

BUSINESS INSIGHTS

ON EMERGING MARKETS

2022



INVESTMENT **BUSINESS**
ESG **TRANSFORMATION**
INFRASTRUCTURE **GREEN ECONOMY**
REGIONAL INTEGRATION INNOVATION
SUSTAINABILITY RISK
SKILLS REGULATIONS **TRADE**
PRODUCTIVITY
DIGITAL TRANSFORMATION
COMPETITIVENESS

Cite this study as:

OECD (2022), “Business Insights on Emerging Markets 2022”,
OECD Emerging Markets Network, OECD Development
Centre, Paris, <http://www.oecd.org/dev/oecdemnet.htm>.

BUSINESS INSIGHTS ON EMERGING MARKETS 2022



OECD DEVELOPMENT CENTRE

The Development Centre of the Organisation for Economic Co-operation and Development was established in 1962 and comprises 25 member countries of the OECD. In addition, 28 non-OECD countries are full members of the Development Centre. The European Union also takes part in the work of the Centre.

The Development Centre occupies a unique place within the OECD and in the international community. It provides a platform where developing and emerging economies interact on an equal footing with OECD members to promote knowledge sharing and peer learning on sustainable and inclusive development. The Centre combines multidisciplinary analysis with policy dialogue activities to help governments formulate innovative policy solutions to the global challenges of development. Hence, the Centre plays a key role in the OECD's engagement efforts with non-member countries.

To increase the impact and legitimacy of its work, the Centre adopts an inclusive approach and engages with a variety of governmental and non-governmental stakeholders. It works closely with experts and institutions from its member countries, has established partnerships with key international and regional organisations and hosts networks of private-sector enterprises, think tanks and foundations working for development. The results of its work are discussed in experts' meetings as well as in policy dialogues and high-level meetings, and are published in a range of high-quality publications and papers for the research and policy communities. For more information on the Centre, please see www.oecd.org/dev.

OECD EMERGING MARKETS NETWORK

Emerging Markets Network (EMnet) is an OECD-sponsored initiative dedicated to the private sector. Managed by the OECD Development Centre, EMnet fosters dialogue and analysis on emerging economies and their impact on global economic and social issues.

EMnet gathers top executives (chief executive officers, vice-presidents, managing directors, chief financial officers, heads of strategy, chief economists) of multinational companies from diverse sectors who are willing to engage in debates with high-level policy makers, including heads of state and ministers, and OECD experts.

EMnet events are closed to the public and media and operate under Chatham House Rule to encourage open and dynamic discussions on doing business in Africa, Asia and Latin America and the Caribbean. To learn more about EMnet, please consult www.oecd.org/dev/oecdemnet.htm.

Editorial

While more advanced economies have begun to return to their pre-pandemic trajectories, two years into the COVID-19 pandemic, it is becoming clear that emerging and low-income countries may take years to recover from the socio-economic damage it has caused. In Africa, the pandemic pushed 29 million people back into extreme poverty, undoing much of the progress made since the 1990s. In Latin America and the Caribbean, the poverty rate and inequality increased by three percentage points in 2020. In Emerging Asia, the pandemic threatens to exacerbate pre-existing inequalities within and amongst countries. In this context, developing countries' narrowing financing capacity to tackle the consequences of the pandemic is deeply concerning. Additionally, Russia's invasion of Ukraine has spread chaos across the region, displacing people and destroying lives, homes and infrastructure, while making the road to recovery even more uncertain.

The Emerging Markets Network's (EMnet) 2022 edition of *Business Insights on Emerging Markets* provides private sector perspectives on urgent policies to drive a sustainable, resilient and equitable recovery.

Indeed, as governments and businesses adapt, a shared understanding of the pace of business transformation, its challenges and opportunities, is more necessary than ever. The COVID-19 crisis has already transformed how people do business in emerging markets and around the world. It has accelerated pre-existing trends like digital technology adoption and built momentum for the green transition, increasing demand for sustainable strategies and finance.

However, this transformation is not happening at the same rate across all countries, with external shocks such as supply chain disruptions, global inflation, and financial market volatility affecting some sectors far more than others. Reaching the full potential of the digital transformation, the green economy and the drive towards sustainability in emerging markets will require significant private sector investment. For the green transition alone, the International Energy Agency foresees that over 70% of clean energy investments will have to be privately financed.

The OECD Development Centre member countries see the recovery from the pandemic and its multiple crises as an opportunity to reorient our development models towards greater inclusion, equity and environmental sustainability. However, due to the COVID-19 crisis, annual investments required to meet the SDGs by 2030 are estimated to have increased from USD 2.5 trillion per year in 2019 in to USD 3.7 trillion in 2020. Considering the scale of investments needed, public-private collaboration is indispensable as government financing alone will not be enough to achieve a sustainable recovery. In addition to driving investments in economic sectors, the private sector can play a critical role in encouraging formal job creation, developing quality infrastructure and enabling technology transfer.

Platforms like EMnet that inform timely policy adaptation in such uncertain times are vital and public-private dialogue will be critical to these efforts. We invite governments and companies to read the report and take the discussion further in our EMnet meetings.



Ragnheiður Elín Árnadóttir
Director, OECD Development Centre

Acknowledgements

This publication was prepared by the Organisation for Economic Co-operation and Development (OECD) Development Centre's Emerging Markets Network (EMnet); it includes a chapter from the Emerging Markets Institute of the Samuel Curtis Johnson College of Business at Cornell University. Bathylle Missika and Lorenzo Pavone, Head and Deputy Head, respectively, of the Networks, Partnerships and Gender Division, guided the project. The publication was developed by Lorenzo Pavone; Melanie Vilarasau Slade (EMnet Co-ordinator); Cristina Aguado Medrano and Lamia Mounavaraly (External Consultants). It received inputs from Aimée Martinez Jimenez and Jose Yek Gonzalez (EMnet Trainees).

The opening chapter, "Recent trends in emerging markets", was prepared by Lorenzo Pavone, Melanie Vilarasau Slade and Lamia Mounavaraly. It received contributions from Bakary Traoré (Economist at the Middle East and Africa Desk), Juan Vazquez Zamora (Deputy Head of the Latin America and the Caribbean Desk) and Prasiwi Ibrahim (Deputy Head of the Asia Desk).

Chapter 2, "Tackling risks and building resilience through business transformation in emerging markets", was drafted by Lorenzo Pavone, Melanie Vilarasau Slade and Lamia Mounavaraly.

Chapter 3, "Private sector insights on business transformation in emerging markets", was drafted by Lorenzo Pavone, Melanie Vilarasau Slade, Cristina Aguado Medrano and Lamia Mounavaraly. The chapter captures insights from the EMnet virtual meetings held in 2021, including the Working Group on Business and Sustainability (14 April), the Working Group on Digital Transformation (26 May), the Working Group on Green Economy in Emerging Markets (28 September), and the EMnet Global Meeting on Business Transformation in Emerging Markets (9-10 December). The meetings featured the participation of high-level policy makers, senior business executives and OECD experts. Further insights originate from desk research and bilateral conversations with EMnet members and other multinational companies operating in emerging markets. American Tower Corporation, AT&T, Enel Group, Eni, Huawei, Mastercard, Millicom, MSD, Organon, Santander, Telefónica and Vrio contributed through their review and additional comments to sharpen the analysis.

Chapter 4, "Emerging markets moving ahead with ESG policies", was written by Lourdes S. Casanova (Senior Lecturer and Gail and Roberto Cañizares Director) and Anne Miroux (Faculty Fellow) of the Emerging Markets Institute of the Samuel Curtis Johnson College of Business at Cornell University.

Finally, the team is very grateful to the OECD Development Centre's Communications and Publications Unit, especially Delphine Grandrieux, for its support in producing this publication, as well as the copy editor Brenda O'Hanlon. The authors also thank Elizabeth Holbourne from the OECD Development Centre's Director's Office and Henri-Bernard Solignac-Lecomte of the OECD Development Centre's Communications and Publications Unit for their contributions. Finally, special thanks go to Grace Dunphy, Sonja Märki and Jose Yek Gonzalez at the Networks, Partnerships and Gender Division (OECD Development Centre) for their valuable assistance throughout the drafting and publishing process.

The opinions expressed and arguments employed here are the sole responsibility of the authors and do not necessarily reflect the official views of the member countries of the OECD or its Development Centre, or of EMnet members.

© OECD 2022

This document, as well as any data and map included herein, are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

Table of contents

Editorial	3
Acknowledgements	4
Abbreviations and acronyms	8
Executive summary	10
1 Recent trends in emerging markets	17
Economic and business trends in emerging markets	19
Different paces of recovery across emerging markets	24
Diversification of FDI flows in emerging markets	27
Note	31
References	31
2 Tackling risks and building resilience through business transformation in emerging markets	35
Current and future risks in emerging markets	37
The transformation of business	42
Note	46
References	46
3 Private sector insights on business transformation in emerging markets	51
Accelerating digital transformation to promote recovery	53
Leveraging recovery plans to pursue green transformation in emerging markets	59
New labour markets and job creation across emerging markets	65
The transformation of trade	69
Investment in business transformation across emerging markets	71
Harnessing sustainable finance	73
References	80
4 Emerging markets moving ahead with ESG policies	93
Moving forward with ESG policies in emerging economies	96
ESG will continue be a major focus of emerging markets	103
Notes	104
References	104

FIGURES

Figure 1.1. Annual real GDP growth	19
Figure 1.2. COVID 19 vaccine doses administered per 100 people, by country income level	22
Figure 1.3. Exports as a percentage of world trade, 2000-20	23
Figure 1.4. Imports as a percentage of world trade, 2000-20	23
Figure 1.5. Greenfield FDI in Africa by business activities, 2019-21	28
Figure 1.6. FDI in Africa by sectors, 2019-21	28
Figure 1.7. Greenfield FDI in Emerging Asia by business activities, 2019-21	29
Figure 1.8. FDI in Emerging Asia by sectors, 2019-21	29
Figure 1.9. Greenfield FDI in LAC by business activities, 2019-21	30
Figure 1.10. FDI in LAC by sectors, 2019-21	30

TABLES

Table 1.1. Annual real GDP growth rates, 2020-23, percent change year-on-year	20
Table 4.1. Emerging economies participation in the Sustainable Stock Exchange Initiative: the E20+1	102

Abbreviations and acronyms

ADB	Asian Development Bank
AfCFTA	African Continental Free Trade Area
AI	artificial intelligence
ASEAN	Association of Southeast Asian Nations
capex	capital expenditure
CEPAL	Comisión Económica para América Latina y el Caribe
CO₂	carbon dioxide
COP	Colombian pesos
COVID-19	Coronavirus disease 2019
DFI	development finance institution
EU	European Union
EMnet	Emerging Markets Network
ESG	environmental, social and governance
ETS	emissions trading scheme
EUR	euros
FDI	foreign direct investment
fintech	financial technology
G7	Group of Seven
G20	Group of Twenty
GDP	gross domestic product
GHG	greenhouse gas
GSMA	Global System for Mobile Communications Association
GSSS	green, social, sustainability and sustainability-linked
GVC	global value chain
ICT	information and communications technology
IDB	Inter-American Development Bank
IEA	International Energy Agency
IFC	International Finance Corporation
ILO	International Labour Organization
INTERPOL	International Criminal Police Organization
IoT	Internet of Things
IP	Internet protocol
IT	information technology
ITC	International Trade Centre
KES	Kenyan shillings
KPI	key performance indicator
LAC	Latin America and the Caribbean
MIT	Massachusetts Institute of Technology
Mercosur	Mercado Común del Sur (Southern Common Market)
MNO	mobile network operator
MSME	micro, small and medium-sized enterprise
OECD	Organisation for Economic Co-operation and Development

R&D	research and development
RBC	responsible business conduct
SDG	Sustainable Development Goal
SIGI	Social Institutions and Gender Index
SME	small and medium-sized enterprise
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund
USAID	United Nations Children's Fund
USD	United States dollars
USF	universal service fund
WEF	World Economic Forum
WTO	World Trade Organization

Executive summary

The 2022 edition of “Business Insights on Emerging Markets” provides a private sector perspective on the business transformation currently taking place across Africa, Asia, and Latin America and the Caribbean (LAC). The publication brings together analysis and insights from the business meetings of the Organisation for Economic Co-operation and Development (OECD) Development Centre’s Emerging Markets Network (EMnet), interactions with the private sector and desk research. A chapter from the Emerging Markets Institute of the Samuel Curtis Johnson College of Business at Cornell University, focusing on environmental, social and governance (ESG) efforts in emerging markets, complements this publication.

Recent trends in emerging markets

From a macroeconomic perspective, two years after the beginning of the Coronavirus (COVID-19) crisis, global recovery is on its way. Yet, it remains uneven particularly across Africa and LAC. After a strong rebound in 2021 of almost 5.5%, projections show a deceleration in global growth of 4.5% in 2022 and 3.3% in 2023. Removal of fiscal stimulus packages and slowdowns in large emerging economies such as Brazil, the People’s Republic of China (hereafter: China) and India explain these projections. Additionally, the vaccination rollout, still at low levels in the least-developed countries, affects growth and socio-economic indicators. At least 63% of the world’s population has received one dose of a COVID-19 vaccine, dropping to only 13.6% in low-income countries. In addition, a first assessment of the economic impact of the war in Ukraine shows that global growth in 2022 could be 1% lower than previously projected. Whereas trade levels rebounded quickly thanks to a strong pick-up in 2021, with volumes 9.3% higher than in 2020, such growth is expected to be slower in 2022 (5.0%) and 2023 (4.5%) due to persistent supply bottlenecks and disruptions, as well as uncertainty with regard to the evolution of the COVID-19 pandemic and the war in Ukraine. Foreign direct investment (FDI) increased by 77% in 2021, with USD 1.65 trillion of global flows registered, of which USD 870 billion – or around 52% of the total – directed to developing and emerging economies. Analysis shows that since 2010, emerging markets have diversified FDI inflows, moving away from extractive industries and towards more value-added sectors, such as information and communications technology (ICT) and business services.

Tackling risks and building resilience through business transformation in emerging markets

This chapter explores the current and potential future risks, which are driving business transformation in emerging markets. Current risks include inflationary pressures, disruption in trade and production due to supply bottlenecks, and the war in Ukraine. Longer-term risks include increased uncertainty related to the evolution of the COVID-19 pandemic, weather effects due to climate change and rising inequality across the world. Together, these factors are pushing businesses to adopt new strategies in order to prevent and mitigate risks and recover from shocks.

To build resilience, businesses will need to embrace digital transformation and pursue the opportunities offered by the green economy. There is evidence that this process is well under way but needs to be pushed further in certain regions across emerging markets. The transformative impact of digitalisation in many industries has accelerated pre-existing trends towards digital finance, e-commerce and digital trade, with new users accounting for more than 50% of the increase in online grocery shopping in Brazil and South Africa in 2020. It has also created new opportunities to introduce more efficient solutions in areas such as public services. For example, digital governance in Djibouti has helped enhance the supply chain management of health products. E-Government Development Index (EGDI) scores in Africa almost doubled, from 0.2 in 2003 to 0.4 in 2020, and *The Digital Transformation Strategy for Africa (2020-2030)*, developed by the African Union, is encouraging digital government to accelerate the overall digital transformation of economies in the continent.

A growing number of countries and multinational enterprises are committing to net-zero carbon emissions by 2050. This ambitious target towards a clean energy economy will require major shifts from reliance on oil and gas, and will entail some trade-offs, such as reduced profitability and the loss of government revenues, as well as trade losses. Increasingly, companies and countries are making use of a favourable environment for sustainable finance in emerging markets. Here the share in ESG products increased for the first time since 2016, thanks to pandemic-related financing needs and the surge in climate-related borrowing across emerging markets, led by LAC. According to the International Monetary Fund (IMF), ESG-linked debt issuance tripled to reach USD 190 billion in 2021, and sustainability-related equity fund flows also rose to USD 25 billion in the same time frame. Currently, ESG investments represent 18% of foreign investment in emerging economies, excluding China.

Private sector insights on emerging markets

EMnet members are pursuing efforts towards a digital, green and sustainable transition in emerging markets. With the support of governments and multinational institutions, companies are seeking to adapt to the fast pace of change and unlock the capital necessary to complete large-scale transformation projects. This summary provides perspectives and examples from businesses across emerging markets in support of an inclusive and resilient economic recovery.

Accelerating digital transformation to promote recovery

The COVID-19 pandemic accelerated the speed of digital transformation globally. In addition to building resilience, digital adoption is expected to unlock substantial economic value annually in emerging markets, reaching almost USD 3.4 trillion in 2030 across 16 important emerging economies. For digital transformation to become a reality, companies have emphasised the need to enhance digital infrastructure in order to enable reliable and quality connectivity. However, a recent analysis notes that USD 428 billion in investment is needed to achieve the objective and that this cannot be undertaken by the public sector alone. The private sector therefore plays a critical role, particularly to enhance rural connectivity and allow the deployment of newer technologies such as 5G, whose adoption is expected to generate USD 13.2 trillion in economic output by 2035.

EMnet participants agree that public policies can promote the sharing of infrastructure, encourage synergies, ensure scalability and promote open standards. There is a need for co-ordinated inclusion strategies for the most vulnerable groups, including women, and to overcome digital gaps affecting micro, small and medium-sized enterprises. Leading an inclusive digital transformation is crucial, as the gender digital divide still inhibits women's participation in the digital economy, with 234 million fewer women than men having smartphone access to mobile Internet, for example. Finally, there is a need to build trust in digital technologies and address safety, privacy and security risks.

Leveraging recovery plans to pursue green transformation in emerging markets

EMnet participants highlighted the significant role of the private sector in accelerating the green transformation in emerging markets, providing investment and innovation in cleaner technologies, and adopting emissions reduction strategies across industries. Electrification and renewables, particularly solar and wind, were highlighted as key levers in the success of the energy transition, supporting both short-term recovery and longer-term sustainable and inclusive economic development. However, appropriate regulatory frameworks are needed in order to further support technological advances and make new technologies commercially viable, bankable and attractive to private capital.

There is significant pressure to adapt traditional business models in order to reduce emissions, by building carbon management capabilities, quantifying generation and reducing intensity. Business momentum in committing to net-zero carbon emissions is growing rapidly; however, key questions remain regarding the standardisation of net-zero targets, implementation plans and how to ensure accountability and credibility of actions. EMnet participants emphasised that more efforts are required in order to fulfil the growing energy demand in emerging markets. Strong partnerships and multi-stakeholder collaboration, such as that seen following the integration of small and medium-sized enterprises (SMEs) in Benban in Egypt – which will be the fourth-largest solar power plant in the world – will be critical to supporting the energy transition. Companies also highlighted the need to ensure the benefits for the population, specifically involving local communities in the planning and execution of energy infrastructure projects. A gender perspective on this topic is also relevant, as irregular energy supply disproportionately affects women by increasing their time poverty and domestic work burden.

The circular economy is key for the green transformation, as it is expected to generate positive impacts on the environment by reducing emissions, increasing the share of renewable energy and recyclable resources, and reducing the use of raw materials, water, land, and energy. Businesses are starting to include circularity in their models, discussing with local authorities how to apply circular economy models in redesigning and guiding cities on a more efficient and sustainable path, whilst encouraging innovation, creating jobs and broadening citizen access to services.

EMnet participants agree that building and modernising infrastructure, services and housing is required in order to meet the needs of a growing population, particularly in emerging and developing countries where cities are more vulnerable to the external shocks triggered by climate change (e.g. extreme weather events). Finally, there is a need to work on integrating both mitigation and adaptation efforts, with the latter being particularly important in many emerging markets. In Asia, for example, the Asian Development Bank estimates that investments of around USD 1.7 trillion per year will be needed by 2030 in order to maintain growth momentum, eradicate poverty and respond to climate change risks. Of that amount, about 2% (USD 40 billion per year) is expected to be applied to climate risk adaptation.

New labour markets and job creation across emerging markets

EMnet participants agree that upskilling and reskilling the workforce is a critical element in harnessing business transformation in emerging markets. The rise of new technologies and digitalisation provides an opportunity to diversify and even leapfrog in key industries. However, digital transformation also has an impact on the job market, as industries are moving from low-cost and low-skilled labour to new jobs involving digital maintenance and research and development (R&D), which require higher qualifications. Similarly, transitioning to a green economy brings with it a dynamic of new job creation. According to the International Energy Agency (IEA), in the energy sector alone, some 14 million jobs should be created by 2030, while only 5 million jobs would be lost as part of the transition to net-zero carbon emissions.

Governments will have to co-operate closely with the private sector in order to encourage the transition to new labour markets. Policies must be put in place to adapt the education systems and technical training and to promote digital and green skills. Further flexibility is needed to allow workers to move easily from

one sector to another. Tackling informality will also be critical for the transition to new labour markets. About 2 billion workers (60% of the world's adult labour force) operate in the informal sector at least part-time – a number that has increased with the COVID-19 pandemic. Financial inclusion and new digital tools are creating paths for people to enter into formal employment by helping rural workers integrate into regional value chains and offering digital banking solutions.

The transformation of trade

The COVID-19 pandemic highlighted weaknesses in the global trading system and, as economies recover, global value chains remain disrupted by bottlenecks which in turn are affecting the return to business as usual. EMnet participants noted that the adoption of digital technologies and commitments to combat climate change are changing the trade landscape and require reforms of regulatory frameworks.

Companies have stressed the importance of promoting digital trade, which is lowering costs, accelerating delivery and allowing greater choice. EMnet participants agreed that governments play an important role in helping both to enable digital transactions (using trade to help digitalisation) and to facilitate access (using digitalisation to help trade) for the benefit of businesses and individuals. Enhancing infrastructure and ensuring that the international tax system is fit for purpose in a digitalised and globalised world economy is critical to the advancement of digital trade and e-commerce. Building trust between actors and implementing high international standards on cybersecurity, data protection and ICT supply chain protection will enable the development of a safe global trade ecosystem.

In order to adapt to these new trade realities, companies noted the need for smart regulations, namely public policies that are fit for purpose in a fast-moving business landscape. EMnet participants also discussed how the global trading system needs to adapt in order to enable businesses to reach their emissions reduction targets. Favourable trade policies will be key to determining the pace of change and to overcoming challenges, such as obsolescence of old technologies or fragmented policies. Regional and international collaborations and partnerships will be fundamental to reinforcing economic integration and to generating a common response to shared challenges.

Investment in business transformation across emerging markets

Digital transformation, green transition and sustainable business models present significant opportunities for the private sector, while at the same time contributing to the global economic recovery. However, they will require significant investment. For example, annual investment in clean energy infrastructure is expected to rise from around USD 290 billion in 2020 to approximately USD 880 billion in 2030. A net-zero transition will require a substantial increase in investments, rising to more than USD 1 trillion by the end of the 2020s, with a particular focus on sub-Saharan Africa and Southeast Asia. Yet, despite hosting two-thirds of the global population, emerging and developing economies (excluding China) currently account for only one-third of global energy investment and an even smaller (20%) share of clean energy investment.

EMnet participants agree that in order to facilitate private investment, governments need to provide coherent, stable and predictable policy frameworks. As such, emerging and developing economies relying mainly on public funding for new energy projects and industrial facilities will need to reform, strengthen and streamline their policy and regulatory frameworks to attract more private investment. EMnet participants called on governments to create more visibility with regard to public policy targets and system-level planning. Robust, reliable and quality data will be essential to inform long-term planning and the efficient allocation of resources. In the digitalisation process of circular systems, data also play a critical role, particularly for material exchange platforms and knowledge-sharing networks. Moreover, private investment in digital technologies and infrastructure can be encouraged through sound public policies. During the COVID-19 pandemic, many LAC countries have implemented policies to promote further investment in an inclusive digital transformation that could usefully be maintained, including additional

spectrum allocation; special protections for telecommunications infrastructure (particularly in countries with repeated reports of infrastructure vandalism); reduction of taxes; payment schemes for universal service programmes; and the standardisation of regulations for network deployment.

