are-getting-bigger-they-still-manage-very-small).

[12] A regulatory sandbox is established by financial regulatory authorities in some countries to create a "safe space" in which financial service players can test innovative new products, services, delivery mechanisms and business models without immediately incurring all the normal regulatory costs and lengthy approval procedures (ADB , 2016b).

[13] Maturity mismatch is when a bank has substantial long-term assets (such as a fixed-rate mortgages) funded by short-term liabilities (such as deposits). Currency mismatch is having assets that are denominated in a different currency than liabilities, so that a change in exchange rate between those currencies can have a large positive or negative effect on the bank's balance sheet.

[14] For countries with available data. Available from https://asianbondsonline.adb.org/.

[15] Calculated based on data from https://asianbondsonline.adb.org/.

[16] For full details, see The Nation (18 July 2017). "Thailand retains Baa1 rating from Moody's". Available from www.nationmultimedia.com/detail/Economy/30321123.

[17] Volatility is measured by the standard deviation of each country's fiscal balance from its mean over the period 2007-2016. The higher is the standard deviation, the greater is the level of volatility and the flatter the distribution of the series values.

[18] For details, see ADB Key Indicators 2017.

[19] Private sector size in most Pacific island developing countries is generally small due to a combination of factors, including supply side and infrastructure constraints, limited scale of domestic demand and high costs for transportation and doing business.

[20] The Nauru Agreement Concerning Cooperation in the Management of Fisheries of Common Interest is a subregional agreement between the Federated States of Micronesia, Kiribati, Marshall Islands, Nauru, Palau, Papua New Guinea, Solomon Islands and Tuvalu. The Parties to the Agreement collectively control 25-30 per cent of the world's tuna supply.

[21] In 2013, the fee earnings ranged from 15 per cent of total revenues in the Marshall Islands to 65 per cent in Kiribati (IMF, 2014). Despite the wealth derived from fisheries, Pacific island countries have enormous untapped marine resources and further efforts are ongoing in that regard: first, the ratio of the income that those countries receive from foreign companies for selling their fishing rights to the value of the fish catch is very low; and second, there is a risk that a poorly managed scheme of access rights could lead to the overexploitation of marine resources, which might induce a depletion of fish stocks and undermine fiscal sustainability (IMF, 2014).

[22] Traditional development partners in the Pacific include multilateral development banks and agencies, and bilateral partners, such as Australia, China, Japan, New Zealand and the European Union.

[23] Several Pacific islands developing countries (particularly Fiji, Kiribati, Samoa, Tonga and Vanuatu) have benefited from overseas employment opportunities in recent years.

[24] The list of sovereign wealth funds from the Pacific include the following: Kiribati Revenue Equalization Reserve Fund; Marshall Islands Compact Trust Fund; Micronesia Compact Trust Fund; Nauru Phosphate Royalties Trust Fund; Palau Compact Trust Fund; Papua New Guinea Mineral Resources Stabilization Fund; Tonga Trust Fund; and Tuvalu Trust Fund. For further details, see (Le Borgne and Medas, 2007).

[25] For example, see ESCAP report on "Natural Disaster Risk" (ESCAP, 2017e).

[26] For more information, see Pacific Islands Forum Secretariat (2017). Disaster Risk Financing Instruments. A discussion paper for the 2017 Forum Economic Ministers' Meeting prepared jointly by the Asian Development Bank and the World Bank Group. Available from www.forumsec.org/resources/uploads/attachments/documents/PCRAFI_&_Contingent_Credit.pdf. Also see www.worldbank.org/en/news/press-release/2016/11/02/new-insurance-facility-to-boost-natural-disaster-resilience-in-pacific-island-countries and http://pcrafi.spc.int/about/, www.radionz.co.nz/international/pacific-news/344787/us45-million-for-pacific-catastrophe-insurance.

[27] www.adb.org/news/adb-help-strengthen-samoa-tonga-and-tuvalus-resilience-disasters and www.adb.org/news/adb-loan-improve-cook-islands-disaster.