Harnessing sustainable finance

Due to the COVID-19 pandemic, the gap in financing the SDGs, initially estimated at USD 2.5 trillion per year until 2030, increased to USD 3.7 trillion in 2020. Institutional investors held more than USD 100 trillion in assets in 2019. Mobilising these investors through public-private collaboration in order to mitigate risks and mainstream sustainability considerations can help to close the funding gap at a faster pace. 2020 was another record-breaking year for the green, social, sustainability and sustainability-linked (GSSS) bond market, with total GSSS bond issuance reaching more than USD 600 billion – nearly doubling the USD 326 billion issued in 2019. Apart from bonds, ESG assets are expected to exceed USD 50 trillion by 2025, accounting for one-third of global assets. At the same time, despite the amount of sustainable investment increasing overall, insufficient funding is reaching emerging economies or low-income countries today. Stakeholders, investors and financial institutions are putting increasing pressure on companies to track, report and measure their impact based on ESG criteria. However, the lack of regulation around sustainable finance remains one of the first obstacles for investors, as this prevents them from correctly assessing risks arising from such investments.

Sustainable finance is also supporting the green transition. Despite the COVID-19 crisis, demand for responsible investment has propelled green bond issuance in 2020 to the amount of USD 77.7 billion (13% lower than in 2019). EMnet participants agreed that green and sustainability bond markets would benefit from the creation of an enhanced policy space across emerging and developing countries.

Scaling mobilisation from the private sector through transaction structures, such as blended finance, is crucial to de-risking and unlocking the financing needed for business transformation and to achieve the SDGs more widely. Blended finance can enable access to a number of sizeable deals that fit within investors' mandates, provided that the investment and regulatory environment enables such collaboration, for example via technical assistance tools and advisory services.

Finally, EMnet participants noted how innovation – from artificial intelligence (AI) to blockchain – can unlock solutions to financing challenges. Big data, AI, the Internet of Things (IoT) and blockchain are currently some of the promising technologies identified to mobilise sustainable finance by creating more accurate data analysis. Innovative financing structures and facilities can help project developers access long-term capital and de-risk investment by making the access to data faster and cheaper, improving transparency.

Emerging markets moving ahead with ESG policies

ESG is taking up in emerging markets: in 2021, emerging market firms accounted for about 23% of the business signatories of the United Nations Global Compact, a corporate initiative that calls upon businesses to adopt sustainable and socially responsible policies and practices. As of September 2021, Brazil alone had 714 Global Compact signatories, Mexico 490, China 430, and Colombia 322, more than most developed countries. By comparison, other than France with 1 342, and Germany with 589, signatories lag from other major advanced economies such as the United States (373), Japan (338), and the United Kingdom (426). The number of ESG reporting provisions in some countries such as Argentina, Brazil, China, Colombia, India, and South Africa are exceeding or moving towards the European Union average.

Emerging markets are also increasingly taking part in the large-scale efforts to incorporate ESG into the financial sphere. The number of signatories of Principles for Responsible Investment doubled in emerging markets over 2019-2021. Furthermore, the increasing presence of emerging market firms in global

sustainability indexes confirms the trend. As of March of 2022, they accounted for about 14% of all signatories in the world. As of March 2022, they accounted for about 14% of all signatories in the world. Brazil and South Africa had 115 and 74 signatories respectively, some of the highest counts among emerging markets.

Emerging markets have made significant progress in designing and implementing ESG policies and initiatives. Influenced by global initiatives such as the United Nations Sustainable Development Goals and the 2015 Paris Agreement on climate change, emerging markets have increasingly begun to implement their own national and regional initiatives around ESG. In emerging markets, ESG has traditionally been dominated by voluntary measures. However, these countries are also increasingly implementing mandatory regulations, even becoming global leaders in some cases.

Both investors and consumers scrutinise the ESG positions of companies. As of 2021, half of the 44 stock exchange partners of the Sustainable Stock Exchange Initiative were in emerging markets. Two thirds of the E20+1 countries have at least one sustainability index. China has more than 50 sustainable indices amongst its three exchanges, while India and Brazil six each. The share of emerging economies in sustainable funds rose from USD 140 billion to close to USD 200 billion over 2018-2020, largely led by China.

The chapter examines four countries case studies on South Africa, India, Thailand and Brazil. With China, these countries are the ones occupying the five top positions, based on their number of firms, in the Emerging Markets Institute list of the 200 best ESG corporate performers from emerging markets. These case studies highlight the diversity of situations as regards ESG in emerging economies: the legacy of the past and the importance of ESG regulation in South Africa; the policy drive to promote ESG practices and reporting in Thailand; the push for regulatory reform in China over the past ten years, and the mandatory steps taken by India. While recognising the challenges faced in setting up appropriate ESG frameworks and on driving further progress, the examples below demonstrate the significant and steady progress being made in emerging markets on ESG issues.

Over the years, South Africa has put in place a network of regulations in ESG, accompanied in some cases by major business-led initiatives, focusing on CO₂ emission reduction, promotion of health and safety among employees and the introduction of a set of voluntary principles and guidelines on corporate governance. The financial sector in South Africa has been a leader in integrating ESG issues into business practices. The Johannesburg Stock Exchange also plays an influential role in promoting corporate transparency and ESG practices in South Africa.

India's approach to ESG has been progressively moving from voluntary to mandatory. Measures have been put in place to push for the adoption of electric vehicles, promote renewable energy, reduce CO₂ emissions; improve access to clean water and sanitation; promote healthcare, education, and women empowerment; and tackle corruption. The integration of ESG into business practices is still at a nascent stage but is gaining traction in the country. Sustainable finance has begun to gain ground in India. In 2020 alone, USD 2.3 billion was raised via sustainable bond issuances. Several funds dedicated to ESG have also emerged in the past three years. In addition, in 2021, a Social Stock Exchange was created so that social enterprises and voluntary organizations could raise capital more easily.

The state has played a significant role in Thailand's progress on ESG matters. Particular attention has been paid to the conservation of nature, people's well-being and enhance transparency and accountability in firms. The Banking sector of Thailand has taken several steps to move forward on sustainable finance. For instance, encouraging financial institutions to integrate sustainability into their business and operating models is one of the key objectives of Thailand's Central Bank's three-year strategic plan. Overall, ESG compliance and reporting are still mostly voluntary in Thailand.

Brazil has several policies addressing social, governance and environmental issues. Brazil's ESG focus has largely been on the environment due to the country's large natural endowments. Its environmental

policy includes general environmental regulations as well as specific regulations targeting, for instance, deforestation, ocean pollution and air quality. Brazil's banking system has made efforts to build a sustainable finance framework, focusing in particular on environmental issues. The first standards and regulations date back to the 1990s. In 1995, five Brazilian banks signed the first framework, *Protocolo Verde* (Green protocol), a voluntary commitment to consider environmental and social factors in financial decision-making. The country has no strict ESG disclosure or compliance requirements for listed companies; however, it has been a regional leader in sustainability indices. In 2000, the Brazilian Stock Exchange created the *Novo Mercado* (New Market) a special listing segment that requires companies to heighten transparency on corporate governance issues. In 2005, it released the *Corporate Sustainability Index* (ISE).

1 Recent trends in emerging markets

This chapter provides an overview of the macroeconomic situation and the uncertain and volatile economic outlook affecting businesses across emerging markets. Following the Coronavirus (COVID-19) crisis and its impact on global gross domestic product (GDP), trade and investment, emerging markets are seeing a slow economic recovery which is now further hampered by the ongoing war in Ukraine. This chapter takes a closer look at trends across Emerging Asia, Latin America and the Caribbean (LAC), and Africa, and analyses foreign direct investment (FDI) flows to emerging markets. It examines risks and opportunities as well as the sectors that are attracting the greatest investment to date, and those poised to do so in the future.

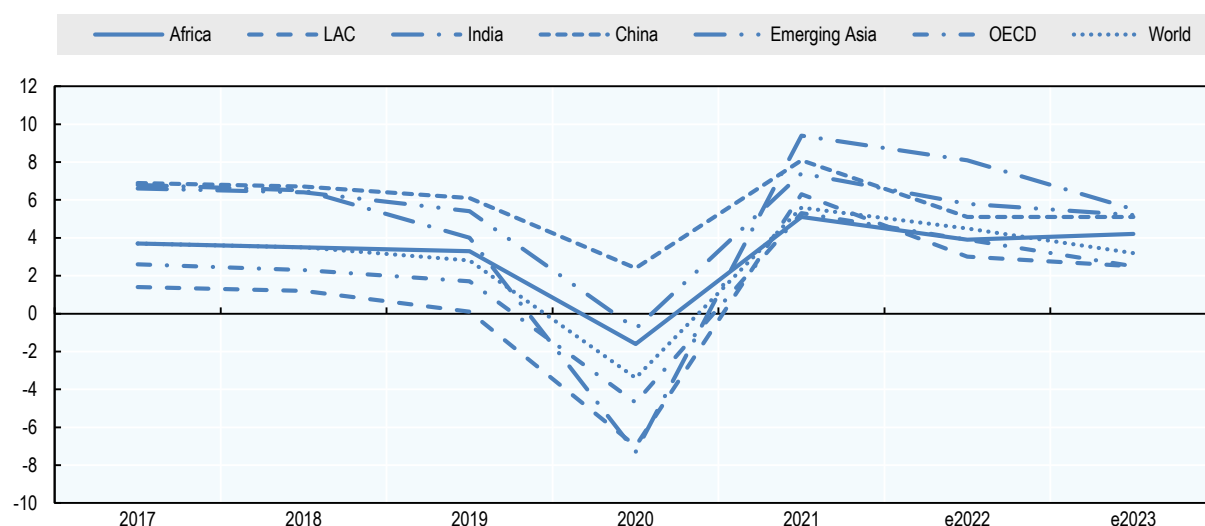
Key messages

- Economic recovery post-COVID-19 has been strong but unequal, with emerging and developing countries growing at a slower pace than developed economies due to lower vaccination rates, outbreaks of new variants, elevated inflation, rising debt and increased inequalities, as well as supply shortages in key sectors.
- An acceleration of vaccination campaigns is needed to avoid further negative effects of the COVID-19 pandemic, particularly in Africa.
- The expected removal of fiscal and monetary support policies in both developed and developing economies will contribute to slowing down economic growth in 2022.
- Inflation rose globally in 2021, and is expected to continue on an upward trend during 2022. This is due to a rebound in demand as well as supply disruptions and rising commodity prices, which are exacerbated by the war in Ukraine.
- Trade levels rebounded quickly thanks to a strong pick-up in 2021, with trade volumes 9.3% higher than in 2020. Trade growth is expected to be slower in 2022 and 2023, at around 5.0% and 4.5%, depending on the evolution of the pandemic and war crises and the possible persistence of supply bottlenecks and global value chain disruptions.
- In a significant reversal of pre-pandemic growth trends, Africa is not expected to regain its pre-COVID-19 share of global GDP in the near future, with at least 40 million people at risk of falling into extreme poverty. The crisis disproportionately affected women, as nine out of ten were working in the informal economy prior to the pandemic, increasing their vulnerability to future shocks.
- Growth in Emerging Asia rebounded during 2021, increasing by 7.4%, and is expected to continue at a slower pace (5.8%) and in a heterogeneous and uneven way in 2022. Furthermore, new COVID-19 outbreaks, tight fiscal measures and a rise in inflation could challenge the region's economic performance.
- LAC is the region that has been hardest hit by the COVID-19 crisis: the pandemic caused the greatest economic downturn in LAC in the past two centuries. Average GDP growth of around 6% for 2021, with a significant deceleration anticipated in 2022 due to the expected removal of policy support.
- 2021 saw a dynamic environment for FDI thanks to recovery stimulus packages and favourable financing conditions: FDI increased by 77% in 2021, of which USD 870 billion – around 52% – was directed to developing and emerging economies.
- A more diversified range of sectors are attracting FDI in Africa than during the 2010s, particularly in the business and information technology (IT) services industries, with less emphasis on the extractive industries.
- Emerging Asia is the region which attracts the most FDI in research and development (R&D), influenced by factors such as Industry 4.0 activities in Association of Southeast Asian Nations (ASEAN) member countries, including the digital economy and infrastructure-related industries, such as electricity or information and communications technology (ICT).
- ICT is also a dynamic sector for FDI in LAC. Additionally, evidence shows that foreign investors are more likely to promote innovation than domestic firms.

Economic and business trends in emerging markets

Two years after the beginning of the COVID-19 pandemic, which has had a devastating impact on human health and the global economy, recovery is still under way. After seeing a significant economic rebound in 2021 of almost 5.5% globally, global growth projections show a deceleration, with expected growth of 4.5% in 2022 and 3.3% in 2023 (Figure 1.1) as a result of elevated inflation and tighter monetary policies.

Figure 1.1. Annual real GDP growth



Note: OECD: Organisation for Economic Co-operation and Development – e2022/e2023: estimated projections

Source: OECD (2021), *OECD Economic Outlook, Volume 2021 Issue 2*, <https://dx.doi.org/10.1787/66c5ac2c-en>.

Although global GDP has now risen above its pre-pandemic level, the recovery remains uneven. Emerging markets are seeing a slower rebound, particularly across Africa and LAC, while all countries emerging from the crisis are facing pressing economic, social and environmental challenges.

An uneven recovery is affecting emerging markets

The recovery from the economic crisis caused by the COVID-19 pandemic has been strong but unequal, with developing countries not recovering at the same pace as developed economies (OECD, 2021^[1]). This uneven recovery has negatively affected middle- and low-income developing countries the most, as developed countries are seeing the largest share of the GDP growth expected from the recovery. Across the largest emerging economies, a marked slowdown is expected for the People's Republic of China (hereafter: China) in 2022 due to mobility restrictions (as a result of new containment measures in March 2022) and regulation of the property and financial sectors, which has restrained consumer spending and residential investment (World Bank, 2022^[2]). Organisation for Economic Co-operation and Development (OECD) composite leading indicators point to a decline in growth for Brazil and India due to the COVID-19 pandemic, and the recent spread of the Omicron variant across the globe (OECD, 2022^[3]). The slowdowns are expected to reduce global demand for goods and services in many emerging economies, affecting overall global growth. Changes in the amount of business investment – specifically a sharp decline in 2020 and an increase in 2021 – and in business practices will have an economy-wide effect on productivity. Meanwhile, non-OECD member countries expect growth in absolute GDP, but without a return to their pre-pandemic projected output. In a concerning trend, low-income countries are projected to see minimal levels of per-capita growth over the coming four-year period (2022-26) (OECD, 2021^[1]). These economies

will continue to suffer the effects of the pandemic, as they have a limited capacity to apply macroeconomic policy, and their vaccination programmes lag significantly behind those of developed economies despite global efforts. According to the World Bank, emerging economies will face a less favourable external environment, which would further slow growth as external demand from major economies plateaus (World Bank, 2022^[2]).

Table 1.1. Annual real GDP growth rates, 2020-23, percent change year-on-year

Region	2020	2021	2022	2023
Africa	-1.6	5.1	3.9	4.2
LAC	-7.0	6.3	3.0	2.5
India	-7.3	9.4	8.1	5.5
China	2.3	8.1	5.1	5.1
Emerging Asia	-0.8	7.4	5.8	5.2
OECD	-4.7	5.3	3.9	2.5
World	-3.4	5.6	4.5	3.2

Note: Emerging Asia includes ASEAN, China and India

Source: OECD (2021), *OECD Economic Outlook, Volume 2021 Issue 2*, <https://dx.doi.org/10.1787/66c5ac2c-en>.

The economic outlook for 2022 will be severely affected by inflation trends. Inflation rose globally in 2021, with headline consumer price inflation reaching 4.6% in October 2021 (World Bank, 2022^[2]), and it is expected to continue this upward trend during 2022, due to a rebound in demand as well as supply disruptions, rising energy prices and the rise in commodity markets. Commodity prices have increased markedly due to the strong rebound of demand in 2021, reaching their highest levels in history (OECD, 2021^[1]). Between March 2021 and March 2022, energy commodities rose by 63.4% and non-energy commodities by 22.7% (Prospects Group, 2022^[4]). Across emerging markets, some countries such as Argentina or Turkey experienced double-digit inflation in 2021 (World Bank, 2022^[2]), the highest rate since 2011, with a threat of pressure on wages as inflation is hitting low-income workers particularly hard. The role of central banks in mitigating the effects of inflation, while being supportive of the economic recovery, will be key in preventing inflation from rising above targets. Continued upside inflation raises fears of broad-based price increases (OECD, 2021^[1]) and could force emerging economies to withdraw policy support deployed during the COVID-19 crisis in order to contain inflationary pressures.

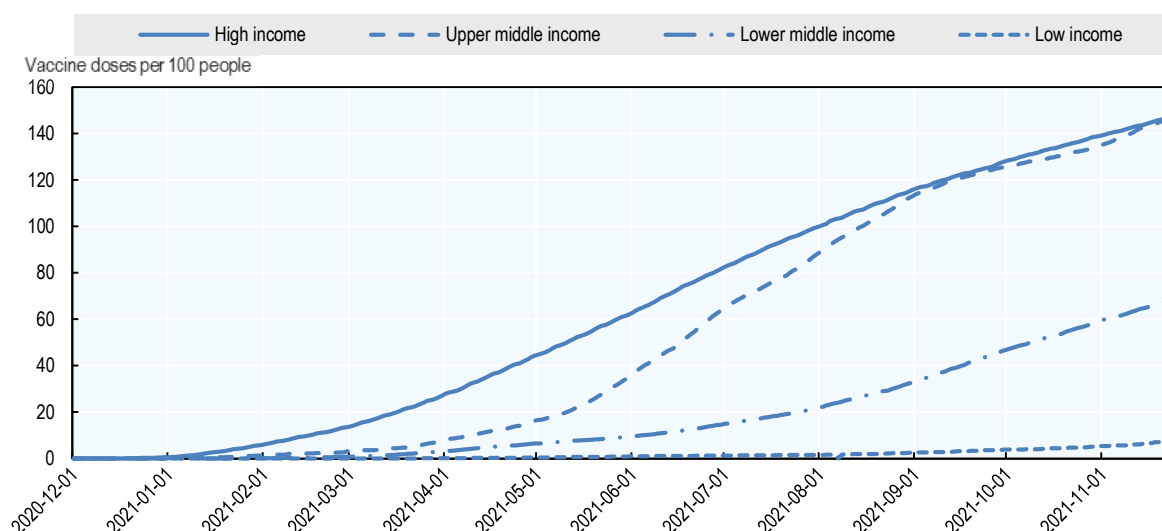
A key element in the economic recovery witnessed in 2021 has been the accommodative fiscal and monetary policies implemented as part of emergency measures. These stimulus packages are progressively being removed in OECD member countries as private sector activity resumes at full strength and output gaps close. Fiscal support is also being lifted in more than 80% of emerging markets and developing economies (World Bank, 2022^[2]). It is an important balancing act for policymakers, who must avoid either removing stimulus packages too quickly or leaving them in place for too long. If an increase in private spending can sustain demand and offset stimulus removal, the global recovery is projected to continue until 2023. The slowdown in global growth can also be attributed to reductions in the fiscal support from governments and institutions that was mobilised at the beginning of the COVID-19 crisis; tighter fiscal and monetary policies reducing the scope for investment in recovery; and the increasing debt burden, which has reached record highs in many emerging economies (World Bank, 2022^[2]). Finally, different paces of recovery in developing countries can be explained by their central banks' weaker ability to provide support, whereas developed countries and economies benefitted from their central banks' work to maintain the economy – this includes central banks such as the United States' Federal Reserve System (the Fed) and the European Central Bank.

Emerging economies provided policy support to their populations and businesses in reaction to the pandemic, adopting similar health measures as in the rest of the world, namely social distancing, containment measures and the use of personal protective equipment. Policy interest rates were increased to help dampen inflation pressure (OECD, 2021^[1]), and a combination of tax relief measures, budget reallocations, additional expenditure and concessional lending were used to mitigate the impact of the COVID-19 crisis. Emerging markets also issued USD 3.4 trillion of debt in financial markets in 2020 (OECD, 2021^[5]) in order to finance their response to the crisis, thanks to accommodative environmental and policy support from developed economies. Nevertheless, due to a tighter policy space, the degree of support provided still remained below that in advanced economies (World Bank, 2022^[2]), and countries with high levels of debt will need more co-operation and co-ordination in order to sustain the degree of support they are providing. Contact-intensive sectors have struggled to regain pre-pandemic employment levels, adding to the incomplete recovery of the labour market. Total hours worked in 2022 across economies are expected to remain 4.3% below the 2019 total, which is equivalent to 125 million full-time jobs (ILO, 2021^[6]). Together, inflation, labour market constraints and rising inequality (which are discussed in Chapter 2 of this report) are impeding faster growth in developing economies.

Economic recovery is directly linked to the COVID-19 vaccination campaign. While high vaccination rates in developed economies mean that hospitalisations and deaths as a result of COVID-19 have greatly decreased, outbreaks continue to hamper other parts of the world and extend supply constraints (Davidson, 2022^[7]). And although the pandemic situation currently seems to be under control in advanced economies, the Delta and Omicron variant outbreaks called for renewed precautions as massive levels of infection resulted in shutdowns and increased restrictions, having a considerable impact on global production and on recovery predictions (OECD, 2021^[1]).

Even though most advanced economies have either already eliminated most pandemic-related restrictions (as seen in the United States and the United Kingdom) or plan to do so in the near future, new COVID-19 outbreaks could create further economic disruptions if all countries globally do not reach a sufficient vaccination level. At least 63% of the global population has received one dose of a COVID-19 vaccine, but only 14% of people in low-income countries have received at least one dose ((n.a.), 2022^[8]). This situation raises the fear of emerging economies being left behind in the recovery process given their low vaccination rates (Figure 1.2). Vaccine delivery to emerging economies is expected to improve steadily in 2022, helping to stabilise the situation and gradually diminish the impact of COVID-19 outbreaks on the world economy (OECD, 2021^[1]). As these countries often have limited policy space to improve and accelerate vaccination, greater collaboration to rapidly deliver vaccines, including booster doses, is crucial.

Figure 1.2. COVID 19 vaccine doses administered per 100 people, by country income level

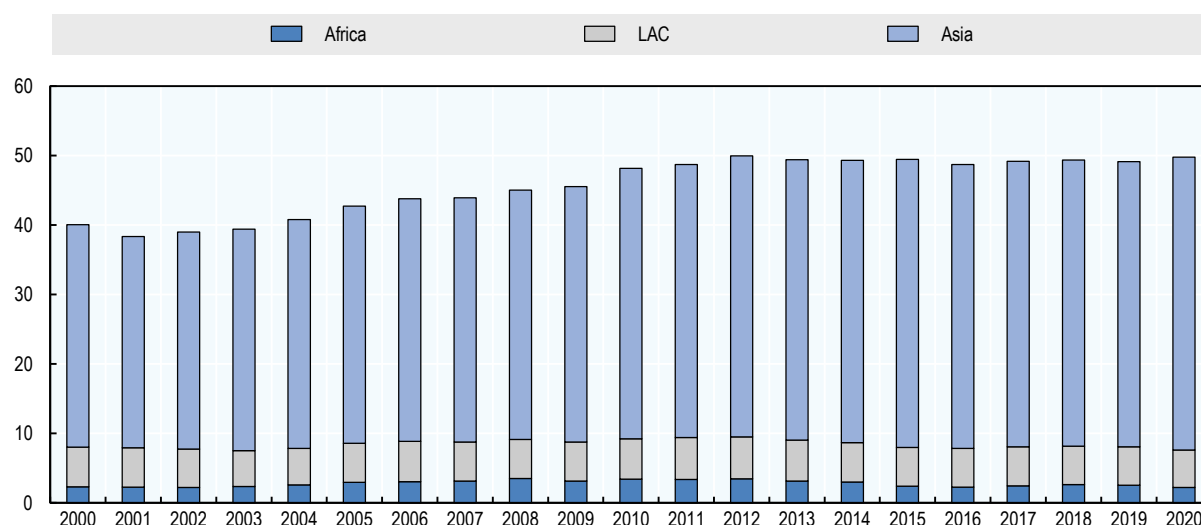


Source: OECD (2021), *OECD Economic Outlook, Volume 2021 Issue 2*, <https://dx.doi.org/10.1787/66c5ac2c-en>.

Trade is rebounding, mainly driven by Asian exports

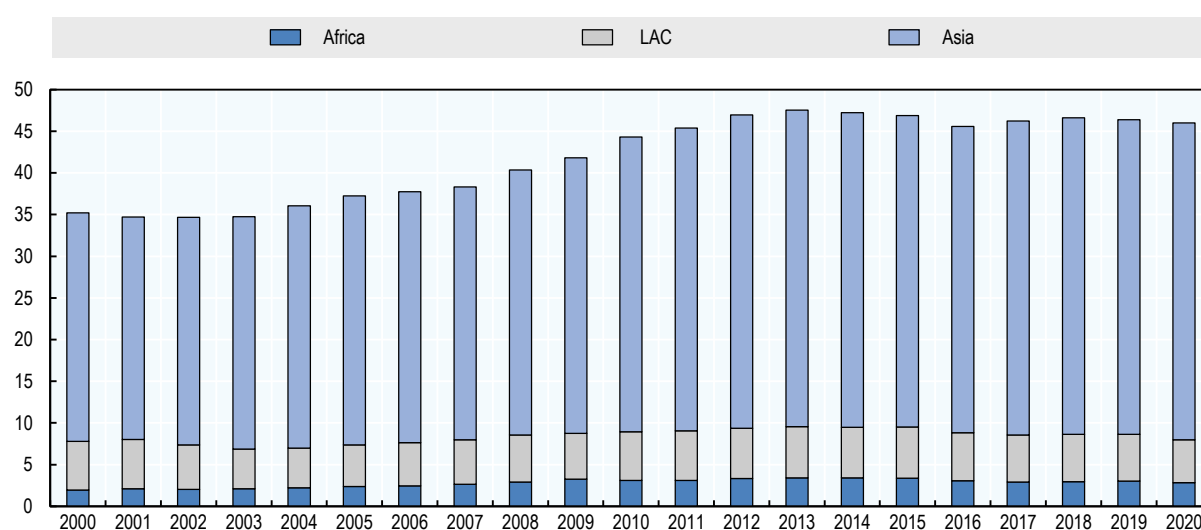
As growth is recovering, trade levels are also rebounding quickly thanks to a strong pick-up in 2021, with trade volume 9.3% higher than in 2020 (OECD, 2021^[1]). Again, trade growth is expected to be slower in 2022 and 2023, with expected increases of 5.0% and 4.5% respectively; however, several constraints may affect trade flows. The global economy has been affected by supply shortages, caused by an increase in global demand and the lack of increased production capacity in some sectors. These persistent and somewhat unexpected disruptions have contributed to the rise in supplier delivery times and to the substantial decline of inventory levels in many industries (OECD, 2021^[1]). For example, the global computer chip shortage has hampered production of millions of products across the world, from cars to computers and smartphones (Baraniuk, 2021^[9]). The overall effects of these supply shortages are expected to be felt until the second half of 2022, affecting the supply chains of specific sectors such as fuel, aircraft and steel, and creating heterogeneity in trade flows (OECD, 2022^[10]). However, the trade rebound has been strongly supported by growth in Asian trade (Figure 1.3 and Figure 1.4) and with exports from China and Dynamic Asian Economies¹ rising by 16.75% and 13.25% in 2021 (OECD, 2021^[1]), most notably for pandemic-related medical and teleworking equipment. LAC exports did not collapse thanks to exports of raw materials (OECD, 2022^[10]).

Figure 1.3. Exports as a percentage of world trade, 2000-20



Source: UNCTAD (2020), "World Investment Report 2020".

Figure 1.4. Imports as a percentage of world trade, 2000-20



Source: UNCTAD (2020), "World Investment Report 2020".

The impact of digitalisation on the nature of the demand for services and products, as well as developments (or lack thereof) in reshoring segments of industries, will need to be monitored. As the Russian Federation (hereafter: Russia) and Ukraine are both major suppliers in the commodities market, a prolonged war in Ukraine would have a negative impact on overall trade and supply disruptions. The current war in Ukraine might lead to the congestion of trade routes due to a shift from land to maritime transport, leading to a 5-8% increase in ocean freight demand at a time when container shipping is already constrained due to higher fuel costs (UNCTAD, 2022^[11]).

Box 1.1. War in Ukraine: A new negative supply shock

The most important consequences of the war in Ukraine are the lives lost and the humanitarian crisis associated with the huge numbers of besieged and displaced people. However, there are also numerous significant economic implications. The war in Ukraine has created a new negative supply shock for the world economy, just when some of the supply chain challenges that have been present since the beginning of the pandemic appeared to be starting to fade. The effects of the war will operate through many different channels, and are likely to evolve if the conflict deepens further.

A first assessment of the economic impact of the war in Ukraine estimates that global growth could be reduced by more than one percentage point. If sustained, the war in Ukraine would increase global consumer price inflation by approximately 2.5 percentage points (OECD, 2022^[12]), particularly due to higher food and energy prices.

Should the war in Ukraine continue, new supply chain challenges would arise given that Russia and Ukraine are major suppliers in many commodity markets (together supplying 30% of global wheat exports, 20% of mineral fertiliser and natural gas exports, and 11% of oil exports). Non-energy prices were set to decrease prior to the conflict (World Bank, 2021^[13]), but these recent events are shifting projections made in 2021. Both countries are also suppliers of commodities such as palladium and nickel, which are used in the production of cars, batteries and semiconductors. Prices of these commodities, along with the threat of production disruptions, have increased. Finally, the impact on food prices is the main threat for many emerging economies, which depend on both countries for wheat and fear serious shortages. Such a situation could be dramatic, resulting in increases in poverty and hunger, especially considering the long-term impact of the war on agriculture due to disruptions to fertiliser manufacturing (OECD, 2022^[12]). As of 31 March 2022, the Kyiv School of Economics estimates that Ukraine's agricultural export volume would decrease by at least 33% for wheat, 39% for corn and 12% for sunflower oil. Additionally, it expects that at best, 70% of land will be cropped, with modest yields due to disruptions to fertiliser imports. Finally, uncertainty surrounds transportation due to blocked ports, destroyed storage space and expensive rail transport. The impact on Africa in particular will be strongly felt.

According to the United Nations Conference on Trade and Development (UNCTAD), the war's impact on financial markets would lead investors to shift from assets considered to be high risk (such as emerging market debt instruments) to safer investments. Such a shift would increase pressure on exchange rates in developing countries where governments would need to tighten domestic monetary conditions, and in turn lead to lower growth (UNCTAD, 2022^[11]). This could also affect investment in infrastructure projects in developing countries.

Different paces of recovery across emerging markets

Across emerging markets, the impact of the COVID-19 crisis remained strong for another consecutive year in 2021. While LAC has been the region hardest hit by the crisis, with a 7% decline in growth in 2020, Africa is also facing considerable challenges and is likely to take a few years to regain its pre-pandemic growth trends.

Efforts needed to avoid the African continent being left behind

The COVID-19 pandemic has cut down Africa's convergence with the world economy. The continent's economic growth is projected to reach 3.9% in 2022, with its GDP as a share of world GDP expected to

fall to 4.7%, the lowest level since 2002. In a significant reversal of pre-pandemic trends, Africa is not expected to regain its pre-COVID-19 share of world GDP – 5.7% in 2010, its highest level – in the near future (AUC/OECD, 2022^[14]). The economic crisis brought on by the pandemic has also caused at least 40 million people to fall into extreme poverty (World Bank, 2021^[15]). The crisis disproportionately affected women in the African continent, as it was estimated that nine out of ten women were informal workers prior to COVID-19. Informal workers work mainly in the retail or tourism sectors (which have been deeply affected by the pandemic) and in the agriculture sector, which also suffered from border and business restrictions. These significant decreases in income for women who already received low incomes increases their vulnerability to future shocks. Additionally, women had to bear the weight of unpaid care work resulting from schools closing and lockdowns. An increase in gender-based violence also affected women across the continent (OECD, 2021^[16]).

To ensure short-term recovery in Africa, it is crucial to overcome the significant healthcare burdens of the pandemic, accelerate vaccinations and lift production barriers. Africa is the continent with the lowest vaccination rates, with only 11% of its population fully vaccinated (WHO, 2022^[17]). The World Health Organization predicts that the continent may not reach a 70% vaccination rate until August 2024 (WHO, 2021^[18]). Additionally, the OECD (AUC/OECD, 2022^[14]) has shown that domestic factors like social distancing and unavoidable disruptions to local production accounted for two-thirds (64%) of the growth shortfall in a sample of ten African countries. As such, local production and domestic demand have proven crucial for Africa's economic recovery and growth.

On the trade side, exports have been lagging behind overall global exports. Global demand for African products declined sharply in the second half of 2020, a pattern exemplified by the large decline in demand for mining goods coming from the continent. The rise in global commodity prices contributed to the mining sector's rebound in late 2020, but at a slower pace than other raw material sectors. As highlighted in recent OECD research, this trend demonstrates the African mining sector's vulnerability to exogenous shocks (AUC/OECD, 2022^[14]).

The impact of the war in Ukraine will be felt in increased energy and wheat prices, which could put Africa's food security at risk and contribute to social discontent. Indeed, the continent represented the largest trade destination for Ukraine's wheat exports (36%) in 2020 (FAO, 2022^[19]), with 25 countries importing more than one-third of their wheat, and 15 countries importing more than one-half of their wheat, from Russia and Ukraine (UNCTAD, 2022^[11]). The price of basic staples such as bread, wheat flour and sunflower oil have already risen in North African countries, pushing people into hunger (World Food Programme, 2022^[20]). Furthermore, replacing Russian and Ukrainian imports seems difficult due to low regional production and limited storage capacity. Increased energy prices and export bans from China and Russia could also affect the production and supply of fertilisers. The COVID-19 pandemic already pushed 46 million people into undernutrition, and further disruption to the agricultural sector could add to this figure (FAO, 2021^[21]). However, European countries' efforts to diversify their energy supplies could generate opportunities for African natural resources exporters and the African Energy Chamber has predicted an influx in investment in 2022 (African Energy Chamber, 2022^[22]).

Growth has rebounded in Emerging Asia, but challenges remain due to high levels of uncertainty

Growth in Emerging Asia rebounded in 2021, increasing by 7.4%, and is expected to continue at a slower pace of around 5.8% in 2022 due to high levels of uncertainty during the first half of the year (OECD, 2022^[23]). However, the rebound is expected to be uneven within the region, and countries are projected to recover at very different paces in 2022, ranging from -0.3% in Myanmar to 7.0% in the Philippines.

Further evolution of the pandemic poses the biggest uncertainty on the region. Even though vaccination programmes have been rolled out across Emerging Asia, several challenges remain, including delivering boosters and responding to vaccine hesitancy. In some countries, vaccine distribution is the greatest

challenge, namely ensuring a consistent electricity supply in order to provide cold storage for vaccine doses.

Despite supportive fiscal measures having been put in place, some countries are seeing a widening of fiscal deficits — which are projected to exceed 5% of GDP in many ASEAN countries for 2021 — and increased levels of public debt. However, those fiscal deficits are expected to narrow marginally in 2022. Alternative and innovative sources of financing, such as green, social, sustainable and sustainability-linked bonds, are tools which could be used to help the region finance its recovery in a sustainable manner. However, the lack of robust regulatory frameworks remains an obstacle to further use of such instruments.

As outlined for other regions, increasing inflation and commodity prices also pose a risk to Emerging Asia's recovery. As of March 2022, inflation in the region seems contained; however, continued supply disruptions and the war in Ukraine could reverse the outlook and exert pressure on consumer prices.

On the positive side, trade has recovered greatly in Emerging Asia following the deep contraction in 2020. Merchandise exports in some major economies have been plateauing at high levels, and several countries, including China, India, Indonesia, Malaysia, Thailand and Viet Nam, have exceeded their pre-pandemic levels in recent months thanks to strong demand for manufactured goods, chemicals and transportation equipment. However, some sectors are still being negatively affected by supply chain disruptions, such as the semiconductor sector.

The COVID-19 pandemic has affected LAC the most in socio-economic terms

The COVID-19 pandemic caused the greatest economic downturn of the past two centuries in LAC, with the region ending 2020 with a 7% GDP contraction (ECLAC, 2021^[24]). The region was the hardest hit in the world, with the economic crisis causing a great deal of damage to LAC's economic and social fabric. It has significantly affected the most vulnerable groups, resulting in a dramatic increase in inequality and poverty in the region, with poverty and extreme poverty reaching their highest levels in 12 and 20 years, respectively, in 2020 (OECD et al., 2021^[25]).

The economic recovery in LAC is likely to be slower than in other regions, owing to a slow return to normality and to the pre-pandemic economic context. Average growth reached around 6.2% in the region in 2021, with a significant deceleration expected in 2022 (ECLAC, 2022^[26]). Economic growth had stagnated in the region since 2014, an additional threat that influences predictions of not reaching pre-pandemic per-capita GDP levels before 2023-24 (OECD et al., 2021^[25]). Productivity growth should spur sustained economic progress, but aggregate labour productivity in LAC shows persistently low growth.

Economic growth in the region remains dependent on the removal of pandemic-related restrictions and on the success of vaccination campaigns. The impact of new COVID-19 variants (Delta and Omicron) was not as severe as those experienced in the early days of the pandemic. Vaccination campaigns ramped up in several countries in the region during 2021, as vaccine availability increased (OECD et al., 2021^[25]). Obstacles that LAC had previously faced in obtaining vaccines included unequal global distribution, supply bottlenecks, little international co-ordination and financial restrictions (World Bank, 2022^[2]). Even if countries had access to vaccines, they faced logistical challenges during the roll-out due to limited local distribution capacity. As of February 2022, 63% of the region's population has been vaccinated. However, disparities remain, as 14 LAC countries have immunised over 70% of their population while another 14 LAC countries have not yet vaccinated 40% of theirs (PAHO, 2022^[27]).

The scenario for 2022 is subject to a number of factors: further vaccination, evolution of the pandemic, and international and regional geopolitical context. The most important factor influencing short-term growth will be domestic demand, especially consumption. Increased inflation will affect the region, both directly (due to higher domestic prices) and indirectly (as the Fed raising its interest rates has an effect on stimulating capital outflows from LAC). Furthermore, the political cycle in the region, with various legislative or

presidential elections in the period 2021-22, could generate uncertainty and continue to stifle investment (OECD et al., 2021^[25]). Finally, net-commodity-exporting LAC countries could benefit from the increase of prices of oil, gas and some agricultural products and metals. Such a development could help alleviate fiscal pressures and improve current account balances. However, the overall increase in prices, in particular food and energy prices, could also have a strong negative impact on disposable household incomes and monetary policies through increased inflation.

Diversification of FDI flows in emerging markets

FDI is essential for developing countries, and often represents the largest source of external finance (Pazarbasioglu, 2020^[28]). Attracting investment is crucial to promoting a sustainable recovery from the COVID-19 crisis in an environment where governments face reduced budgets and growing debt (FDI Qualities Policy Network, 2021^[29]).

FDI flows decreased substantially due to the pandemic, falling by 42% from USD 1.5 trillion in 2019 to USD 929 billion in 2020 (UNCTAD, 2021^[30]). A strong rebound was seen in 2021, when FDI increased by 77% compared to 2020, with USD 1.65 trillion in global FDI flows registered (UNCTAD, 2021^[31]). This dynamic environment is likely due to recovery stimulus packages and favourable long-term financing conditions (UNCTAD, 2021^[32]).

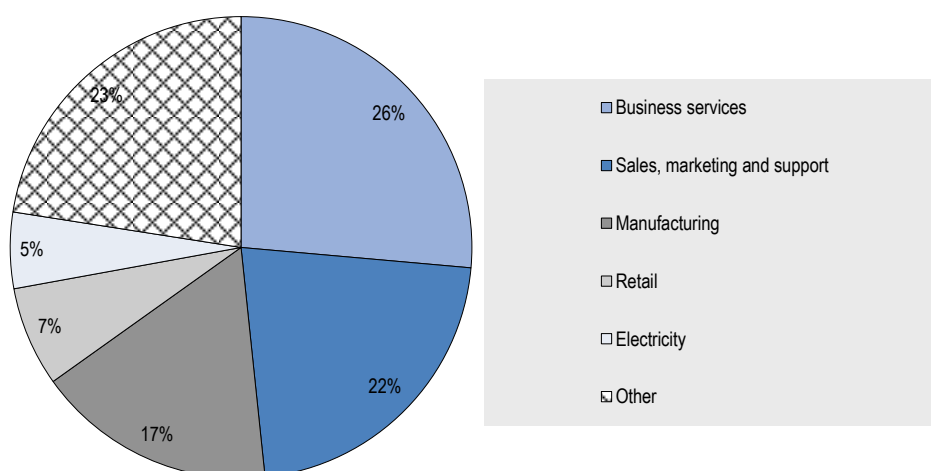
Out of that USD 1.65 trillion, USD 870 billion – or around 52% – has reached developing and emerging economies. However, greenfield FDI is still lagging in the least developed countries, particularly in global value chains, and more efforts will be needed to attract such FDI in key sectors such as electricity or health.

A survey conducted in ten large developing economies showed that the main parameters that push foreign investors towards emerging markets are political and economic stability, as well as a predictable regulatory environment (World Bank, 2020^[33]). Thus, fears of rising protectionism and sustained economic uncertainty will affect FDI flows if governments do not react to provide a stable long-term policy framework for investment.

Regional trends related to FDI

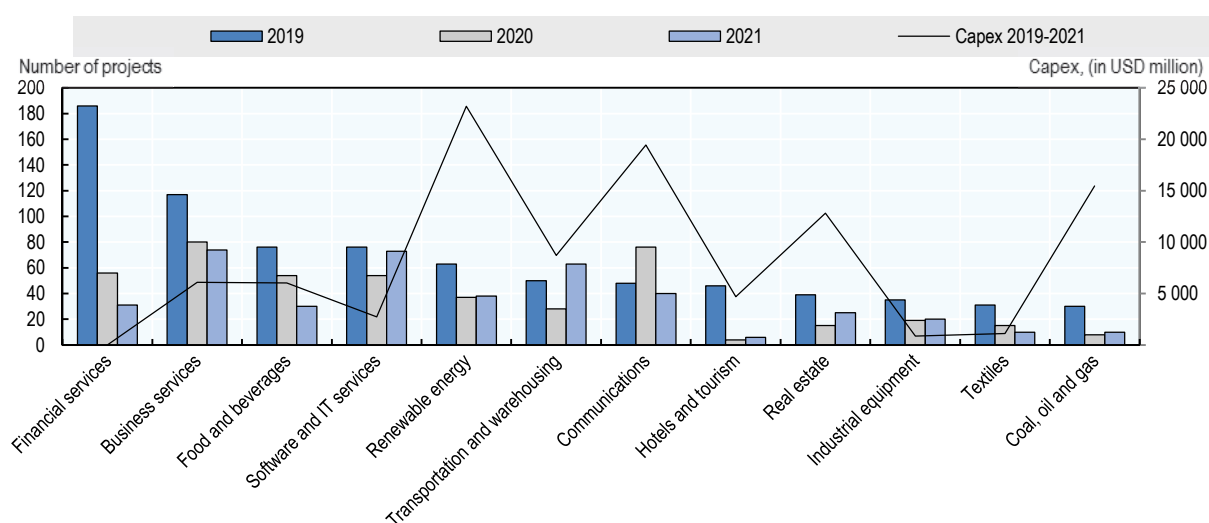
Greenfield FDI flows to Africa have diversified over since the 2010s, and the African Continental Free Trade Area (AfCFTA) represents a new opportunity to foster intra-African investments (Adhikari and Gwengwe, 2021^[34]). Greenfield FDI flows are now distributed across services and manufacturing (Figure 1.5), while greenfield FDI in the extractive sector has reduced considerably between 2019 and 2021. According to the World Economic Forum, resource extraction, petroleum and coal processing projects made up more than one-half of the greenfield FDI projects between 2006 and 2010, but represented less than one-quarter of the total between 2016 and 2020 (Adhikari and Gwengwe, 2021^[34]). This highlights new investments in rapidly growing sectors such as business services, IT services and communications). Total FDI flows to Africa dropped by 18% in 2020 (AUC/OECD, 2022^[14]), but investors' increased focus on environmental, social and governance (ESG)-related finance could accelerate this trend and create the ideal environment for sustainable investments in the private sector (Were, 2022^[35]). Renewable energies represented around 20% (USD 6.4 billion) of investments in utilities between 2016 and 2020 (Qiang et al., 2021^[36]). Prior to the COVID-19 crisis, an acceleration in the expansion of digital infrastructure was under way. In ten years, Africa's total inventory of operational fiber-optic network extended from 278 056 kilometers (km) in 2009 to 1 million km in June 2019. Similarly, the continent hosts a dynamic local start-up ecosystem, as the number of African start-ups receiving backing grew six times faster than the global average between 2015 and 2019. The COVID-19 crisis consolidated these trends in funding for start-ups, investment flows in ICT, development of communications infrastructures and mobile money transactions (OECD, 2021^[37]).

Figure 1.5. Greenfield FDI in Africa by business activities, 2019-21



Source: Authors' calculation based on data from fdimarkets.com

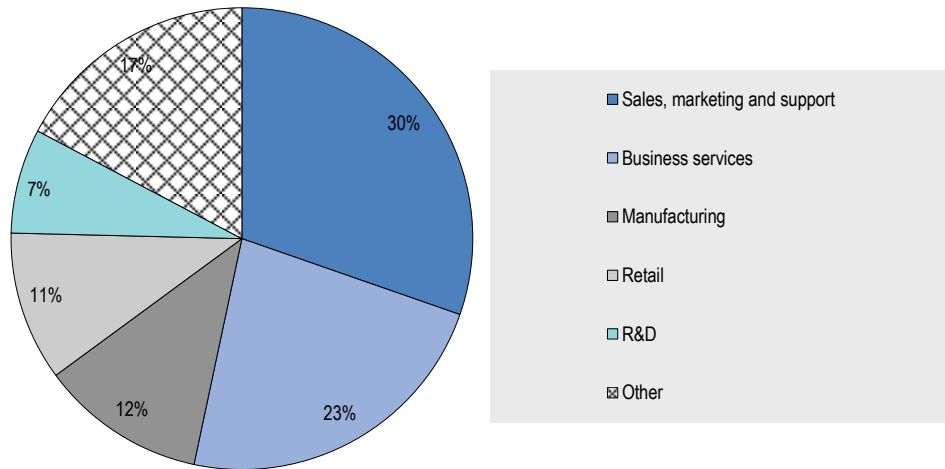
Figure 1.6. FDI in Africa by sectors, 2019-21



Source: Authors' calculation based on data from fdimarkets.com

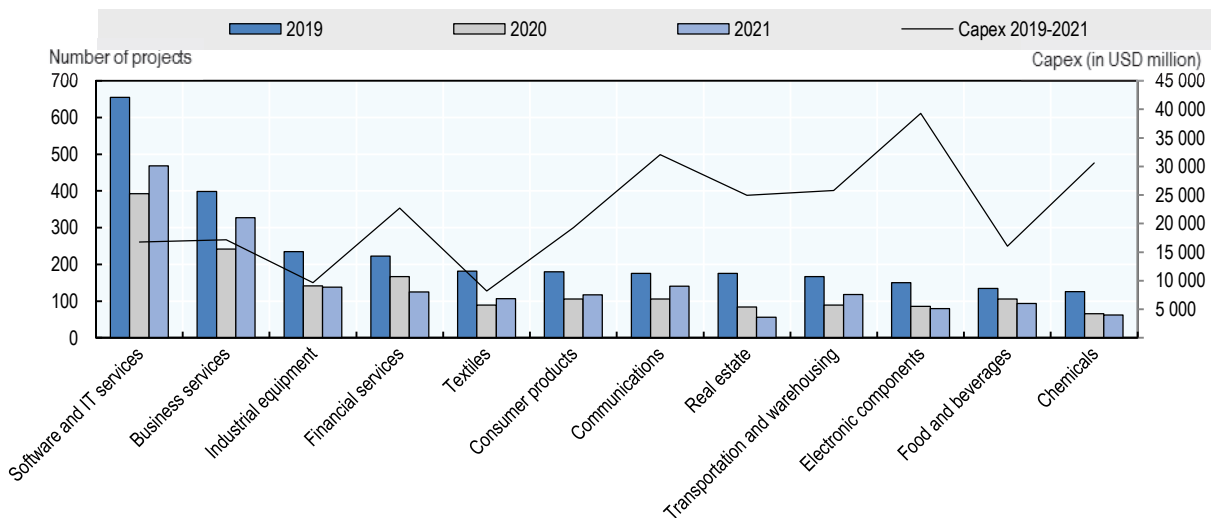
In contrast with the situation in Africa and LAC, which still attract significant quantities of electricity-related projects, Emerging Asia attracts a considerable amount of FDI in the R&D (Figure 1.6). This is particularly driven by Industry 4.0 activities carried across the ASEAN, including the digital economy and infrastructure-related industries, such as electricity or ICT, which require new hardware and technology solutions (ASEAN, 2021^[38]), including the development of technologies such as the Internet of Things (IoT), artificial intelligence (AI), cloud computing and cognitive computing. The recent Regional Comprehensive Economic Partnership (RCEP) Agreement, which came into force in January 2022, is expected to further increase FDI in Emerging Asia (SEADS, 2021^[39]).