[28] For more detail, see World Bank Press Release, 15 August 2017, "Philippines launches innovative insurance program to boost natural disaster risk management".

[29] OECD Statistics. Available from http://stats.oecd.org/. Figures differ; country reports and measures are different by time, aggregate and definition.

[30] IMF Government Finance Statistics Database. Available from www.imf.org/en/Data; it has been noted, though, that South and South-West Asian developing countries have ratios that are not too different from ratios of high-income countries when they were at a similar development stage (Long and Miller, 2017).

[31] The Addis Ababa Action Agenda sets a target tax-to-GDP ratio at 20 per cent. The IMF standard recommendation for low income countries, which for South and South-West Asia includes only Afghanistan, is an arbitrary 15 per cent to fuel development growth sprints. Recent reports by the World Bank and GIZ reinforce recommended ratios in this range (Long and Miller, 2017).

[32] The ratio could increase potential/gap: Afghanistan 15.0/6.2; Bangladesh 18.0/7.5; Bhutan 16.0/6.7; Islamic Republic of Iran 13.1/7.2; Maldives 16.5/5.8; Nepal 16.1/0.9; and Pakistan 12.1/1.8. Estimates do not include India.

[33] For further information, see EIU Economist Intelligence Unit (February 2018), Bangladesh Country Report.

[34] In Brazil, increases in municipal taxation were used to improve both the quality and quantity of education infrastructure, while increases in federal grants had no impact on infrastructure spending at all (Gadenne, 2016).

[35] For example, in India the first goods and services tax proposal contained one universal rate and no exemptions. The final legislation contains five rates (Economic Times, 2018) and various exempted categories that must be defined, categorized and reported in tax returns.

[36] For details, see www.mof.gov.bd/en/budget1/17_18/afs/en/St1_En.pdf.

[37] As an unweighted average. Latest data available are from the IMF Government Finance Statistics Database. Available from www.imf.org/en/Data.

[38] Rising income levels translate into higher tax intake when there is deliberate government action to modernize the tax system and incentivize formalization of the economy (Besley and Persson, 2014)

[39] The master file and CbyC reporting requirements predominantly enforce the principles of BEPS Actions 8 to 10 and Action 13 on transfer pricing.

[40] Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Russian Federation, Tajikistan, Turkmenistan and Uzbekistan.

[41] The definition of MSME varies across countries and industries and has been changing from time to time in this subregion. Most countries employ size of staff as a criterion to identify micro-, small and medium-sized enterprises. Companies with fewer than 50 employees are often considered as small enterprises. Some countries employ annual turnover and different thresholds for selected industries to provide subsidies or tax incentives for MSME development.

[42] Ayyagari and others (2011) provided a comprehensive data for the share of employment in small and medium-sized enterprises with a standardized definition of such enterprises.

[43] For further details, see The Global Findex Database – Financial Inclusion in Europe and Central Asia, 2015.

[44] As benchmarks, interest rate differentials of some countries adjacent to North and Central Asia: China (2.45 per cent) and Iraq (7.44 per cent).

[45] Small and medium-size enterprises in the Doing Business Indicators by the World Bank are defined as follows: small enterprises are firms with 5-19 employees, medium-size enterprises are firms with 20-99 employees and large enterprises are firms with 100+ employees.

[46] For details, see World Enterprise Surveys Database. Available from www.enterprisesurveys.org (accessed 15 March 2018).

[47] Freedom on the Net Index measures three aspects of the Internet:
- "Obstacles to Access details infrastructural and economic barriers to access, legal and ownership control over internet service providers, and independence of regulatory bodies;
- Limits on Content analyses legal regulations on content, technical filtering and blocking of websites, self-censorship, the vibrancy/diversity of online news media, and the use of digital tools for civic mobilization;
- Violations of User Rights tackles surveillance, privacy, and repercussions for online speech and activities, such as imprisonment, extra-legal harassment, or cyberattacks." For further information, see https://freedomhouse.org/report-types/freedom-net.

[48] For additional details, see Russian-Kyrgyz Development Fund, Annual Report 2016. Available from rkdf.org/sys/media/download/6617.