Figure 1.7. Greenfield FDI in Emerging Asia by business activities, 2019-21



Source: Authors' calculation based on data from fdimarkets.com

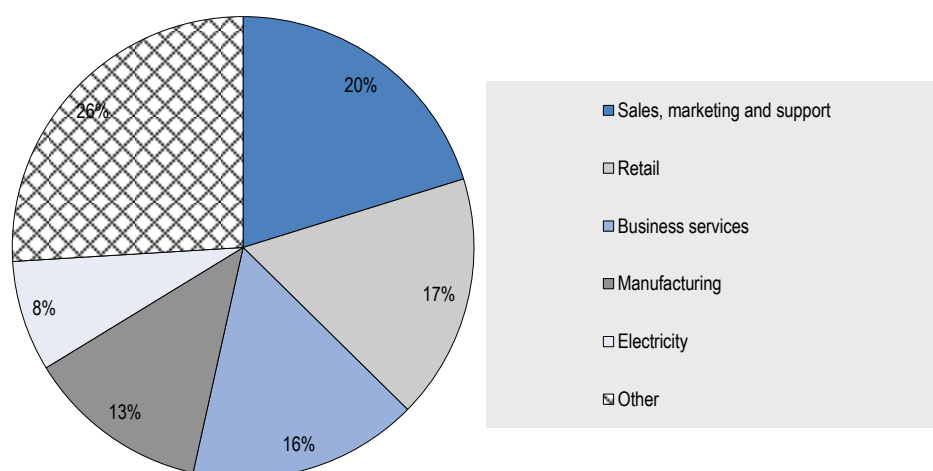
Figure 1.8. FDI in Emerging Asia by sectors, 2019-21



Source: Authors' calculation based on data from fdimarkets.com

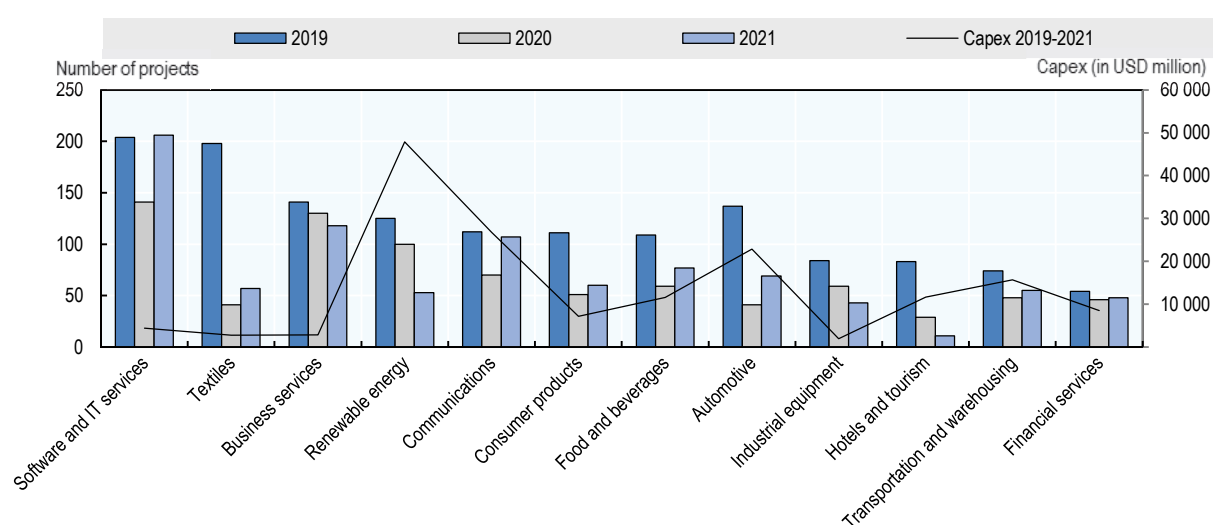
FDI flows to LAC decreased by 35% during the COVID-19 crisis (ECLAC, 2021^[40]), in line with global trends. As illustrated in Figure 1.10 a new dynamic has emerged since 2019, with most investments made in software and IT services, indicating that the region is pursuing its digital transformation and catching up on innovation in order to escape its productivity trap (OECD et al., 2021^[25]). The FDI environment remains mixed, with flows distributed across services, retail and manufacturing (Figure 1.9). OECD FDI Qualities Indicators demonstrate that foreign investors tend to be more productive and more likely than domestic firms in LAC to introduce product innovation or to invest in R&D (OECD et al., 2021^[25]). The economic recovery currently under way provides a unique opportunity to advance the green transition, which requires large investments in areas such as green infrastructure, skills and digital technology.

Figure 1.9. Greenfield FDI in LAC by business activities, 2019-21



Source: Authors' calculation based on data from fdimarkets.com

Figure 1.10. FDI in LAC by sectors, 2019-21



Source: Authors' calculation based on data from fdimarkets.com

Note

¹ Dynamic Asian Countries is a country grouping comprising Chinese Taipei; Hong Kong China; Indonesia; Malaysia; the Philippines; Singapore and Thailand

References

- (n.a.) (2022), *Coronavirus (COVID-19) Vaccinations - Our World in Data*, Our World in Data, [8]
<https://ourworldindata.org/covid-vaccinations#what-share-of-the-population-has-received-at-least-one-dose-of-the-covid-19-vaccine> (accessed on 11 March 2022).
- Adhikari, R. and S. Gwengwe (2021), *Why foreign direct investment is key to Africa's sustainable recovery* | *World Economic Forum*, World Economic Forum Blog, [34]
<https://www.weforum.org/agenda/2021/08/foreign-direct-investment-key-africa-sustainable-recovery/> (accessed on 16 March 2022).
- African Energy Chamber (2022), *Capital Spending in Africa's Oil and Gas Industry To Record Impressive Growth In 2022*, African Energy Chamber, [22]
<https://energychamber.org/capital-spending-in-africas-oil-and-gas-industry-to-record-impressive-growth-in-2022/> (accessed on 27 April 2022).
- ASEAN, U. (2021), *ASEAN Investment Report 2020–2021 – Investing in Industry 4.0*, ASEAN Secretariat, Jakarta, [38]
<https://asean.org/wp-content/uploads/2021/09/AIR-2020-2021.pdf> (accessed on 16 March 2022).
- AUC/OECD (2022), *Africa's Development Dynamics 2022: Regional Value Chains for a Sustainable Recovery*, African Union Commission, Addis Ababa/OECD Publishing, Paris, [14]
<https://dx.doi.org/10.1787/2e3b97fd-en>.
- Baraniuk, C. (2021), *Why is there a chip shortage?* - *BBC News*, BBC, [9]
<https://www.bbc.com/news/business-58230388> (accessed on 11 March 2022).
- Davidson, H. (2022), “No light at the end’: How Hong Kong’s Covid response went so wrong | Hong Kong | *The Guardian*”, *The Guardian*, [7]
<https://www.theguardian.com/world/2022/feb/18/no-light-at-the-end-how-hong-kongs-covid-response-went-so-wrong> (accessed on 11 March 2022).
- ECLAC (2022), *Latin America and the Caribbean's Growth Will Slow to 2.1% in 2022 amid Significant Asymmetries between Developed and Emerging Countries*, Economic Commission for Latin America and the Caribbean, [26]
<https://www.cepal.org/en/pressreleases/latin-america-and-caribbeans-growth-will-slow-21-2022-amid-significant-asymmetries> (accessed on 22 March 2022).
- ECLAC (2021), *Foreign Direct Investment in Latin America and the Caribbean 2021*, ECLAC (Economic Commission for Latin America and the Caribbean), Santiago, [40]
https://repositorio.cepal.org/bitstream/handle/11362/47148/4/S2100318_en.pdf (accessed on 16 March 2022).

- ECLAC (2021), *The recovery paradox in Latin America and the Caribbean Growth amid persisting structural problems: inequality, poverty and low investment and productivity*, ECLAC. [24]
- FAO (2022), *Information Note: The importance of Ukraine and the Russian Federation for global agricultural markets and the risks associated with the current conflict*, <https://www.fao.org/3/cb9013en/cb9013en.pdf> (accessed on 6 April 2022). [19]
- FAO (2021), *FAO - News Article: UN report: Pandemic year marked by spike in world hunger*, <https://www.fao.org/news/story/en/item/1415595/icode/> (accessed on 6 April 2022). [21]
- FDI Qualities Policy Network (2021), *FDI Qualities Policy Toolkit: Policies for improving the sustainable development impacts of investment*, <https://www.oecd.org/daf/inv/investment-policy/FDI-Qualities-Policy-Toolkit-Consultation-Paper-2021.pdf> (accessed on 16 March 2022). [29]
- ILO (2021), *ILO Monitor: COVID-19 and the world of work.*, International Labour Organization, https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/briefingnote/wcms_824092.pdf (accessed on 22 March 2022). [6]
- OECD (2022), *Composite Leading Indicators (CLI)*, OECD, <https://www.oecd.org/newsroom/composite-leading-indicators-cli-oecd-february-2022.htm> (accessed on 22 March 2022). [3]
- OECD (2022), *Economic Outlook for Southeast Asia, China and India 2022: Financing Sustainable Recovery from COVID-19*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/e712f278-en>. [23]
- OECD (2022), "International trade during the COVID-19 pandemic: Big shifts and uncertainty", *OECD Policy Responses to Coronavirus (COVID-19)*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/d1131663-en>. [10]
- OECD (2022), *OECD Economic Outlook, Interim Report March 2022: Economic and Social Impacts and Policy Implications of the War in Ukraine*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/4181d61b-en>. [12]
- OECD (2021), *Development Co-operation Report 2021: Shaping a Just Digital Transformation*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/ce08832f-en>. [37]
- OECD (2021), *OECD Economic Outlook, Volume 2021 Issue 2*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/66c5ac2c-en>. [1]
- OECD (2021), *OECD Sovereign Borrowing Outlook 2021*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/48828791-en>. [5]
- OECD (2021), *SIGI 2021 Regional Report for Africa*, Social Institutions and Gender Index, OECD Publishing, Paris, <https://dx.doi.org/10.1787/a6d95d90-en>. [16]
- OECD et al. (2021), *Latin American Economic Outlook 2021: Working Together for a Better Recovery*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/5fedabe5-en>. [25]

- PAHO (2022), *With 14 countries yet to vaccinate 40% of people, Americas remain most unequal region in the world in fight against COVID-19 - PAHO/WHO | Pan American Health Organization*, PAHO.ORG, <https://www.paho.org/en/news/2-2-2022-14-countries-yet-vaccinate-40-people-americas-remain-most-unequal-region-world-fight> (accessed on 11 March 2022). [27]
- Pazarbasioglu, C. (2020), *Reviving FDI flows is crucial to economic recovery in developing economies*, World Bank Blogs, <https://blogs.worldbank.org/voices/reviving-fdi-flows-crucial-economic-recovery-developing-economies> (accessed on 16 March 2022). [28]
- Prospects Group (2022), *World Bank Commodities Price Data (The Pink Sheet)*, World Bank, <https://thedocs.worldbank.org/en/doc/5d903e848db1d1b83e0ec8f744e55570-0350012021/CMO-Pink-Sheet-March-2021> (accessed on 22 March 2022). [4]
- Qiang, C. et al. (2021), *The road to recovery in Sub-Saharan Africa: Capitalizing on transformative opportunities from shifting FDI patterns*, World Bank Blogs, <https://blogs.worldbank.org/africacan/road-recovery-sub-saharan-africa-capitalizing-transformative-opportunities-shifting-fdi> (accessed on 22 March 2022). [36]
- SEADS (2021), *ASEAN's Share in Global FDI Growing Despite COVID-19 | SEADS*, South East Asia Development Solutions, <https://seads.adb.org/news/aseans-share-global-fdi-growing-despite-covid-19> (accessed on 28 March 2022). [39]
- UNCTAD (2022), *The impact on trade and development of the war in Ukraine*, https://unctad.org/system/files/official-document/osginf2022d1_en.pdf (accessed on 6 April 2022). [11]
- UNCTAD (2021), *Global Investment Trends Monitor, No. 40*, <https://unctad.org/webflyer/global-investment-trend-monitor-no-40> (accessed on 16 March 2022). [31]
- UNCTAD (2021), *Investment Trends Monitor: Global FDI flows down 42% in 2020*, UNCTAD, https://unctad.org/system/files/official-document/diaeiainf2021d1_en.pdf (accessed on 16 March 2022). [30]
- UNCTAD (2021), *World Investment Report 2021: Investing in sustainable recovery*, United Nations Publications, New York, https://unctad.org/system/files/official-document/wir2021_en.pdf (accessed on 16 March 2022). [32]
- Were, A. (2022), *How can Africa benefit from the private sector's growing interest in climate finance? – Development Matters*, Development Matters Blog, <https://oecd-development-matters.org/2022/03/17/how-can-africa-benefit-from-the-private-sectors-growing-interest-in-climate-finance/> (accessed on 22 March 2022). [35]
- WHO (2022), *Africa needs to ramp up COVID-19 vaccination six-fold | WHO | Regional Office for Africa*, WHO, <https://www.afro.who.int/news/africa-needs-ramp-covid-19-vaccination-six-fold> (accessed on 11 March 2022). [17]
- WHO (2021), *Africa clocks fastest surge in COVID-19 cases this year, but deaths remain low | WHO | Regional Office for Africa*, WHO Africa, <https://www.afro.who.int/news/africa-clocks-fastest-surge-covid-19-cases-year-deaths-remain-low> (accessed on 11 March 2022). [18]
- World Bank (2022), *Global Economic Prospects, January 2022*, World Bank. [2]

- World Bank (2021), *Soaring Energy Prices Pose Inflation Risks as Supply Constraints Persist*, World Bank, <https://www.worldbank.org/en/news/press-release/2021/10/21/soaring-energy-prices-pose-inflation-risks-as-supply-constraints-persist> (accessed on 22 March 2022). [13]
- World Bank (2021), *World Bank's Response to COVID-19 (Coronavirus) in Africa*, <https://www.worldbank.org/en/news/factsheet/2020/06/02/world-banks-response-to-covid-19-coronavirus-in-africa> (accessed on 6 April 2022). [15]
- World Bank (2020), *Global Investment Competitiveness Report 2019/2020: Rebuilding Investor Confidence in Times of Uncertainty*, World Bank Group, Washington, DC, <https://doi.org/10.1596/978-1-4648-1536-2>. [33]
- World Food Programme (2022), *War in Ukraine pushes Middle East and North Africa deeper into hunger as food prices reach alarming highs* | World Food Programme, World Food Programme, <https://www.wfp.org/news/ukraine-pushes-middle-east-and-north-africa-deeper-hunger-food-prices-reach-alarming-highs> (accessed on 6 April 2022). [20]

2 Tackling risks and building resilience through business transformation in emerging markets

This chapter explores the current and potential future risks that are affecting businesses across emerging markets. Current risks include inflationary pressures, disruption of global trade and production, supply bottlenecks and the impact of the ongoing war in Ukraine on the global economy. Longer-term risks include increased uncertainty resulting from the Coronavirus (COVID-19) pandemic, adverse impacts of climate change, natural hazards and extreme weather events and rising inequality worldwide. Together, these factors are pushing businesses to transform and to adopt new strategies in order to prevent, mitigate and recover from shocks. To build resilience, businesses will need to embrace digital transformation and pursue the opportunities offered by the green economy, making use of a favourable environment for sustainable finance.

Key messages

- Global uncertainty resulting from the COVID-19 pandemic will continue into 2022, as the development of new variants threatens to affect economic growth for another year.
- The war in Ukraine has created additional risks arising from geopolitical tensions and has increased the challenges posed by inflation and supply chain disruptions.
- Rising inflation, the increase in commodity prices and high levels of debt are key factors creating economic uncertainty in emerging markets.
- Disruptions in global value chains (GVCs), bottlenecks in transportation and scarcity of materials have affected markets globally. Further disruption would negatively affect the pace of recovery and increase divergence between developed and developing economies.
- Progress made in poverty reduction during the beginning of the century was reversed during the COVID-19 crisis, creating risks of social discontent and political instability. The COVID-19 crisis also reversed progress made in addressing gender inequalities; for example, women took on additional unpaid care work as a result of schools shutting down. Public-private dialogue as part of a new social contract can help facilitate the investment required for sustainable recovery and address key challenges ahead.
- Tackling both the foreseen and unforeseen effects of climate change and investing in mitigation and adaptation efforts will be the next big challenge for a sustainable global recovery.
- A growing number of countries and multinational enterprises are committing to net-zero carbon emissions by 2050. This will require major shifts and trade-offs from countries reliant on oil and gas in the move to a clean energy economy.
- The high degree of uncertainty is driving business transformation – specifically digital and green transformation – across emerging markets, with new commitments to transition to cleaner energies. Such changes are supported by a shift towards sustainable finance.
- The transformative impact of digitalisation in many industries has accelerated pre-existing trends towards digital finance, e-commerce and digital trade.
- For the first time since 2016, emerging markets' share in environmental, social and governance (ESG) products has increased. Harnessing sustainable finance is crucial for developing countries to build a new finance ecosystem that can help promote more investment in quality and sustainable infrastructure.

Current and future risks in emerging markets

Uncertainty around the evolution of the COVID-19 pandemic, including new variants, along with a number of risks and vulnerabilities arising from the crisis, could affect the pace of the economic recovery. This is particularly the case in developing countries that have limited policy and fiscal space to support their economies. Recent developments, including the war in Ukraine, are bringing even more uncertainty to the economic landscape of 2022.

Inflation projected to remain high and energy and commodities prices to increase

Inflation is projected to remain high in emerging markets and could further increase globally due to the war in Ukraine, negatively affecting private consumption in 2022 (World Bank, 2022^[1]). In particular, increased costs of food and energy – which represent the largest spending area among low-income households – will result in reduced spending on goods and slower economic growth overall (WEF, 2022^[2]). If inflation continues to rise, central banks will have to tighten their monetary policies earlier than otherwise planned, which would, in turn, prolong supply chain disruptions and increase pressure on labour markets and wages (OECD, 2021^[3]). Such policies would also affect investors' willingness to invest and could pose a real risk of debt refinancing for countries already suffering debt distress.

Current volatility in commodity prices highlights the need for economies that depend on commodity exports to diversify their exports, reduce their reliance on commodity-related revenues and maintain a stable revenue base for investing in long-term projects and building resilience ahead of future shocks. In particular, oil-exporting countries will require fiscal consolidation, as the outlook remains mixed despite high oil prices (World Bank, 2022^[1]), consequence of a shift from oil to cleaner energy sources.

Energy prices also rose during the second half of 2021 due to strong demand, extreme weather conditions and disrupted coal production, and are projected to increase further in 2022, with the effects of the war in Ukraine yet unknown. These increases are occurring in natural gas prices in particular – which reached a record level in December 2021 – as well as in coal prices. In this context, growth might shift from energy-importing countries to energy-exporting countries (World Bank, 2021^[4]). Limited gas supplies are leading to a surge in electricity prices and rising input costs (e.g. metals, fertilisers, building materials), impeding the supply chains of industries such as chemical production (OECD, 2021^[3]). Indeed, higher energy prices raise production costs and could affect energy-intensive industries. However, while export revenues and investment in energy-producing countries will increase, the overall impact on global activity is expected to remain negative as most countries import their energy supplies. The cessation of energy exports from the Russian Federation (hereafter: Russia) and Ukraine could cause enormous problems due to low levels of gas reserves elsewhere. The rise in prices will especially affect lower-income countries where households spend most of their incomes on energy and food. The transition away from fossil fuels to cleaner energies, as more economies engage in this change, may amplify the swings in commodity prices, particularly in energy-related costs.

Key manufacturing input shortages put pressure on production

Supply disruptions have been severe during the course of the COVID-19 pandemic due to the slowdown in operations at all levels. These disruptions could continue in 2022, with new sources of bottlenecks affecting trade flows globally. New COVID-19 dynamics, particularly in Asia (OECD, 2021^[3]), are evidenced by the containment measures China has taken against new waves of the virus. Such developments would shift demand from services to goods, furthering supply constraints, as seen in previous phases of the crisis. Furthermore, transport bottlenecks in key trade lines due to the resurgence of COVID-19 would pose a risk to manufacturing recovery. Shipping containers currently spend 20% more time in the delivery process due to congested ports and low transport capacity (Grynspan, 2022^[5]). Due to increasing maritime

transport costs, the supply chain crisis could increase global consumer price levels by 1.5% (UNCTAD, 2021^[6]).

The negative supply shock created by the war in Ukraine will most certainly heighten supply chain challenges in different channels, as Russia and Ukraine are both major suppliers in several commodity markets, accounting for 30% of global exports of wheat and 20% of corn. In the energy sector, they represent 20% of natural gas production and 11% of oil production (OECD, 2022^[7]). Furthermore, global supply chains depend on metal exports from both these countries, including palladium, which is used in catalytic converters for cars; and nickel, which is used in steel production and the manufacture of batteries.

Disruption in Global Value Chains

The COVID-19 pandemic revealed the level of global interconnectedness that we have reached through the Global Value Chains (GVCs) disruptions which resulted from the containment measures that most countries have adopted, as well as the disruption in transportation and scarcity of materials, which also affected manufacturing and production. The impact of the pandemic on GVCs was felt globally, as it affected all sectors and regions simultaneously, with demand shocks not only for medical products and devices, but also for electronics, raising concern on the ability to deliver in times of crisis and on the interdependence of all regions on key products (OECD, 2021^[8]). The pandemic highlighted the risks of regional dependence on imports when transport capacity was reduced and container shipping freight rates skyrocketed (Grynspan, 2022^[5]). Improving the resilience and stability of GVCs through flexible adjustments (such as regional pacts) and investment in manufacturing capacity is now a priority for policymakers. Further disruptions either created by the continuing evolution of the pandemic or by developments in the war in Ukraine will affect the recovery phase due to contagion effects across supply chains. This may further affect unemployment rates, particularly for workers who are not covered by social protection or other safety nets or who are involved in the informal economy, thus exacerbating income inequality within countries. Indeed, the effect of the pandemic on employment was stronger than initially projected, as the International Labour Organization (ILO) reported that total hours worked in low-income countries were 5.7% lower in the third quarter of 2021 than in the fourth quarter of 2019 (ILO, 2021^[9]), increasing the income disparity between developed and developing economies.

Governments are considering reshoring or nearshoring elements of strategic industries, such as health or high tech, particularly in the United States, Europe and Asia (including India) (Elia et al., 2021^[10]). Such initiatives could reorganise global production of most goods and affect countries that rely completely on GVCs. They could also increase reliance on countries' own domestic production, which can be vulnerable to factors such as domestic political instability (OECD, 2021^[8]). Africa's participation in GVCs has not generated quality jobs, as patterns of supplying raw materials have remained unchanged since the early 2000s (AUC/OECD, 2022^[11]). The African Continental Free Trade Area (AfCFTA) opens up new opportunities for integrating regional value chains by expanding access to markets, inputs, technology and investment, as 48% of surveyed multinational enterprises operating in developing countries report having increased their focus on the sustainability and decarbonisation of supply chains since the beginning of the pandemic (AUC/OECD, 2022^[11]).

The growth of digital transformation and services, accelerated by the COVID-19 crisis, also poses new challenges and risks to GVCs, including cyber risks arising from the digitisation and automation of productive processes. One positive outcome is that the digital transformation of GVCs provides opportunities for new stakeholders from developing economies to participate in global supply chains thanks to reduced communications costs (Asian Development Bank, 2021^[12]) – if developing countries can prioritise investments in digital infrastructure. Without clear strategies to lead the transformation, however, technical changes in GVCs risk increasing inequalities between poorly educated and highly skilled workers, as well as increasing the dependency of smaller suppliers on e-commerce platforms (AUC/OECD,

2022^[11]). It also poses the risk of leaving regions even further behind, as automating some sectors in Africa could take up to 15 years.

Increased inequalities and informal employment create risk for political stability

The COVID-19 pandemic has reversed many of the achievements made since the 1990s in terms of reducing poverty and inequality as has increased global income inequality. Global poverty levels have risen for the first time since the early 2000s, and the loss in global income at the end of 2022 is projected to reach USD 3 trillion compared with pre-crisis projections (United Nations and Inter-agency Task Force on Financing for Development, 2021^[13]). Approximately 120 million people fell into extreme poverty in 2020, 87% of whom are located in South Asia and sub-Saharan Africa (OECD, 2021^[14]). Loss of jobs and income are obvious causes of this rise in extreme poverty, but inflation and other disruptions could further dampen efforts to mitigate the effects of the COVID-19 crisis. In Latin America and the Caribbean (LAC), the informal economy was particularly hard hit, making it the biggest source of unemployment across LAC economies (OECD et al., 2021^[15]). In 2020, more than one-half of LAC workers held informal jobs. Likewise, those most affected by employment contraction were women and young people, who often had to dedicate extensive time to unpaid care work. Moreover, the number of people living on low incomes has dramatically increased by 32 million in 2020 (OECD et al., 2021^[15]). In Africa, the number of people living in extreme poverty is likely to have increased by at least 40 million since 2020 (World Bank, 2022^[1]).

The COVID-19 crisis particularly affected women and reversed much of the progress that had been made in addressing gender inequalities. Women in paid employment were first to be affected by the crisis, as they were more likely to work in part-time and irregular jobs, and in sectors such as the hospitality and garment industries; the latter employed 60 million workers worldwide prior to 2020, nearly 75% of whom were women (ILO, 2020^[16]). Women also shouldered much of the burden in the home, given school and childcare facility closures and long-standing gender inequalities in unpaid work (Missika and Vicherat, 2020^[17]). The Organisation for Economic Co-operation and Development (OECD) Development Centre's Social Institutions and Gender Index (SIGI) 2019 report revealed that gender gaps were already particularly large in developing countries before the crisis. The ratio of unpaid work ranges from three times more for females than for males in LAC to almost seven times more for females than for males in Northern Africa. The COVID-19 pandemic also made women more vulnerable to increased risks of violence, exploitation, abuse or harassment during quarantines (OECD, 2021^[18]). Most importantly from an economic perspective, women were disproportionately affected by the crisis due to their position on the margins of the economy, as they are more likely to work in the informal economy and less likely to have social safety nets. In Africa, for example, 92% of employed women are in informal employment compared with 87% of men (Bonnet, Vanek and Chen, 2019^[19]).

Box 2.1. Importance of gender data for recovery from the COVID-19 crisis

In order to understand, and respond to, the extent to which the COVID-19 crisis has affected women, it is important to be able to rely on robust and comprehensive data, which are often lacking in emerging markets. The crisis has exposed gender data gaps on many topics, including health, education and economic opportunity (Bonfert et al., 2022^[20]), and has disrupted gender data collection efforts, particularly where data were collected in person.

Failing to adequately address the effects of both the health and economic crisis on women will send entire groups into poverty, prevent women from participating in the economy and make them even more vulnerable to future shocks and to violence, thus reversing the progress made since 2015 towards achieving the Sustainable Development Goals (SDGs).

The failure of governments to systematically include a gender lens in their policy response resulted from the speed that was required in taking preventive measures against COVID-19 and a lack of readily available sex-disaggregated data, but was also due to the limited resources of teams that were working on issues related to gender when the pandemic began (OECD, 2021^[21]).

In order to improve gender-related data collection in the COVID-19 era, several institutions, including the World Bank, UN Women, the Bill & Melinda Gates Foundation, and the ILO, published a list of recommendations that includes: (i) developing and supporting the co-ordinated statistical infrastructure and capacity required to collect sex-disaggregated data; (ii) collecting standardised, comparable gender data in areas where women's and girls' lives are disproportionately affected by COVID-19; (iii) increasing the use of non-traditional gender data, such as social media activity or private sector data, to fill critical gender data gaps; and (iv) rapidly expanding COVID-19-related gender data availability, access and use, particularly with regard to policies, which remain mainly gender-unintentional (for example, not addressing unpaid care work by women) (Bill & Melinda Gates Foundation, 2021^[22]). Governments could also rely on external stakeholders and create partnerships in order to identify new sources of data collection and to harness the potential of big data (OECD, 2021^[21]).

The World Bank, with support from the Bill & Melinda Gates Foundation, is currently deploying the Strengthening Gender Statistics (SGS) project in order to provide assistance in data production and dissemination (Bonfert et al., 2022^[20]). In addition, the OECD Development Centre's SIGI measures discrimination against women in social institutions across 180 countries. With the aim of promoting concrete policy change, the SIGI examines laws, social norms and practices in order to capture the underlying structural determinants of gender inequality (OECD, n.d.^[23]).

Increased support in the areas of health, education, access to infrastructure and supportive fiscal measures will be needed for vulnerable populations in order to implement a new social contract and avoid the risks of growing social discontent, which could result in political instability. Indeed, the scars left by rising levels of inequality could last for generations, given the disruptions to education as an example (World Bank, 2022^[24]). These inequalities contribute to mistrust in governments and greater demands for democratic reforms (OECD et al., 2021^[15]), exacerbating the erosion of the social contract, particularly in LAC. If these issues are not addressed, the region's COVID-19 recovery will remain incomplete and will prevent additional, necessary investments from the private sector, as recent surveys have shown that economic governance, and particularly political and macroeconomic stability, are the most important parameters considered by potential investors (Boffo and Patalano, 2020^[25]).

Risks for financial markets

Financial markets in advanced and emerging economies remained resilient during the pandemic thanks to policy support for companies (OECD, 2021^[3]). Even though corporate debt has risen, investment remains strong overall. However, a slowdown in China could reverse this trend. Risks arising from China's real estate market could have cross-sector and cross-border spill over effects (OECD, 2021^[3]), posing a threat for both domestic and foreign financial intermediaries. Defaults and declines in property values, which have been sources of growth for the Chinese economy, would have a direct impact on China's financial stability, resulting in a change in credit conditions and bond spreads and in risks to economic growth, since construction and real estate have links to many other parts of the economy.

As a result of the COVID-19 pandemic, many countries – particularly those from emerging markets – are at risk of debt distress. Indeed, USD 1.8 trillion in debt was issued in the first half of 2021 alone, which is 40% higher than the average amount issued in the first half of each year from 2017 to 2019 (OECD, 2021^[3]). While measures to restructure the debts of low-income countries were put in place at the beginning of the COVID-19 crisis by the Group of Twenty (G20) Debt Service Suspension Initiative, a fragmented creditor base poses new challenges and new debt relief measures might be needed, adding to an increase in private sector debt (OECD, 2021^[3]). Without additional fiscal support, developing countries might have difficulties supporting incomes and ensuring debt sustainability and investor confidence (OECD, 2022^[7]).

Sustainable finance is not reaching emerging economies

Despite signs of recovery in global investment, uneven growth – a sign of a divergent recovery – is expected to persist, as investments are not reaching the low-income countries where health and education infrastructure is needed the most, increasing the risk of a greater divide between advanced and emerging economies. Lower-income countries were already facing difficulties mobilising investments related to the SDGs prior to the pandemic (OECD, 2020^[26]); following the COVID-19 crisis, the financing gap for the SDGs – initially estimated in 2019 to be USD 2.5 trillion per year until 2030 (UNCTAD, 2020^[27]) – increased to USD 3.7 trillion in 2020 (OECD, 2020^[26]). Research has shown that shifting 1.1% of the USD 4.2 trillion in total financial assets held by banks, institutional investors and asset managers globally would bridge the gap in investment to finance infrastructures and programmes needed for sustainable development (OECD, 2020^[26]). The main obstacle to mobilising the required investment is the lack of domestic financial systems in developing countries, which further contributes to global financial inequalities.

The risks are considerable for emerging markets. Africa will face transition risks associated with climate change, amplified by the fact that many of the continent's economies and jobs depend on minerals, energy and mining; however, adequate financing reaching the continent could mitigate this. In LAC, sustainable finance is the key to implementing a new development model and a new social contract and to enhancing international co-operation within the region, as domestic resource mobilisation remains low, at 22.9% of gross domestic product (GDP) (OECD et al., 2021^[15]). Finally, in Emerging Asia, sustainable finance is crucial to financing the post-pandemic economic recovery. The region has been left with a degraded monetary and fiscal environment, prompting calls for innovative financing solutions to address healthcare system gaps, aid disrupted business and public services, and revive shattered job markets (OECD, 2022^[28]).

Climate change is the next challenge for the global economy

Coupled with the COVID-19 pandemic, events in 2021 highlighted the risks posed by changing weather patterns due to climate change. Energy-related emissions, which decreased from their 2019 levels by 7% in 2020 (OECD, 2021^[29]), are rebounding sharply as economies recover from the pandemic-induced shock. As of 2021, OECD and G20 member countries collectively account for more than 75% of global carbon emissions (IEA, 2021^[30]). Emissions are projected to drop by two gigatonnes in advanced economies and

to plateau in China between 2022 and 2042 (IEA, 2021^[30]). However, the effects that the developing world will feel are significant: while Africa's carbon dioxide (CO₂) emissions represent 3% of the global total, it is estimated that the continent recorded 7% of worldwide premature deaths due to pollution (AUC/OECD, 2022^[11]). With population growth, urbanisation and industrial activity on the rise in emerging and developing economies, global emissions are set to grow by 5 billion tonnes by the early 2040s without urgent action (IEA, 2021^[30]). Recent extreme weather events in emerging markets underline the importance of accelerating efforts to combat the effects of climate change in these regions (Editorial Board, 2021^[31]), where climate change could force 216 million people to move within their countries by 2050. Sub-Saharan Africa could see as many as 86 million internal climate migrants; this number could be as high as 49 million in East Asia and the Pacific, 40 million in South Asia, 19 million in North Africa, 17 million in LAC, and 5 million in Eastern Europe and Central Asia (Clement et al., 2021^[32]). Such refugee flows could create major shocks for the global economy, and mitigation and adaptation efforts will be crucial in the coming years.

Weather effects from the climate crisis would have more dramatic consequences on the supply chain crisis than those felt during the pandemic (Grynspan, 2022^[5]), affecting both employment and productivity, if industrial climate adaptation policies are not put in place in the short term. Recent talks at the COP26 climate change conference in Glasgow emphasised the urgency of deploying investments for adaptation (UNEP, 2021^[33]). Indeed, adaptation costs in the developing world could amount to between USD 300 billion in 2030 and USD 500 billion by 2050 if mitigation targets are not met (UNCTAD, 2021^[34]). For LAC alone, the total amount of climate change financing needed to fund both mitigation and adaptation measures post-2020 has been estimated at more than USD 100 billion annually (OECD et al., 2021^[15]).

The transformation of business

Considering all the risks listed above, the post-pandemic economic and social recovery is gradually shaping business transformation in emerging markets. Such business transformation shows early potential to increase productivity and competitiveness while making progress on wider policy goals to fully recover from the pandemic, address the looming climate crisis and tackle the rising social unrest. However, some countries are better able than others to accelerate their post-COVID-19 recovery, encourage private investment and promote new business models.

Key trends driving the evolution and shaping tomorrow's business, finance and investment world are digital transformation and the green transition, supported by rising levels of interest in sustainable finance.

Digital transformation

Digitalisation affects different levels of society – from citizens to governments, public services and businesses – and the COVID-19 pandemic has further amplified all aspects of the digital transformation (OECD, 2020^[35]). It has accelerated existing trends, resulting in a surge in the availability of digital services, including essential public ones. For example, digital governance in Djibouti has helped enhance the supply chain management of health products (United Nations, 2020^[36]). E-Government Development Index (EGDI) scores in Africa almost doubled, from 0.2 in 2003 to 0.4 in 2020 (Barasa, 2022^[37]), and *The Digital Transformation Strategy for Africa (2020-2030)*, developed by the African Union Commission, is encouraging digital government in order to accelerate the overall digital transformation of economies in the continent (African Union, 2020^[38]). However, digital transformation is not happening at the same pace in all regions around the world, since digital transformation accounted for around 5% of business adoption in LAC from 2014 to 2016 compared with 13% in Southeast Asia and 16% in China over the same period (OECD et al., 2021^[15]).

The COVID-19 pandemic has highlighted the urgent need to develop resilience in finance in order to be able to withstand external shocks (OECD, 2020^[39]). In this context, the digitalisation of finance – and in particular, financial technology (fintech) – is seen as a major engine for future growth in the banking sector and the wider financial system. Fintech offer opportunities to reduce systemic risks within the financial sector through increased decentralisation and diversification. For instance, in the area of lending, fintech platforms may be able to offer more competitive borrowing rates by leveraging new technologies, including artificial intelligence (AI) (OECD, 2021^[40]).

As digital transformation accelerates, the e-commerce landscape is also becoming increasingly dynamic and has been critical in underpinning business continuity and resilience during the COVID-19 crisis. Many firms are innovating how they sell products online, leading to emerging business models that are transforming the buyer-seller relationship. New payment services, such as mobile money transfers and digital wallets, are also widening the scope of e-commerce (OECD, 2019^[41]). A global consumer survey by McKinsey suggests that new users accounted for over 50% of the increase in online grocery shopping in Brazil and South Africa in 2020 (McKinsey, 2020^[42]). Some of these changes are likely to remain long-term in light of new purchasing habits favouring convenience, the learning curve associated with changing habits, and the incentives for companies to capitalise on investments in innovative sales channels (OECD, 2020^[43]).

New and emerging technologies, such as AI, have advanced rapidly in recent years and are being applied in settings ranging from healthcare and education, to agriculture, to financial markets (OECD, 2021^[44]). AI holds the potential to transform business models, government systems and policy making through greater adoption across the private and public sectors (Telefónica, 2022^[45]), offering opportunities to enhance market efficiency and reinforce financial stability (OECD, 2021^[44]).

The previously mentioned trends towards digital adoption across emerging markets have been underpinned by progress in global connectivity. In Africa, 72% of the population uses mobile phones regularly, with the highest proportion recorded in North Africa (82%) and the lowest in Central Africa (63%). Moreover, the continent operates a total of 300 million mobile money accounts, the highest number in the world (AUC/OECD, 2021^[46]). In Asia, estimates show that in just one year, from 2019 to 2020, the number of e-commerce users increased by 37 million in Association of Southeast Asian Nations (ASEAN) member countries, 71 million in China and 50 million in India (OECD, 2021^[47]). In LAC, smartphone usage continues to grow rapidly, with 72% of the total population having a mobile connection in 2020; the region is expected to reach an adoption rate of 80% by 2025 (GSMA, 2020^[48]).

This growth represents an enormous opportunity for emerging markets. Digital technologies have the potential to increase productivity in firms and thus boost economic activity across sectors (OECD, 2020^[49]). However, AlphaBeta's research, conducted in collaboration with Google, shows that across 16 economies dubbed the "Digital Sprinters"¹, fast growth in Internet penetration has not translated into faster economic growth. Together these economies represent approximately 19% of Internet user growth, but only 7% of global real GDP growth, since 2013. If the transition from digital penetration to economic growth could be fully leveraged, digital technologies could transform economic development in the Digital Sprinter economies by unlocking an annual economic impact of up to USD 3.4 trillion by 2030 (AlphaBeta, 2020^[50]). There is an urgent need to address existing digital divides in order to enable more people to take advantage of digitalisation, ensuring that the gains from digitalisation can be realised and more widely shared across countries and societies. Paired with increasing social discontent, inclusion becomes a critical aspect in the digital transformation. In order to facilitate a digital transformation that benefits every group, regional organisations are mobilising and providing space and guidance to harness economic potential stemming from increasing digital. For example, the African Union Commission adopted a ten-year plan in 2020, *The Digital Transformation Strategy for Africa (2020-2030)* (African Union, 2020^[38]), through working with the private sector and in alignment with the Agenda 2063 objectives for development for Africa and with the SDGs.

New commitments for a green transition

In addition to digital transformation, the green transition is shifting business trends towards greener and more sustainable business models and is modifying investment flows. As set out by the International Energy Agency's (IEA's) report, *Net Zero by 2050* (IEA, 2021^[51]), there is a viable pathway to achieving net-zero emissions by 2050. Although it is narrow, there is an enormous opportunity for economies to support a green post-COVID-19 recovery in order to mitigate the impact of climate change and create resilience in the face of future crises. However, charting this new, lower-emissions pathway for fairer and greener societies will require an unprecedented transformation of the global energy system, which is responsible for around three-quarters of greenhouse gas emissions worldwide. Making this transition is the key to averting the worst effects of climate change (IEA, 2021^[51]), which could force more than 100 million people into extreme poverty by 2030 if the necessary changes are not made (OECD, 2019^[52]). The wave of investment and spending to support the COVID-19 recovery alongside lower costs for clean energy technologies (IEA, 2021^[51]) presents a unique opportunity for emerging markets to embark on a low-carbon path to a clean energy system that is able to meet both future energy demands and ambitious global climate targets. Companies operating across emerging markets are increasingly embedding the environmental aspect into their value chain, taking action towards tackling the climate emergency.

Yet, challenges remain to realising this energy transition in emerging markets. The shift to a clean energy economy will require trade-offs such as lower profitability and the loss of government revenues, as well as potential trade losses, posing existential challenges for development models that depend on hydrocarbon revenues. In most of the Organization of the Petroleum Exporting Countries (OPEC) member countries and in fossil-resource-rich regions, royalties from the extraction of oil, natural gas and coal account for more than two-thirds of government revenues (OECD, 2017^[53]). In emerging and developing regions, aggregate net income from exports and domestic sales of fossil fuels average around USD 1 trillion each year. Across Asia, coal continues to play a significant role in the energy mix (IEA, 2021^[30]). However, announcements in China, Japan and Korea to cease export financing of coal present a significant milestone. Similarly, South Africa's ground-breaking renewable procurement process implemented in 2011 has hampered investments in new coal power. Other solutions include: (i) repurposing or retrofitting coal power plants to provide flexibility to the grid; (ii) co-producing with other clean energy sources; or (iii) retiring plants early, taking account of inherent local conditions (IEA, 2021^[51]). As of 2019, Indonesia had utilised less than 2% of its total renewable energy potential (OECD, 2021^[54]). Across the Middle East and Africa, only around 10 gigawatts (GW) of solar photovoltaic had been installed as of 2020, which was less than in Viet Nam alone. Many oil and gas producers are facing acute fiscal pressures (IEA, 2020^[55]), amplified by the COVID-19-induced economic downturn. Rising dependence on critical minerals (e.g. copper and cobalt) needed for clean energy technologies and infrastructure can lead to price volatility and supply disruptions, hindering the overall transition (IEA, 2021^[56]).

Despite the falling costs of clean energy technologies, questions arise for economies that rely on revenues from oil and gas, which provide one of the main sources of financing for a shift towards a more diversified economic structure and sustainable energy mix. With some estimates pointing to the annual per capita income from oil and natural gas in producer economies falling sharply (by about 75%), from USD 1 800 in recent years to USD 450 by the 2030s (IEA, 2021^[51]), governments face the challenge of building on existing revenues in order to undertake the required structural changes to transform high-emission sectors and diversify and reform their economies. Potential synergies between traditional high-emission sectors and clean energy solutions could support the transition, including diversifying into other parts of the energy supply chain where skill sets overlap and those which may provide a good fit for emerging lower-carbon fuels and technologies (e.g. hydrogen). Large project management, like offshore wind projects, could also be suitable for the oil and gas industry (IEA, 2021^[30]).

The post-COVID-19 recovery provides a chance to reset the energy agenda and accelerate efforts towards clean, low-carbon energy systems. A growing number of countries and multinational enterprises are

committing to net-zero carbon emissions by 2050. At regional level, the African Union Commission's recovery strategy for the energy sector focuses on using the continent's abundant renewable energy sources to develop modern and sustainable energy systems. Joint African Union initiatives to accelerate and scale up these efforts include the Programme for Infrastructure Development in Africa (PIDA) (African Union, 2022^[57]); the African Renewable Energy Initiative (AREI) (AREI, 2022^[58]); and the Geothermal Risk Mitigation Facility (GRMF) (GRMF, 2022^[59]), a catalyst for geothermal development in Eastern Africa. A number of countries, such as Argentina, Brazil, Chile, Colombia, India and Mexico, have also embraced renewables, as well as electric network and mini-grid investments, but efforts should be accelerated in order to mitigate the risk of destabilisation for national production.

Inclusive business models influenced by ESG and sustainable finance

With rollbacks caused by the COVID-19 crisis affecting the overall economy, inclusive businesses – which ensure access to goods and services for low-income and vulnerable groups, either by integrating them into their GVCs or focusing on them as customers – are key to a complete recovery (Mignano and Geaneotes, 2020^[60]). Inclusive business models often rely on the development of alternative distribution channels or the adjustment of payment methods to meet the constraints and needs of lower-income groups. Building inclusive business models is crucial to ensuring that the benefits of the digital transformation and green transition have an inclusive impact. Indeed, without careful planning, there is a risk that transformations could result in vulnerable communities being further excluded due to limited access to technologies or an inability to use or afford certain tools.

The dynamic sustainable finance environment influences the shift to inclusive business models, with investors and private sector's appetite for ESG-related instruments increasing across green, social, sustainability and sustainability-linked instruments. Although the rapidly growing flows of sustainable finance were mainly concentrated in advanced economies in 2021, for the first time since 2016, emerging markets' share of ESG products increased thanks to pandemic-related financing needs and the surge in climate-related borrowing across emerging markets, led by LAC (Gautam, Goel and Natalucci, 2022^[61]). According to the International Monetary Fund (IMF), ESG-linked debt issuance tripled to reach USD 190 billion in 2021, and sustainability-related equity fund flows also rose to USD 25 billion in the same time-frame. As of 2021, ESG investments represent 18% of foreign investment in emerging economies, excluding China (Gautam, Goel and Natalucci, 2022^[61]). Harnessing sustainable finance is crucial in order for developing countries to build a new finance ecosystem to invest in strategic plans. However, risks in financial stability and risks related to greenwashing could ramp up and should be monitored. Momentum was gained during the Glasgow COP26 climate change conference with the formation of the International Sustainability Standards Board, which will encourage unified ESG reporting. This comes at a crucial time, following the revelation that, according to Morningstar's classification system, ESG funds representing more than USD 1 trillion in assets were not delivering on their stated environmental, social or governance goals, resulting in the ESG tag being removed from more than 1 200 funds, or roughly one in five (Were, 2022^[62]). Some encouraging trends are appearing, such as in LAC, where the volume of green, social, and sustainable bonds issued doubled to USD 12 693 billion during 2020 (OECD et al., 2021^[15]).

Note

1 These economies are Argentina, Brazil, Chile, Colombia, Egypt, Israel, Kenya, Mexico, Nigeria, Peru, Russia, Saudi Arabia, South Africa, Turkey, Ukraine and the United Arab Emirates.

References

- African Union (2022), *Program Infrastructure Development for Africa (PIDA)* | African Union, [57]
African Union, <https://au.int/en/ie/pida> (accessed on 22 March 2022).
- African Union (2020), *The Digital Transformation Strategy For Africa (2020-2030)*, African Union, [38]
Addis Ababa, <https://au.int/sites/default/files/documents/38507-doc-dts-english.pdf> (accessed
on 23 March 2022).
- AlphaBeta (2020), *The Digital Sprinters: how to unlock a \$3.4 trillion opportunity*, AlphaBeta, [50]
Singapore.
- AREI (2022), *AREI | Africa Renewable Energy Initiative*, AREI, <http://www.arei.org/#about> [58]
(accessed on 22 March 2022).
- Asian Development Bank (2021), *Global Value Chain Development Report 2021*., Asian [12]
Development Bank, Manila, Philippines, <https://doi.org/10.22617/tcs210400-2>.
- AUC/OECD (2022), *Africa's Development Dynamics 2022: Regional Value Chains for a [11]
Sustainable Recovery*, African Union Commission, Addis Ababa/OECD Publishing, Paris,
<https://dx.doi.org/10.1787/2e3b97fd-en>.
- AUC/OECD (2021), *Africa's Development Dynamics 2021: Digital Transformation for Quality [46]
Jobs*, OECD Publishing, Paris/African Union Commission, Addis Ababa,
<https://dx.doi.org/10.1787/0a5c9314-en>.
- Barasa, H. (2022), *Digital Government in Sub-Saharan Africa: Evolving Fast, Lacking [37]
Frameworks* | Institute for Global Change, Tony Blair Institute for Global Change,
[https://institute.global/policy/digital-government-sub-saharan-africa-evolving-fast-lacking-
frameworks](https://institute.global/policy/digital-government-sub-saharan-africa-evolving-fast-lacking-frameworks) (accessed on 5 April 2022).
- Bill & Melinda Gates Foundation (2021), *Strengthening Gender Measures and Data in the [22]
COVID-19 Era: An Urgent Need For Change*, Bill & Melinda Gates Foundation,
[https://docs.gatesfoundation.org/Documents/COVID-
19 Gender Data and Measures Evidence Review.pdf](https://docs.gatesfoundation.org/Documents/COVID-19%20Gender%20Data%20and%20Measures%20Evidence%20Review.pdf) (accessed on 5 April 2022).
- Boffo, R. and R. Patalano (2020), *ESG Investing: Practices, Progress and Challenges*, OECD, [25]
<http://www.oecd.org/finance/ESG-Investing-Practices-Progress-and-Challenges.pdf>
(accessed on 22 March 2022).
- Bonfert, A. et al. (2022), *Three ways to tackle gender data gaps – and 12 countries embracing [20]
the challenge*, World Bank Blogs, [https://blogs.worldbank.org/opendata/three-ways-tackle-
gender-data-gaps-and-12-countries-embracing-challenge](https://blogs.worldbank.org/opendata/three-ways-tackle-gender-data-gaps-and-12-countries-embracing-challenge) (accessed on 5 April 2022).
- Bonnet, F., J. Vanek and M. Chen (2019), *Women and Men in the Informal Economy – A [19]
Statistical Brief*, WIEGO, <http://www.wiego.org> (accessed on 6 April 2022).
- Clement, V. et al. (2021), “Groundswell Part 2: Acting on internal climate migration”, *World Bank*. [32]

- Editorial Board (2021), *Extreme weather raises stakes at COP26*, Financial Times, [31]
<https://www.ft.com/content/c59ca047-082e-48fb-a479-df1b2818a66c?segmentId=3f81fe28-ba5d-8a93-616e-4859191fabd8> (accessed on 22 March 2022).
- Elia, S. et al. (2021), “Post-pandemic reconfiguration from global to domestic and regional value chains: The role of industrial policies”, *Transnational Corporations*, Vol. 28/2. [10]
- Gautam, D., R. Goel and F. Natalucci (2022), *Sustainable Finance in Emerging Markets is Enjoying Rapid Growth, But May Bring Risks – IMF Blog*, IMF Blog, [61]
<https://blogs.imf.org/2022/03/01/sustainable-finance-in-emerging-markets-is-enjoying-rapid-growth-but-may-bring-risks/> (accessed on 22 March 2022).
- GRMF (2022), *Home - Geothermal Risk Mitigation Facility (GRMF)*, GRMF, <https://grmf-eastafrica.org/> (accessed on 22 March 2022). [59]
- Grynspan, R. (2022), *Here’s how we can resolve the global supply chain crisis | CNUCED*, UNCTAD, <https://unctad.org/fr/node/36277> (accessed on 22 March 2022). [5]
- GSMA (2020), *La Economía Móvil en America Latina 2020*, GSM Association, [48]
https://www.gsma.com/mobileeconomy/wp-content/uploads/2020/12/GSMA_MobileEconomy2020_LATAM_Esp.pdf (accessed on 8 March 2022).
- IEA (2021), *Financing clean energy transitions in emerging and developing economies*, IEA, Paris, [30]
<https://www.iea.org/reports/financing-clean-energy-transitions-in-emerging-and-developing-economies> (accessed on 22 March 2022).
- IEA (2021), *Net Zero by 2050*, IEA, Paris, <https://www.iea.org/reports/net-zero-by-2050> [51]
 (accessed on 22 March 2022).
- IEA (2021), *The Role of Critical Minerals in Clean Energy Transitions*, IEA, Paris, [56]
<https://www.iea.org/reports/the-role-of-critical-minerals-in-clean-energy-transitions> (accessed on 22 March 2022).
- IEA (2020), *World Energy Outlook 2020 – Analysis - IEA*, IEA, Paris, [55]
<https://www.iea.org/reports/world-energy-outlook-2020> (accessed on 22 March 2022).
- ILO (2021), *ILO Monitor: COVID-19 and the world of work.*, International Labour Organization, [9]
https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/briefingnote/wcms_824092.pdf (accessed on 22 March 2022).
- ILO (2020), “The supply chain ripple effect: How COVID-19 is affecting garment workers and factories in Asia and the Pacific”, ILO, https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/documents/briefingnote/wcms_758626.pdf (accessed on 6 April 2022). [16]
- McKinsey (2020), *Consumer sentiment is diverging across countries | McKinsey*, McKinsey, [42]
<https://www.mckinsey.com/business-functions/marketing-and-sales/our-insights/a-global-view-of-how-consumer-behavior-is-changing-amid-covid-19> (accessed on 22 March 2022).
- Mignano, K. and A. Geaneotes (2020), *Leveraging Inclusive Business Models to Support the Base of the Pyramid during COVID-19*, IFC, [60]
<https://openknowledge.worldbank.org/bitstream/handle/10986/34307/Leveraging-Inclusive-Business-Models-to-Support-the-Base-of-the-Pyramid-during-COVID-19.pdf?sequence=1&isAllowed=y> (accessed on 22 March 2022).

- Missika, B. and M. Vicherat (2020), *The gender dimension of COVID-19: a wake-up call for business*, Development Matters, <https://oecd-development-matters.org/2020/04/30/the-gender-dimension-of-covid-19-a-wake-up-call-for-business/> (accessed on 6 April 2022). [17]
- OECD (2022), *Economic Outlook for Southeast Asia, China and India 2022: Financing Sustainable Recovery from COVID-19*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/e712f278-en>. [28]
- OECD (2022), *OECD Economic Outlook, Interim Report March 2022: Economic and Social Impacts and Policy Implications of the War in Ukraine*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/4181d61b-en>. [7]
- OECD (2021), *Building more resilient and sustainable global value chains through responsible business conduct*, <https://mneguidelines.oecd.org/rbc-and-trade.htm> (accessed on 22 March 2022). [14]
- OECD (2021), *Clean Energy Finance and Investment Policy Review of Indonesia*, Green Finance and Investment, OECD Publishing, Paris, <https://dx.doi.org/10.1787/0007dd9d-en>. [54]
- OECD (2021), *Economic Outlook for Southeast Asia, China and India 2021: Reallocation Resources for Digitalisation*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/711629f8-en>. [47]
- OECD (2021), *Global value chains: Efficiency and risks in the context of COVID-19 - OECD*, https://read.oecd-ilibrary.org/view/?ref=1060_1060357-mi890957m9&title=Global-value-chains-Efficiency-and-risks-in-the-context-of-COVID-19 (accessed on 22 March 2022). [8]
- OECD (2021), *OECD Business and Finance Outlook 2021: AI in Business and Finance*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/ba682899-en>. [44]
- OECD (2021), *OECD Economic Outlook, Volume 2021 Issue 2*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/66c5ac2c-en>. [3]
- OECD (2021), *Strengthening Macprudential Policies in Emerging Asia: Adapting to Green Goals and Fintech*, The Development Dimension, OECD Publishing, Paris, <https://dx.doi.org/10.1787/6f1ed069-en>. [40]
- OECD (2021), *The long-term environmental implications of COVID-19*, OECD, <https://www.oecd.org/coronavirus/policy-responses/the-long-term-environmental-implications-of-covid-19-4b7a9937/> (accessed on 22 March 2022). [29]
- OECD (2021), *Towards gender-inclusive recovery*, OECD Policy Responses to Coronavirus (COVID-19), <https://www.oecd.org/coronavirus/policy-responses/towards-gender-inclusive-recovery-ab597807/> (accessed on 5 April 2022). [21]
- OECD (2021), *Women at the core of the fight against COVID-19 crisis*, OECD, https://read.oecd-ilibrary.org/view/?ref=127_127000-awfnqj80me&title=Women-at-the-core-of-the-fight-against-COVID-19-crisis (accessed on 6 April 2022). [18]
- OECD (2020), *E-commerce in the time of COVID-19*, OECD, <https://www.oecd.org/coronavirus/policy-responses/e-commerce-in-the-time-of-covid-19-3a2b78e8/> (accessed on 22 March 2022). [43]

- OECD (2020), *Global Outlook on Financing for Sustainable Development 2021: A New Way to Invest for People and Planet*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/e3c30a9a-en>. [26]
- OECD (2020), *Going Digital in Brazil*, OECD Reviews of Digital Transformation, OECD Publishing, Paris, <https://dx.doi.org/10.1787/e9bf7f8a-en>. [49]
- OECD (2020), *OECD Business and Finance Outlook 2020: Sustainable and Resilient Finance*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/eb61fd29-en>. [39]
- OECD (2020), *OECD Digital Economy Outlook 2020*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/bb167041-en>. [35]
- OECD (2019), *Aligning Development Co-operation and Climate Action: The Only Way Forward*, The Development Dimension, OECD Publishing, Paris, <https://dx.doi.org/10.1787/5099ad91-en>. [52]
- OECD (2019), *Unpacking E-commerce: Business Models, Trends and Policies*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/23561431-en>. [41]
- OECD (2017), "Towards an inclusive transition", in *Investing in Climate, Investing in Growth*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/9789264273528-8-en>. [53]
- OECD (n.d.), *About the SIGI | Social Institutions and Gender Index*, <https://www.genderindex.org/sigi/> (accessed on 5 April 2022). [23]
- OECD et al. (2021), *Latin American Economic Outlook 2021: Working Together for a Better Recovery*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/5fedabe5-en>. [15]
- Telefónica (2022), *Public Policy Archives - Telefónica*, <https://www.telefonica.com/en/tag/public-policy/> (accessed on 22 March 2022). [45]
- UNCTAD (2021), *Review of Maritime Transport 2021*, United Nations, New York, https://unctad.org/system/files/official-document/rmt2021_en_0.pdf (accessed on 22 March 2022). [6]
- UNCTAD (2021), *Scaling up climate adaptation finance must be on the table at UN COP26*, UNCTAD, <https://unctad.org/news/scaling-climate-adaptation-finance-must-be-table-un-cop26> (accessed on 22 March 2022). [34]
- UNCTAD (2020), "World Investment Report 2020 (Overview)", *United Nations Conference on Trade and Development* 6 (52). [27]
- UNEP (2021), *What does COP26 mean for adaptation?*, UNEP, <https://www.unep.org/news-and-stories/story/what-does-cop26-mean-adaptation> (accessed on 22 March 2022). [33]
- United Nations (2020), *UN AND PARTNERS COVID-19 RESPONSE PLAN - Djibouti*, United Nations, https://reliefweb.int/sites/reliefweb.int/files/resources/DJI_COVID-19_Emergency_Appeal_21092020.pdf (accessed on 5 April 2022). [36]
- United Nations and Inter-agency Task Force on Financing for Development (2021), *Financing for Sustainable Development Report 2021*, United Nations, New York, <https://developmentfinance.un.org/fsdr2021> (accessed on 23 March 2022). [13]

- WEF (2022), *Rising costs: How emerging economies are being affected by inflation*, World Economic Forum, <https://www.weforum.org/agenda/2022/02/explainer-how-is-inflation-hitting-low-income-households-in-developing-nations/> (accessed on 22 March 2022). [2]
- Were, A. (2022), *How can Africa benefit from the private sector's growing interest in climate finance?*, Development Matters Blog, <https://oecd-development-matters.org/2022/03/17/how-can-africa-benefit-from-the-private-sectors-growing-interest-in-climate-finance/> (accessed on 22 March 2022). [62]
- World Bank (2022), *Global Economic Prospects, January 2022*, World Bank. [1]
- World Bank (2022), *Global Growth to Slow through 2023, Adding to Risk of 'Hard Landing' in Developing Economies*, World Bank, <https://www.worldbank.org/en/news/press-release/2022/01/11/global-recovery-economics-debt-commodity-inequality> (accessed on 22 March 2022). [24]
- World Bank (2021), *Soaring Energy Prices Pose Inflation Risks as Supply Constraints Persist*, World Bank, <https://www.worldbank.org/en/news/press-release/2021/10/21/soaring-energy-prices-pose-inflation-risks-as-supply-constraints-persist> (accessed on 22 March 2022). [4]

3

Private sector insights on business transformation in emerging markets

This chapter provides insights from the private sector on business transformation in emerging markets and how it can contribute to a resilient, inclusive and sustainable recovery. The analysis builds on the discussions hosted by the Organisation for Economic Co-operation and Development (OECD) Development Centre's Emerging Markets Network (EMnet) during its virtual meetings held in 2021, featuring the participation of high-level policy makers, senior business executives and OECD experts. Further insights originate from desk research and bilateral conversations with EMnet members and other multinational companies operating in emerging markets.

Key messages

- Many businesses across emerging markets have invested in digital and green transformation as part of their Coronavirus disease 2019 (COVID-19) crisis recovery plans, with further investment required to ensure long-term competitiveness and resilience.
- Strengthening digital infrastructure is urgently required in order to ensure reliable and quality connectivity and to fully capitalise on opportunities stemming from the digital transformation.
- Public-private collaboration will be needed to ensure that the appropriate policy frameworks are in place in order to facilitate more investment directed to enhancing rural connectivity or 5G deployment.
- Together with enabling public policies, multinational enterprises have a key role to play in an inclusive digital transformation that engages and supports small and medium-sized enterprises (SMEs) (which employ 70% of workers globally) and that reaches vulnerable groups, including women, most affected by the COVID-19 crisis.
- EMnet participants point to electrification and renewable energies, particularly solar and wind, as being key to the success of the energy transition in emerging markets, supporting both short-term recovery and longer-term sustainable and inclusive economic development.
- Leading multinationals are investing in a circular economy model. Greater public-private collaboration will accelerate progress beyond the generation of positive impacts on the environment and will create the conditions for the adoption of innovative circular models across emerging markets.
- An inclusive energy transition will require a holistic framework and well-designed, supportive policies, leveraging regional collaboration and access to new technologies.
- Companies are ready to enhance their efforts to collaborate on upskilling and reskilling workers, to develop a resilient labour market, and to harness the potential of digital and green transformation.
- As digital trade has grown throughout the COVID-19 pandemic, building trust between actors and implementing international standards on cybersecurity, data protection, and information and communications technology (ICT) supply chain protection have become critical to promoting a safe global trade ecosystem.
- Regional partnerships are fundamental to reinforcing economic integration and to generating a common response to shared challenges; such partnerships facilitate the sharing of good practices and alignment on common standards that can facilitate more investment.
- Businesses are adopting sustainability criteria in order to enhance their resilience and to reduce risk across their operations, from supply chains and production processes to employee relations.
- There is potential for public-private collaboration to attract more institutional investors, tap into the USD 100 trillion these investors held in assets in 2019, mitigate risks and mainstream sustainability considerations.
- Coherent, stable and predictable policy frameworks and sound public policies can help investors better balance risks and returns over an extended period of time. Indeed, given the length of time required and amount of investment necessary to develop infrastructures and programmes in some industries (such as telecommunications or energy), a long-term vision can help generate more bankable projects, particularly in underserved areas.

In response to the risks created by the COVID-19 pandemic, the outbreak of the war in Ukraine and the ensuing trade slowdown, inflation, and rise in commodity and energy prices, as well as growing social discontent due to increased inequalities, and in anticipation of future crises (including climate change), businesses are at the forefront in providing solutions to build a more resilient economic system. EMnet members and the wider private sector are pursuing efforts towards a digital and green transformation in emerging markets. With the support of governments and multinational institutions, companies are seeking to adapt to the fast pace of change and raising the capital necessary to complete large-scale projects. Such transformation has the potential to promote sustainable growth, which is essential for both social and economic recovery and well-being. This chapter provides perspectives and examples from emerging markets in support of an inclusive and resilient economic recovery.

Accelerating digital transformation to promote recovery

The companies that participated in the EMnet meetings in 2021 agree that digital transformation will play a key role in ensuring a resilient and inclusive post-COVID-19 recovery, in addition to its significant potential to increase competitiveness and social and economic inclusion across emerging markets. In LAC alone, the Global System for Mobile Communications Association (GSMA) calculates that a 10% increase in mobile Internet penetration has the potential to increase gross domestic product (GDP) by 1.2%, while a 10% increase in a country's digitalisation can generate 1.9% in GDP growth (GSMA, 2020^[1]). Digital transformation is set to bring new tools and opportunities to emerging regions; however, just as digital technologies have the power to promote greater inclusion and connectivity, they can also exacerbate inequalities. These divisions could exist both locally within countries (fuelled by barriers to infrastructure roll-out, connectivity gaps and digital divides) and globally (with diverging regulations and barriers to trade, investment and data flows creating disconnects with the global digital economy).

Digital infrastructure is the cornerstone of any digital transformation process. Despite progress made during the COVID-19 pandemic to encourage connectivity and digital adoption, as outlined in EMnet's *Business Insights on Emerging Markets 2021* (EMnet, 2021^[2]), many countries still suffer from underdeveloped ICT infrastructure and significant gaps in access. According to GSMA data, approximately 7% of the population in LAC lives in areas without mobile Internet access while an additional 38% does not access the Internet despite mobile coverage (GSMA, 2021^[3]). The expansion of infrastructure roll-out and the quality of services have improved in recent years thanks to investments made, with greenfield foreign direct investments (FDIs) in the ICT and Internet industries doubling between 2015 and 2021 in Africa (AUC/OECD, 2022^[4]) and mobile network operators (MNOs) expected to invest USD 73 billion in LAC between 2020 and 2025 (GSMA, 2021^[5]). However, a significant gap persists between OECD and non-OECD member countries in terms of fixed and mobile broadband subscriptions. OECD member countries enjoy roughly twice the number of mobile Internet subscriptions and three times the number of fixed broadband subscriptions compared with non-OECD member countries (OECD, 2020^[6]).

Public-private collaboration is needed to strengthen digital infrastructure

A recent analysis notes that USD 428 billion is needed to connect the remaining 3 billion people on Earth to the Internet by 2030 (ITU, 2020^[7]). Given the scale of the investment required across emerging markets, the installation of digital infrastructure cannot be undertaken by the public sector alone. Attracting private sector, long-term participation is critical to boosting infrastructure investment and financing across emerging markets. This is crucial for regions such as LAC, where telecommunications depends almost exclusively on private investment (Melguizo, Salido and Leaman, 2022^[8]). Engaging the private sector to cover the cost of closing the digital divide requires business cases and financial incentives for investors, in particular when telecommunications investment in LAC has been falling in per capita terms since 2010. LAC invested USD 43 per inhabitant in 2020, down from USD 46 per inhabitant in 2019 (ITU, 2021^[9]). To

meet this challenge, public policies are needed in order to promote the sharing of infrastructure (eliminating municipal barriers for deployments), encourage synergies (to increase efficiency and repurpose existing infrastructure), and ensure scalability and encourage open standards (to avoid lock-in effects). In addition, governments can consider measures that reduce the cost of investment, such as reducing spectrum costs or defining tax benefits for investments (GSMA, 2017^[10]). For instance, governments can create synergies between investment in other physical infrastructure (e.g. electricity and roads) and the expansion of digital networks, focusing on generating incentives, tax benefits or special funds for infrastructure deployment. Models adopted in Europe can also serve as examples. Open Fiber was established in Italy in December 2015 (as a wholly owned subsidiary of Enel) in order to deploy, supply and operate high-speed fibre to the home (FTTH) optical fibre communication networks. Afterwards, Open Fiber was gradually acquired by a government-owned company.

At local level, a platform approach building on common infrastructure can generate significant benefits in ICT service offerings from an economic and environmental perspective. American Tower Corporation, a global provider of wireless communications infrastructure and technologies, leases space on its towers and other passive infrastructure to multiple MNOs so they can install their own active network equipment. This so-called “tower sharing” model delivers many benefits, including: (i) reducing operational expenditure and capital expenditure for MNOs, releasing capital for innovation and investment in rural and low-income areas; (ii) fostering competition and economies of scale; (iii) avoiding unnecessary duplication in the roll-out of infrastructure, thus reducing energy consumption and environmental impact; (iv) allowing a more efficient use of public and private space by deploying in existing buildings and municipal poles; and (v) reducing access barriers for new, smaller MNOs by offering non-discriminatory open access to sites.

Another model for extending service to rural areas is the one developed by Internet para Todos (IPT) in Peru. The IPT model is based on the development of a wholesale single mobile network in rural areas that is available for all MNOs under non-discriminatory conditions. This model has been very successful in terms of extending 4G mobile services to rural areas in Peru. In a joint effort with Telefónica, Meta, IDB Invest and CAF – Development Bank of Latin America, IPT has deployed more than 1 800 4G base stations in rural areas.

If local governments address barriers to the deployment of 5G in emerging markets, 5G has the long-term potential to support the digital transformation necessary for most sectors. The biggest constraint is the availability of digital infrastructure, namely fibre-optic transport networks and data infrastructure. Furthermore, the delay in fully deploying 4G and fibre solutions seen in many developing countries raises the fear of further delays in the 5G roll-out. Accelerating the deployment of these technologies will allow secure foundations for an efficient 5G ecosystem in the future. In emerging markets, including LAC, the difficulties in identifying profitable commercial opportunities, the high cost of spectrum in the region and the lack of affordable 5G devices are slowing down deployment of 5G networks. Given that GSMA projections anticipate a 15-year gap in reaching 80% coverage in emerging markets, failure to urgently address these barriers risks further increasing a digital divide between emerging and advanced economies. Here again, encouraging infrastructure sharing and identifying specific sectors and activities that require 5G could increase the development of the networks and reduce costs for MNOs or other concessionaries/licence holders. Adequate policy regulations should also be put in place to foster a healthy environment for co-operation and competition, such as working on spectrum availability by allocating additional 5G spectrum at a reasonable cost, reducing spectrum fees or encouraging partnerships between MNOs and other actors (Houngbonon, Rossotto and Strusani, 2021^[11]). According to research from the GSMA, upgrading to 5G would increase the economic impact of mobile technology by 15% (GSMA, 2020^[12]). The economic output generated by the adoption of 5G is expected to reach USD 13.2 trillion by 2035. The value chain surrounding 5G, from network operators to device manufacturers and content developers, should create approximately 22.3 million jobs globally (Campbell et al., 2019^[13]).

To further expand broadband connections and network resilience, EMnet participants agree that it is necessary to adopt transversal policies and maintain a permanent dialogue with the entire digital

ecosystem. This includes support for innovation and entrepreneurship and encouragement for cross-sectoral investment in digital technologies. Participants also point to the need to look “beyond connectivity”; for example, by improving education in order to develop digital skills and using digital data captured in the public environment in order to develop services. Furthermore, participants highlight the need for systems and equipment to be ready for future upgrades to allow for evolving infrastructure requirements.

The private sector has undertaken innovative measures to enhance connectivity in rural areas and address key issues such as access to reliable power and energy infrastructure (ITU, 2021^[14]), complications with inaccessible territories, high upfront costs for infrastructure installation, and lack of investment (United Nations, 2021^[15]). Models that have worked in the past include public-private partnerships for infrastructure consolidation, electrification, community and locally managed networks, and the creation of public sector partnerships with international co-operation (IICA, 2021^[16]). A good example of public-private partnerships is Microsoft’s Airband Initiative, through which FarmBeats was created; this innovative initiative operates on the empty spaces of television frequencies in order to bring connectivity to rural areas of Argentina (IICA, 2021^[16]). Alternatively, governments have also eased regulation, awarded tax breaks and created universal service funds (USFs) as described in *Business Insights on Emerging Markets 2021* (EMnet, 2021^[2]). Revenue sharing arrangements are an example of the types of initiatives that would facilitate the private sector in de-risking investments and reducing costs. Such a project has been carried out in Zimbabwe by Vodafone, which runs the core network, in co-operation with local MNO Econet (Arakpogun et al., 2020^[17]). Companies – such as Telefónica in its “Rural Manifesto” – are calling for new telecommunications development models based on infrastructure sharing and the development of wholesale neutral networks that are usable by multiple actors via financial and operational collaboration between companies, as well as by the public sector and development finance institutions (DFIs) (Telefónica, 2022^[18]). In 2021, Millicom and the IDB joined forces with the aim of creating digital support tools for agricultural production as well as facilitating the digitalisation of basic services in rural areas. Such partnerships are already being implemented in some regions, as seen with MUFG Bank’s collaboration with the Asian Development Bank (ADB) to expand mobile coverage in rural Bangladesh. In addition to investments and programmes, EMnet participants emphasised that new, specific and differentiated regulatory frameworks for rural areas are needed. The key performance indicators (KPIs) used in rural areas should be different from the ones designed for urban areas, taking into account the contexts and constraints for MNOs. The expansion of connectivity to rural areas can serve as a platform to develop tailored digital services, especially in the education, health and financial sectors, which can in turn contribute to the financial sustainability of these infrastructure projects (Melguizo, Salido and Leaman, 2022^[8]), and improve community access to basic services. It can also create economic and professional opportunities for the populations living in those peripheral areas. New services focused on rural areas and their needs (in agriculture, for example) are already taking advantage of expanding connectivity, such as the Smart Farm India initiative. It leverages the Internet of Things (IoT) and adoption of agri-tech solutions to improve agricultural productivity as well as sustainable farming (Smart Farm India, n.d.^[19]). However, such projects need to be further developed, as small farmers cannot access these services due to financial constraints.

Another challenge is low average revenue per user (ARPU) for telecommunications operators. Because rural areas are sparsely populated, the ARPU for operators may only be around USD 1-3 after network deployment. If MNOs use the traditional network deployment model in remote areas, the payback period could be longer than ten years. They may even fail to recover their investment and costs at all. Therefore, MNOs are often unable to make the business case and obtain the necessary financial loans to invest in remote areas. Huawei’s award-winning RuralStar solution brings mobile broadband data services to remote, hard-to-reach communities and radically reduces both the capital costs of deployment and the ongoing operations and maintenance expenses. The backpack-sized solution can be easily mounted on regular wooden or steel poles, providing affordable connectivity in scenarios where other solutions are not cost-effective or viable. So far, the RuralStar solution has been successfully deployed by 12 operators in 8 countries (Huawei, n.d.^[20]).

A number of barriers, particularly administrative, remain to encouraging more private investment in digital infrastructure development. Red tape and administrative burdens, especially when dealing with national, decentralised and municipal authorities, can slow down the issuance of permits to install antennas and rights-of-way for fibre-optic cable laying and fibre-optic cable maintenance. It is therefore crucial for governments to deploy clear national connectivity plans that allow for long-term planning and alignment across local authorities. In addition, governments (at both national and municipal levels) are encouraged to create one-stop shops for all licensing and authorisations. This reduces the impact of regulatory double burdens on infrastructure stakeholders and accelerates the pace of deployment.

Indeed, technologies to deploy 5G and IoT systems, for example, require three to four times more infrastructure than the ones already implemented due to the need to invest in complementary infrastructure, including fibre transport networks, submarine cables, satellites or data centres (Houngbonon, Rossotto and Strusani, 2021^[11]). The OECD is supporting these efforts with its Recommendation on Broadband Connectivity (OECD, 2022^[21]). Recommendations include measures to encourage investment and sectoral policies such as spectrum pricing and management to achieve the correct approach tailored to each country's market characteristics and connectivity needs. EMnet participants highlight that industry consolidation is needed for more efficient operations, as diminishing returns and increased investment requirements constrain the number of participants that can operate. Another major obstacle to investments, especially in unprofitable locations such as rural areas, is the high cost of radio spectrum (GSMA, 2017^[10]).

Finally, EMnet participants call for the need to promote competition in all markets for high-capacity network infrastructures and services with non-discriminatory policies in order to expand and achieve end user choice for connectivity at competitive prices.

Strategies to bridge the digital gap and promote digital inclusion

The COVID-19 pandemic has underscored the need for a more inclusive approach to digital transformation. Ensuring an affordable price for Internet services will be essential in order to close the digital gap, as only 17% of the population in Africa can afford 1 gigabyte of data, while in LAC and Asia the comparable figures are 37% and 47%, respectively (AUC/OECD, 2021^[22]). Well-focused and data-driven demand subsidies through USFs, for instance, would help provide access to vulnerable populations across emerging market regions. Kenya's USF, for example, recently allocated KES 1.57 billion (Kenyan shillings; USD 14.4 million) to five companies as part of a public tender to connect underserved communities across Kenya. In general, additional efforts are required in order to promote fit-for-purpose USFs with autonomy, a clear legal and regulatory framework, national oversight, and transparency. Moreover, criteria for accessing funds should be expanded to include all wireless service providers.

Yet, beyond cost, important social barriers remain. Access can be hindered due to the lack of content and digital literacy resources in relevant languages. In rural areas in particular, some populations may not be sufficiently confident in their proficiency in the main languages used nationally, and providing services that are readily understood can increase access to, and use of, digital technologies. Additionally, a significant gender divide still inhibits women's participation in the digital economy, as 234 million fewer women than men have smartphone access to mobile Internet (GSMA, 2021^[23]). One final aspect of exclusion is the issue of the unbanked population in both rural and urban areas. In LAC, for example, 50% of the population is excluded from the formal banking sector (Inter American Development Bank, IDB Invest and Finnovista, 2018^[24]).

Co-ordinated inclusion strategies are needed in order to overcome digital gaps and create opportunities across the entire economy. Implementing a gender lens when building long-term digital plans is crucial. To do so, all actors must correctly assess the barriers to digital adoption reported by women. From Guatemala to Indonesia, security issues have been identified in countries around the world, with women reporting online harassment, cyberstalking and fear of being followed (USAID, 2022^[25]). Indeed, reports of online

gender-based violence have increased dramatically, doubling in Indonesia during the COVID-19 pandemic (Loasana, 2020^[26]), and call for special attention from MNOs and digital players to increase safety and build trust among all users. Finally, affordability issues are also significant, as women often have less access to financial resources and spend their money on their most immediate needs, such as food or energy, rather than spending it on phones or Internet connection (OECD, 2018^[27]). Making Internet connection more accessible to women by lowering the prices of device and data services would bring more women online (Alliance for affordable internet, 2021^[28]). Mastercard, in partnership with the United States Agency for International Development (USAID), has launched an initiative in India called Project Kirana, which provides digital finance training to women entrepreneurs (Mastercard, 2020^[29]). In LAC, Telefónica has launched the *Conectarse para crecer* programme, which recognises projects with a technological component that are launched by rural women, and the *Mujeres en Red* programme, which promotes the training and employability of women in technical operations and maintenance positions (Telefónica, 2021^[30]). Millicom, via its brand Tigo, has launched the Conectadas programme to help women build their digital skills (Millicom, 2021^[31]). In addition, Millicom Tigo created the Maestr@s Conectad@s (Connected Teachers) programme to support teachers and mentors in LAC in creating and facilitating technology-based curricula (Millicom, 2020^[32]).

The private sector can create inclusive models to assist people in the adoption of digital tools and services – for example, through hybrid physical and digital business models and a commitment to offer services to underserved populations. Walmart is blending e-commerce and physical stores where clients can have access to a range of digital services, as well as leveraging the business's pre-existing trusted relationships with underserved communities to support the transition to the digital economy (EMnet, 2021^[33]). In addition, programmes like Microsoft's AI for Accessibility (Microsoft, 2021^[34]) are committed to influencing the future of technology in order to ensure global independence and inclusion, thus empowering people living with disabilities through AI innovations in education and making AI systems more inclusive.

Digital transformation is also key to supporting the whole economic environment, including SMEs, which employ roughly 70% of workers globally. If the COVID-19 pandemic has impacted businesses in vastly different ways, SMEs have suffered the most: one out of every three small businesses closed at some point during 2020, and one in five remained closed five months later (Mastercard, 2021^[35]). Mastercard's Digital Acceleration Index research has shown that a more enabling digital environment would help small businesses stay afloat, since 60% of them needed to revise their digital transformation plans – whether by increasing digital training for their employees or the budget directed towards digital tools – to accelerate adoption by workers and users. Solutions include leveraging digital payments infrastructure and encouraging traditional and non-traditional payment players to come up with solutions specifically designed for SMEs, as well as providing funding for the tools that will be required after the COVID-19 crisis – back-office operational efficiency, for example – and providing education and training on cybersecurity (Mastercard, 2021^[35]).

Building on its COVID-19 response, Mastercard is committing to help 50 million small businesses and micro-merchants by 2025. As part of these efforts, it launched Strive in 2021, a global, data-insights-led initiative aimed at helping small businesses utilise technology resources, digitise operations, streamline financial and back-office services, and improve market access.

Public-private partnerships and multi-stakeholder collaborations can also promote inclusive digital transformation. For example, India's Aadhaar system for digital identification of citizens played a crucial part in enabling government-to-person (G2P) payments and encouraged the private sector to innovate further. Companies have also been working on digital strategies for financial inclusion via a number of partnerships across emerging markets: Bancolombia, for instance, worked on enabling digital capabilities for financial inclusion for the fast and secure distribution of government subsidies. More than 950 000 households across Colombia received subsidies from the national government and local administrations thanks to products such as Bancolombia A la Mano and Nequi, which made savings accounts available at zero cost and allowed the management of accounts from cell phones, eliminating

time-consuming paperwork (Bancolombia, 2020^[36]). In Paraguay, Tigo worked with the government to disperse relief funds during the COVID-19 crisis via Tigo Money, an e-wallet platform (Millicom, 2020^[37]). Another example of multi-stakeholder collaborations is Kupaa, a Mastercard mobile payment platform launched in partnership with the United Nations Children's Fund (UNICEF), allowing parents, schools and governments to make and track school payments while opening new pathways for community access to other important services (Mastercard, 2019^[38]). Similarly, the Partnership for Financial Inclusion, established by the International Finance Corporation (IFC) and Mastercard, seeks to promote cost-effective and commercially sustainable financial services across sub-Saharan Africa (IFC/Mastercard, 2019^[39]).

Box 3.1. The African Union's Digital Transformation Strategy for Africa (2020-2030)

Public-private collaboration for an inclusive digital transformation is also promoted by regional organisations, as seen with the African Union's *Digital Transformation Strategy for Africa (2020-2030)* (African Union, 2020^[40]).

Recognising the opportunity to leapfrog in many sectors, the aim of this strategy is to break the digital divide and eradicate poverty within the continent as well as to engage in inclusive growth.

Its objectives include building a secured digital single market in Africa by 2030; harmonising the regulatory and fiscal environment to attract investors; ensuring affordable connectivity for all; and upskilling the population to both access and work with digital tools. This plan relies on the participation of the public sector, private sector and citizens to ensure that the needs and constraints of all are taken into account. A strong emphasis is placed on developing innovation within Africa to make the private sector more competitive, including adapting to the realities on the continent.

Building trust in digital technologies

EMnet participants underline the need to drive trust, and ensure the confidence of citizens and businesses, in digital technologies. Data-intensive technologies offer greater consumer choice and personalisation but, at the same time, pose new risks to safety, privacy and security (OECD, 2020^[6]). The International Criminal Police Organization's (INTERPOL's) *ASEAN Cyberthreat Assessment 2021* reported 7 765 incidents to the national cybersecurity specialist agency CyberSecurity Malaysia during the first eight months of 2020. Similarly, in Indonesia, reports of online fraud became the largest category of crime reported to the police in 2020 (INTERPOL, 2021^[41]). Such incidents can erode the confidence of consumers and businesses in online transactions. According to the Association of Southeast Asian Nations' (ASEAN's) *ASEAN Digital Integration Index Report*, while legislation and regulation of cybersecurity is on track to support digital integration in the region, deficiencies remain in the implementation of cyber threat detection systems and in their ability to handle risks (ASEAN, 2021^[42]).

EMnet participants agree that the role of national agencies in developing public policies and monitoring the adoption of most relevant cybersecurity tools and approaches, and international standards of data protection for cybersecurity, can help build trust in digital technologies. The Recommendation on Digital Security of Critical Activities (OECD, 2021^[43]) was the result of more than two years of discussions between 18 countries, civil society and business representatives, and sought to strengthen the security of critical economic and social activities that rely on ICT infrastructure. The EU-Latin America and the Caribbean Digital Alliance, to be launched in 2022, is an example of an initiative that aims to drive digital transformation by mobilising resources, providing technical assistance and sharing knowledge for further digital development, and relying on the private sector as well as academia or civil society organisations.

Partners will share regulatory expertise and co-operate on various topics, such as ICT standardisation, cybersecurity and e-services. One of the Alliance's goals is to mobilise investments from the private sector of both the European Union (EU) and LAC, using the European Fund for Sustainable Development (EFSD). This initiative builds on the deployment of a transatlantic fibre-optic cable (EllaLink) between the EU and LAC (EU, 2021^[44]).

Most recently, the Recommendation on the Ethics of Artificial Intelligence, adopted by the United Nations Educational, Scientific and Cultural Organization's (UNESCO's) General Conference in 2021, is a normative instrument that translates the *what* of AI ethics into the *how* of relevant policy action, offering concrete pathways towards the implementation of an ethical framework of universal principles and values. The aim of the recommendation is to guide the development and use of AI in a way that benefits all of humanity and promotes sustainable development and peace.

Digital transformation of public and social services can also be an engine for building trust and improving transparency. A co-ordinated public sector approach to incentivising investment and promoting adoption of digital tools could bring significant benefits, as seen in Brazil and Panama, where efforts to encourage investment were accompanied by steps to digitise public administrations and state-owned companies (Santiso, 2020^[45]).

Leveraging recovery plans to pursue green transformation in emerging markets

EMnet participants highlight the significant role that the private sector plays in accelerating the green transformation in emerging markets via increased investment, further innovation in cleaner technologies and adoption of emissions reduction strategies across industries. Realising the potential of the green economy will require greater international collaboration via public-private and cross-sectoral partnerships. In particular, an inclusive energy transition will require a holistic framework and well-designed, supportive policies leveraging regional co-operation. Participants in EMnet discussions on the green economy believe that the main strategies to promote full decarbonisation should include: (i) ensuring that governments design and implement clear transition policies with well-defined KPIs and responsibilities; (ii) ensuring that high-emission sectors are not left behind; (iii) supporting business activity that harnesses the green economy; (iv) promoting energy security and access to clean and affordable energy for all; and (v) eliminating carbon pricing distortions while considering vulnerable communities, among others (EMnet, 2021^[46]).

The development of clean technologies will need to be supported by the upgrade and digitalisation of energy infrastructure, particularly in order to unlock innovation for mini-grids (off-grid electricity distribution networks using small-scale electricity generation) in remote and rural areas (IEA, 2021^[47]). EMnet participants stress the need for governments to ensure access to new technologies and to support research and development (R&D) for cleaner energy solutions. Additionally, appropriate regulatory frameworks are needed to further deploy these technological advances in emerging markets and make them commercially viable, bankable and attractive to private capital.

EMnet participants point out that many policies and market practices continue to encourage emissions-intensive investment, production and consumption (EMnet, 2021^[46]). Governments will need to eliminate distortions, incentivise energy transition solutions and introduce new policies, including well-designed carbon pricing and emissions trading schemes (ETSs) and adequate finance measures, which can enhance competitiveness and level the playing field (IRENA, 2021^[48]). Yet, careful consideration of social and equity issues is critical, particularly for low-income populations. In this regard, place-based policies will be necessary in order to ease the structural adjustment of local economies (Botta, 2021^[49]). According to the Fit for 55 package proposed by the European Commission in 2021, compensation through financial support to households suffering from energy poverty is key to making these efforts a reality.

(Centre for European Reform, 2022^[50]). To this end, the European Commission plans to make 25% of the revenue from the new ETS available for a Social Climate Fund, to be launched in 2025.

Carbon pricing not only gives a stable price signal, but also serves as a financial resource for incentive schemes. Examples could include a mix of carbon pricing along with improving energy efficiency and implementing schemes for the circular economy based on carbon neutrality principles, avoiding retroactive cuts. Overall, carbon pricing implementation remains relatively rare in emerging and developing economies. In some countries – such as Indonesia, Senegal and Viet Nam – governments are considering carbon pricing for certain sectors, such as power or industry. South Africa's government is implementing a phased carbon tax for large emitters, while Chile set a carbon tax at USD 5 per tonne of carbon dioxide (CO₂) for power plants of at least 50 megawatts in 2017, and is now considering an ETS (IEA, 2021^[47]).

Business is greening traditional models

Increasingly, there is significant pressure to adapt traditional business models in order to reduce emissions by building carbon management capabilities, quantifying carbon generation and reducing carbon intensity (McKinsey & Company, 2021^[51]). Many multinational corporations in the oil and gas sector, for example, are expanding into renewable energy and committing to net-zero carbon emissions by 2050, including Eni (2021^[52]), Equinor (2021^[53]) and TotalEnergies (2020^[54]). Eni in particular has adopted a new organisational design with two general business groups – natural resources and energy evolution – both working in close co-ordination to support the energy transition. In addition, subject to the current market conditions, Eni is in the process of listing its retail and renewable energy subsidiary, recently renamed Plenitude, which includes all Eni's business related to the development of renewable energy, the sale of energy solutions and the implementation of electric vehicle (EV) charging networks (Eni, 2021^[55]). The finance sector will also play an important role in facilitating access to capital for clean technologies (IEA, 2020^[56]). In South Africa, Absa Bank is a major player in financing the energy sector and supporting the transition of traditional businesses to renewable power projects. The African Rainbow Energy renewable energy investment platform, which Absa Bank launched in 2021 in collaboration with African Rainbow Energy and Power, seeks ways to unlock funding for renewable energy developments both in South Africa and across the continent, working with the private power sector (Absa, 2021^[57]).

Other companies have embarked on similar initiatives. For example, Amazon has partnered with Global Optimism to co-found the Climate Pledge (Amazon, 2019^[58]) and has set its net-zero carbon target for 2040, and is inviting other companies and organisations to join in this effort. By signing the pledge, companies agree to implement its three pillars: (i) regular reporting; (ii) carbon elimination; and (iii) credible offsets. Walmart's zero emissions goal, combined with its supply-chain-based initiative Gigaton power purchase agreement (PPA) Program – powered in collaboration with Schneider Electric and for which more than 3 100 suppliers have signed up – contributes to a collective goal of net-zero carbon emissions by 2050 (Schneider Electric, 2021^[59]). Google partnered with Sustainable Energy for All and the United Nations to launch the new 24/7 Carbon-Free Energy Compact, which represents an effort to globally decarbonise energy consumption (Google, 2021^[60]). American Tower has adopted science-based targets (SBTs) across its global operations and supply chain, pursuant to which the company has committed to reduce its Scope 1, 2 and 3 emissions by at least 40% by 2035 (ATC, 2021^[61]). Enel will exit coal and gas generation by 2027 and 2040, respectively, replacing them with new green capacity and hybrid renewable-storage solutions (Enel, 2021^[62]).

Although business momentum in committing to net-zero is rapidly growing, key questions remain regarding standardisation of targets, implementation plans, and how to ensure accountability, credibility and robust action in the private sector. Internationally agreed and recognised standards for responsible business behaviour, namely the government-backed *OECD Guidelines for Multinational Enterprises* (OECD, 2021^[63]) and Responsible business conduct (RBC) and related due diligence guidance (OECD, 2018^[64]),

can help to ensure that net-zero targets are implemented responsibly – taking into account the impact on both people and the planet.

Finally, EMnet members emphasise the importance of building long-term scenarios that include alternative strategies for reaching decarbonisation and net-zero goals. Shell's publication *The Energy Transformation Scenarios* (Shell, 2021^[65]) suggests alternative scenarios based on the different responses from countries to the COVID-19 crisis, including concepts such as “late and fast decarbonisation”, “late and slow decarbonisation” and “fast decarbonisation now”, which all rely on the same renewable technology, energy efficiency, and electrification, with different speeds of deployment. These scenarios can allow industry and value chains to plan and adapt their strategies in case of shocks or delays. EMnet participants underline that the commitment to phase out coal power, made during the COP26 climate change conference held in 2021, is regarded as a milestone which will help industries to design better long-term plans to meet net-zero targets.

Supporting clean electricity generation to drive the transition

EMnet participants identify electrification and renewables as key levers in the success of the energy transition in emerging markets, supporting both short-term recovery and longer-term sustainable and inclusive economic development. Over 90% of the solutions to shift to a clean energy system involve renewable energy, electrification, energy efficiency, green hydrogen and sustainable bioenergy, potentially combined with carbon capture, utilisation and storage (CCUS) (IRENA, 2021^[48]).

EMnet participants emphasise the opportunity stemming from the lower costs of clean energy technologies, particularly solar and wind, as well as the need for governments to remove barriers such as import duties on renewable energy technologies. They noted that clean technology targets should go beyond the power sector to include systems such as heating and cooling, and sectors such as transport. They stressed the need to promote innovative solutions, including demand response, different hydrogen applications and advanced battery systems. In particular, they underlined the importance of batteries and the need to step up international collaboration in order to fully harness the potential of solar and wind energy. Companies such as IEnova (one of the largest energy infrastructures in Mexico and whose services include gas and electricity segments) are currently developing projects involving large-scale battery systems. American Tower is also harnessing advances in battery technology, achieving significantly greater efficiencies through the mass replacement of lead-acid batteries with lithium-ion batteries.

Appropriate regulatory frameworks are needed to support these technological advances and make new technologies commercially viable, bankable and attractive to private capital. The structure of energy markets also plays a critical role, but EMnet participants note the inadequacy of market design. Thus, intra-sectoral collaboration is an essential component of unlocking these markets: Amazon, for instance, has joined platforms across emerging markets, such as the Renewable Energy Demand Enhancement (REDE) Initiative in India and the Clean Energy Investment Accelerator (CEIA) in Indonesia.

In addition, EMnet companies stress that transmission represents one of the most significant bottlenecks for renewable energy growth. Green energy projects are typically built in areas where the energy source is abundant, but that source is often located far from end users. Appropriate transmission networks are therefore required in order to move renewable resources from the production site to the demand centre, necessitating increased investment in transmission capacity supported by adequate government intervention and central planning. This provides opportunities for public and private investment and partnerships. Peru, for example, has been one of the first LAC countries to bring private capital to the transmission sector (Pototschnig, 2021^[66]).

Placing people at the heart of clean energy transitions

EMnet participants echo the need to ensure that the benefits of the energy transition, particularly energy infrastructure projects, are shared with local communities. In order to enhance local development, companies stress the need to: (i) choose the cheapest source of electricity; (ii) use local resources, including employees, suppliers and subcontractors; (iii) develop projects in collaboration with the local or regional administration and governments; (iv) maintain relationships with local communities by developing social and environmental actions; and (v) conduct business in an ethical manner. Examples of private sector efforts to ensure local communities benefit from their green operations and projects include Voltalia, a renewable energy producer and service provider that is developing social and environmental projects in Brazil (Voltalia, 2022^[67]). Similarly, X-ELIO, a specialist in the development, construction, financing and operation of photovoltaic plants, has implemented the Global X-ELIO Community Plan, which comprises a series of actions at local and regional level which tackle the environment, education and health of the community where it develops its projects (X-ELIO, 2021^[68]).

Climate action plans need to be environmentally effective, economically responsible and publicly supported, while making sure not to abandon those at risk from the transition and having intermediate targets to help support progress. Peru, for example, has recently developed an ambitious update of its Nationally Determined Contribution – submitted under the Paris Agreement – in order to better harness its mostly unexploited renewables potential (e.g. biomass, wind, solar and geothermal) to drive competitiveness. Peru's long-term National Strategy on Climate Change encompasses both adaptation and mitigation with a strong focus on the electrification of the economy, and was developed in close consultation with key stakeholders, including the private sector, which contributed with the Energy Transition Roadmap (Enel, 2018^[69]). EMnet participants also see opportunities to adopt an integrated vision of the energy system with a regional focus in order to optimise energy flows, particularly in LAC.

Companies stress that more effort is required to meet the global energy demand, particularly in emerging markets, and to combat energy poverty. This can be achieved through the provision of additional incentives and support to telecommunication energy service companies and “Power-as-a-Service” providers, and by boosting investments in grid connections and basic infrastructure. The IFC estimates that the total number of bad- and off-grid sites across sub-Saharan Africa, the Middle East and North Africa, LAC, South Asia, East Asia and the Pacific, and Europe and Central Asia is expected to increase by 22% between 2019 and 2030, from 611 000 to 745 000 (IFC, 2021^[70]).

An inclusive energy transition should ensure stable and affordable energy supplies and provide access to energy for all, which is currently far from being a reality, with approximately 785 million people lacking access to electricity and 2.6 billion people lacking clean cooking solutions (IEA, 2021^[71]). A gender perspective on this topic is also relevant, as irregular energy supply disproportionately affects women by increasing their time poverty and domestic work burden. Indeed, women and girls in rural low-income households spend an average of 18 hours per week on collecting fuel for cooking, sometimes needing to travel long distances (Morgan G et al., 2020^[72]). By enabling the development of electric water pumps, rural electrification could help reduce that burden and increase women's time for productive activities. Women are the primary energy managers in most households and can play a key role in promoting sustainable energy consumption and accelerating the shift to renewable energy, if they are provided with adequate training in energy-efficient practices and the financial resources to move to cleaner technologies (OECD, 2021^[73]). This would also improve their health and quality of life.

Ensuring a proper mix of market-based instruments, including providing access to climate finance, will be vital for this transition (OECD, 2020^[74]). As emerging and developing economies invest more in clean energy and the necessary enabling infrastructure, the energy system becomes more capital intensive. This can be particularly challenging in regions where access to capital is traditionally more constrained due to persistent macroeconomic risks. Rising debt burdens following the COVID-19 pandemic mean that nominal financing costs in emerging and developing economies are now up to seven times higher than in the

United States and Europe (IEA, 2021^[47]). EMnet participants note the need to focus on energy security beyond the sole aspect of access to energy. This requires a change of mind-set, and redefining energy security in the context of a shift towards green, reliable and affordable energy.

Strong partnerships and multi-stakeholder collaboration will be critical to supporting a people-centred energy transition and will require deepening existing partnerships. A successful public-private partnership example can be found in Benban Solar Park in Egypt. Benban is the fourth-largest solar power plant in the world and provides an important case study for private sector development, particularly given the integration of SMEs as part of the project. This huge complex of 32 solar power plants, involves 13 private sector companies and produces more than 1 650 megawatts of electricity, enough to power hundreds of thousands of homes and businesses. It is expected to avoid 2 million tons of greenhouse gas emissions a year (Raven, 2017^[75]).

Businesses are moving towards circular business models

EMnet participants point to the potential of the circular economy in advancing the green transformation. Circular economy models are based on four principles: (i) improving product end-of-life management; (ii) designing systems keeping waste and pollution out; (iii) keeping products and materials in use; and (iv) regenerating natural systems. These can both define decarbonisation road maps and scale up global climate efforts, and can address other resource and environmental issues. Indeed, the circular economy model is expected to generate positive impacts on the environment by reducing emissions, increasing the share of renewable energy and recyclable resources, and reducing the use of raw materials, water, land and energy, where the extraction and use of primary (raw) materials is far more polluting than using secondary (i.e. recycled) materials (OECD, 2019^[76]).

However, the circular economy is not only positive for the environment. Businesses that have embraced the model are benefitting through cost and tax reductions, energy savings, valuations, and favourable consumer and investor goodwill towards their brands (EY, 2021^[77]). Currently, the global economy is only 8.6% circular, meaning that only 8.6% of the 100 billion tonnes of minerals, fossil fuels, metals and biomass that enter the global economy is reused annually (Circle Economy, 2021^[78]).

The private sector, particularly SMEs, is considered a potential driving force for the circular transition, but the added complexity of the supply chain, along with a lack of critical scale for investment, are significant gaps in accelerating the transition to circular economic models. For this reason, big companies can play a fundamental role in accelerating this transition. From start to restart, a circular supply chain is much more integrated and collaborative than a traditional linear supply chain model. Reverse logistics, for instance, are an added link in the chain to ensure that parts get returned to the original manufacturer for recycling or reuse. One of the main measures needed to overcome investment barriers is to expand access to financing for the companies that are adopting circular business models (European Environment Agency, 2019^[79]). Governments can facilitate access to financing and broaden the range of financial instruments available for the private sector, including schemes to offer subsidised loans or credit guarantees to companies following circular economy principles (OECD, 2020^[80]).

Public-private partnerships are also fundamental to the shift to a circular economy. It includes not only specific agreements between governments and the private sector, but also multi-stakeholder approaches. Eni signed agreements with a number of countries in Africa to secure its biofuel business through vertical integration in agricultural value chains in order to produce sustainable feedstocks. The Circular Economy Coalition for Latin America and the Caribbean (2021^[81]) is an example of a successful regional platform that enhances inter-ministerial, multi-sectoral, and multi-stakeholder co-operation and knowledge sharing. Similarly, the Platform for Accelerating the Circular Economy (PACE) (2018^[82]) seeks to catalyse global leadership from business, government and civil society to accelerate the transition to a circular economy. For a circular economy strategy to work, all stakeholders within the ecosystem – including suppliers and manufacturing partners – must commit to the process. Tetra Pak's partnership with suppliers in LAC

provides an example of successful joint efforts that have enabled the company to transition towards greater sustainability in its sourcing, while downstream partnerships with industry players and governments support waste recovery efforts (3R Initiative, 2021^[83]).

Going beyond “smart”: Creating resilient, inclusive cities with a circular economy at the core

Cities are critical to the green transition. The International Energy Agency (IEA) net-zero pathway will require an unprecedented transformation of the global energy system, where climate action in cities becomes paramount to ensuring that affordable and sustainable energy is accessible to all (IEA, 2021^[84]). Municipalities are responsible for local public services including energy, transport, solid waste and water, all of which affect citizen well-being, economic growth and environmental quality. Cities are, in fact, transformative hubs that can simultaneously act as promoters, facilitators and enablers of the circular economy (OECD, 2020^[80]). Circular economy models can therefore be a key lever in redesigning and guiding cities on a sustainable path while spurring innovation, creating job opportunities and broadening citizen access to services. Understanding how to build the cities of tomorrow, and which stakeholders to involve in the process, is crucial to tackling urbanisation challenges and achieving a circular transition. EMnet participants point to the unique opportunity offered by the post-COVID-19 recovery for redesigning the urban space, taking into account lessons learned throughout the pandemic.

By 2050, the global population is estimated to reach 9 billion people, 55% of whom will be living in cities. In Africa, the population is set to double by 2050 and two-thirds of this growth will be absorbed by urban areas, meaning that African cities will be home to an additional 950 million people (OECD/SWAC, 2020^[85]). It is estimated that 37% of the projected growth in the world’s urban population will be in China, India and Nigeria (United Nations, 2019^[86]), while there are expected to be approximately 2.5 billion new city dwellers globally by 2050 (Kučan, 2021^[87]). Cities account for almost two-thirds of global energy demand, produce up to 50% of solid waste and account for 70% of greenhouse gas (GHG) emissions (OECD, 2020^[80]). The significant urban population estimated to live in slums and informal settlements, often without access to proper housing and basic services, in addition to predominantly informal economies, underscores the inevitable social dimension of this transition.

The construction and modernisation of sustainable infrastructure, services and housing is required to meet future population needs, particularly in emerging and developing countries where cities are more vulnerable to the external shocks triggered by climate change (e.g. extreme weather events). There is a need to work on integrating both mitigation and adaptation efforts, the latter being particularly important in many emerging markets that rank among the top positions in the Global Climate Risk Index. Investments within the emerging regions need to be accelerated. In Asia, for example, the ADB evaluates the necessary investment at around USD 1.7 trillion per year by 2030 in order to maintain growth momentum, eradicate poverty and respond to climate change risks. Of that amount, about 2% (USD 40 billion per year) is expected to be applied to climate risk adaptation (Asian Development Bank, 2017^[88]).

A key challenge for cities is to maintain their role as “innovation and opportunity hubs”, while providing quality of life to their inhabitants across several dimensions (e.g. economic, environmental and social). Around the world, governments are already making cities “smarter” by leveraging the digital transformation in order to build more efficient urban environments and enhance well-being. Smart cities, based on available technology, can tackle enduring environmental issues and promote sustainable and resilient urban development (OECD, 2019^[89]). EMnet participants emphasise the particular role of utility companies, which are involved in several key sectors, including renewable energy, smart grids, electric mobility, energy efficiency and smart buildings, among others. In fact, combining connected devices, smart street lamps and self-cooling buildings can reduce energy consumption, improve grid stability and upgrade city services (IEA, 2021^[84]).

EMnet participants note the importance of digital technologies and “smart” models in improving energy efficiency in cities. Successful examples of the smart cities concept can be seen throughout Asia in China, India, Indonesia, Malaysia, Singapore and Thailand (EMnet, 2020^[90]). Smart cities are also rapidly taking off in LAC, as is the case with São Paulo, Brazil (Enel, 2019^[91]). Estimates show that ambitious policies can significantly reduce emissions (by almost 70% by 2050 compared with their levels in 2015) by improving energy efficiency, shifting to sustainable transport modes, and scaling up the use of electric vehicles, low-carbon fuels and biofuels (ITF, 2021^[92]). Companies such as Enel have placed the vision of circular cities at the core of their strategy for cities, both in terms of knowledge development and dissemination together with institutions and academia (Enel, 2021^[93]) and in terms of business solutions. Enel has developed a joint venture to promote public electric transportation with nearly 1 000 electric buses in Santiago, Chile and Bogotá, Colombia (Enel, 2020^[94]). In the LAC region, Iberdrola has also collaborated with the United Nations Environment Programme (UNEP) in seeking ways to decarbonise the electricity and transport sector in an integrated manner, leading to lower energy dependency, a drop in overall transport costs and a net positive impact on employment.

Circular city models are going to involve citizen participation in planning this transformation using an open governance approach. For the majority of cities, the circular economy is a matter for environmental or waste-related municipal departments, with very few cities embedding this strategy across departments. Differing guidelines and regulations across countries – and even between cities in the same country – make it challenging to scale up solutions. Unleashing the potential of the circular economy in cities requires an appropriate enabling environment via the 3Ps framework (people, policies and places) (OECD, 2020^[80]). An example of this potential is the Circular Cities Declaration of Latin America and the Caribbean initiative, launched by CEPAL and the Italo-Latin American Institute in October 2021, to create a common framework and foster collaboration among cities in the region in the transition towards circularity (CEPAL, 2021^[95]). The private sector is also fully integrated into those strategies, as a holistic, long-term vision brings all systems involved in cities together, including telecommunications and energy providers, transport systems, etc. The Toolbox of Solutions for urban transformation initiative launched by Enel Group and Schneider Electric (which provides more than 200 decarbonisation solutions for cities) represents an innovative example of joint private sector efforts to advance analysis of this integrated approach (Enel Group, 2021^[96]).

The role of intermediary cities will also be critical for the green transition across emerging markets, as cities with fewer than 1 million inhabitants will account for 32% of total urban population growth in LAC, 38% in Asia and 47% in sub-Saharan Africa from 2010 to 2030 (Kučan, 2021^[87]). Yet, intermediary cities often lack targeted support from national and regional governments and are often overlooked by national urban development strategies (Suri and Bonaglia, 2021^[97]). The role of intermediary cities will be vital in reducing distances from rural areas to urban centres, restructuring urban networks and connecting local to regional. Indeed, they can act as hubs for the provision of goods and services and the promotion of rural-urban linkages (OECD, 2020^[98]); and ensuring an inclusive recovery, a conducive environment for job creation and an opportunity for income diversification (OECD/UN-HABITAT/UNOPS, 2021^[99]). EMnet participants agree that scaling up efforts in support of intermediary cities, and promoting greater synergies between local, national and international efforts by building innovative partnerships, can play a critical role in achieving net-zero carbon emissions by 2050.

New labour markets and job creation across emerging markets

The rise of new technologies and digitalisation provides an opportunity for emerging markets to diversify and leapfrog in key industries such as automotive or electronics, as seen in Asia with the adoption of automation for labour-intensive tasks (ILO, 2020^[100]). However, the deindustrialisation brought by digital transformation does have an impact on the job market, as industries are moving from low-cost and low-skilled labour to new jobs involving digital maintenance and R&D, which require higher qualifications.

In the same manner, transitioning to a green economy brings a dynamic of job creation in the renewable energy sector and job destruction in fossil-fuel-based sectors, as methods of production are evolving. According to the IEA, some 14 million jobs should be created by 2030, while only 5 million jobs would be lost in the energy sector during the transition to net-zero carbon emissions (IEA, 2021^[101]).

The digital transformation can have a substantial impact on jobs and can contribute to greater stability in emerging market regions. However, dividends associated with the rapid digitalisation of emerging markets are also highly dependent on whether the labour market can adequately adapt. Upskilling and reskilling the workforce is a critical element in harnessing business transformation across emerging markets, ensuring that employees are skilled for the future (OECD, 2020^[102]). To ensure that the digital transformation does not create barriers to employment opportunities, EMnet participants agree that reskilling the workforce – in both high-tech and low-tech skills – should be a priority across emerging markets. In order to increase the adoption of ICTs, firms need workers with the skills required to make effective use of digital technologies. They need both workers with basic computer skills and ICT specialists to operate new systems (OECD, 2020^[102]).

The private sector itself can enable progress in skills development through the digital transformation. Companies active in the digital space are already investing in skills development for their employees, the supply chain and even for customers, with initiatives seeking to reach micro, small and medium-sized enterprises (MSMEs). Whenever possible, businesses themselves should upskill their employees, as a more highly skilled workforce will provide immediate benefits to companies and strengthen local ecosystems, leading to new opportunities for innovation and development (Atlantic Council, 2021^[103]). Digital skills programmes include the Microsoft Global Skills Initiative Program (Microsoft, 2021^[104]), which aims to help 25 million people acquire digital skills in order to find jobs in a changing economy impacted by the COVID-19 pandemic, and which could play a leading role in extending digital technologies to underserved areas and increasing citizens' digital capacities. Other Microsoft efforts include its partnership with the app Grab that aims to upskill Singapore driver and delivery partners and students to help them avail of IT-related training opportunities (Microsoft, 2020^[105]). Amazon Web Services (AWS) also provides free, on-demand digital training courses (AWS, 2021^[106]) to build cloud computing skills through its new learning centre, AWS Skill Builder. In the telecommunications sector, American Tower is using its communications infrastructure in an innovative way via its Digital Communities programme, which builds centres near its tower sites to bring broadband connectivity and digital technologies to underserved areas (ATC, 2021^[61]). Digital Communities are places where people of all ages can gain free access to education, career development, healthcare and financial services using digital devices, educator-led instruction and self-guided kiosks.

Additionally, businesses are offering training programmes in digitally enabled sectors. Just as the digital transformation demands digital skills among the workforce, the green transformation will also require specific labour assets in order to exploit its benefits. High-emissions companies will have to consider human capital as a key element for a successful shift in business models and technology, where partnerships between governments and industry can support and finance reskilling the workforce and thus ensure that training aligns with the evolving sector needs (OECD, 2020^[107]). Schneider Electric, for instance, provides electrical technical training courses with face-to-face sessions, digital programmes and electrical installation simulators (Schneider Electric, 2021^[108]). The private sector is also partnering with academic institutions to upskill local workforces. In Argentina, Mercado Libre launched a pilot programme in 2021 – Programa de Centros de Formación en Comercio Electrónico – with the aim of providing e-commerce training to MSMEs and entrepreneurs through certified educational institutions nationwide, which will allow them to professionalise their sales channels in e-commerce platforms. In Mexico, Mercado Libre has also trained more than 8 000 entrepreneurs in collaboration with the government. In Morocco, OCP Group seeks to grow AI talent through numerous partnerships with national universities and research centres as well as through international partnerships with prestigious institutions around the world, such as the Massachusetts Institute of Technology (MIT), Columbia University and Ecole des hautes

études commerciales Paris (HEC) (OCP, 2021^[109]). Siemens Africa collaborated with South Africa's Council for Scientific and Industrial Research (CSIR) to provide technical vocational education and training (TVET) colleges with critical technical and digital skills in order to contribute to the employability of students and enhance the quality of job profiles (IT Web, 2021^[110]).

Similarly, Enel's Innovation Hubs allow the company to discover and connect with local talent in order to respond to emerging challenges with an open and collaborative mind-set. These strategic Innovation Hubs work with stakeholders, including business incubators, universities and government institutions, to make traditional businesses more efficient and to generate industrial growth through new business models (Enel, 2021^[111]). In Indonesia, Siemens collaborates closely with higher education institutions through sharing knowledge with, training and educating engineering students to better equip them for the fields of electrification, automation and digitalisation. Indeed, Siemens Indonesia was one of the first companies in Indonesia to take part in the German Dual Vocational Education & Training (GDVET) programme, which is certified and quality-controlled by the German-Indonesian Chamber of Industry and Commerce (EKONID) (Siemens, 2021^[112]). Another example of private sector engagement with skills development is the energy company Eni, which leverages open innovation to identify the best digital solutions at a global level by building collaborations with universities, research centres and high-performing networks, including Innovation Outpost, which is based in California's Silicon Valley (Eni, 2021^[113]).

As set out by the IEA, the pathway to net-zero brings substantial new opportunities for employment, with 14 million clean energy supply jobs predicted to be created by 2030. Additionally, estimates show that shifting to a circular economy could hold as much as USD 4.5 trillion of potential economic growth by 2030. EMnet participants note that phases in the value chain, namely design and procurement, could potentially become more locally based and thus increase job opportunities. They see strong growth in key areas of circular economies, such as services, sharing, maintenance and product lifetime extension. There is also strong growth in jobs that close the circular loop (e.g. reverse logistics, remanufacturing and reassembly), while manufacturing in general terms is set to decrease globally (Laubinger, Lanzi and Chateau, 2020^[114]).

Nonetheless, more attention needs to be focused on changes in the labour market and attempts made to minimise hardships for workers in traditional sectors where jobs are lost. Countries or regions where the local economy is dominated by material-intensive sectors may experience greater negative effects in the labour market as a result of the shift to circular economic models (Laubinger, Lanzi and Chateau, 2020^[114]). Reskilling the workforce will be crucial, as it is estimated that the global economy could eliminate as many as 71 million jobs in its move towards becoming circular. Smart policies and investment in reskilling could reverse this trend, to the extent that the energy sector alone could achieve a net growth of 18 million jobs (The Adecco Group, 2020^[115]). However, there are differing findings in the literature around this issue, as there is a lack of analysis of skills shifts and future demands in a more circular economy (Laubinger, Lanzi and Chateau, 2020^[114]).

In the wake of the COVID-19 pandemic and the ensuing employment crisis, it is not enough to simply attempt to mitigate the effects of climate change on the workforce. As recognised in the Paris Agreement, a "just transition" creates new jobs in low-emission sectors, anticipates shifts in employment patterns, and assists workers in their search for jobs and opportunities, all of which require an often overlooked factor: proper data gathering and analysis for informed decision-making (IEA, 2021^[101]). A just and green transition can be encouraged by supporting job transition for both newly emerging and traditional jobs. Specific actions for ensuring that people benefit from the creation of good-quality jobs in clean energy, and for protecting workers and communities that are negatively affected by employment shifts and job losses, include: (i) deploying skills and active labour market policies; and (ii) designing appropriate, long-term planning and income support measures (Botta, 2021^[49]). Approaches to skills development need to be adaptable and best practices should be shared with the international community (The Adecco Group, 2020^[115]). Examples of international efforts include the Global Commission on People-Centred Clean Energy Transitions, which focuses on creating jobs and protecting workers and communities that are negatively affected by employment shifts. The IEA, in partnership with the Enel Foundation, is also

analysing energy employment through its Glass House Project (Enel, 2021^[116]), building on the International Labour Organization's (ILO's) Green Jobs programme (2021^[117]).

A multi-stakeholder approach to the labour transition

Governments need to co-ordinate closely with the private sector in order to encourage the transition to new labour markets. Policies must be put in place to adapt education systems and technical training and to promote digital and green skills with a focus on inclusion. Further flexibility is needed to allow workers to move easily from one sector to another. The development of skills will also require improving the quality of technical and vocational education programmes, facilitating the entry or return of talented workers to the job market and financially supporting firms and workers in their efforts to acquire new skill sets (World Bank, 2021^[118]).

Tackling informality as a priority for an inclusive recovery

The COVID-19 pandemic has forced many workers back into informal employment. The ILO estimates that about 2 billion workers (60% of the world's adult labour force) operate in the informal sector at least part-time – a number that has increased with the COVID-19 crisis. Informal workers now constitute the majority of the workforce in some regions; in LAC, these rates can range from less than 30% in Chile or Uruguay to more than 70% in countries such as Bolivia, Honduras, Nicaragua and Peru (OECD, 2020^[119]). Informal employment also puts constraints on governments during times of crisis, making it difficult for administrations to measure and provide appropriate fiscal and monetary help to workers. Tackling informality is also key to building a new social contract in emerging markets, since the rise of informal work due to the COVID-19 crisis has been feeding social discontent across constituencies (SEGIB & CEAPI, 2020^[120]). Widening the tax base is also crucial because green and digital infrastructure requires substantial investment.

Harnessing new technologies and digital tools, especially through digital banking, could help reduce informality in the workforce. Solutions around digital banking appear particularly suitable and should be explored further, using Nubank's success in Brazil as an example. Nubank is the largest financial technology bank controlled completely through the means of a mobile app, and it currently has more than 35 million customers in Brazil and 38 million customers worldwide. LAC countries have shown an appetite for new types of banking, inspired by El Salvador's decision to grant bitcoin official payment status with 25% its population, or 1.6 million citizens, now using a bitcoin wallet (Nasdaq, 2021^[121]). In order to seize the opportunities brought by these new financial technologies, appropriate regulatory measures should be put in place; measures such as implementing digital identity laws to standardise rules for all actors within a country are crucial for providing secure storage of customer data.

Moreover, working with technology companies to expand digital tools to sectors such as agriculture in order to bring rural areas into regional value chains would also contribute to fighting informality. For example, AgroTIC has developed an application that is available in Colombia that provides remote technical assistance to farmers and also connects farmers to merchants (Agrotic, n.d.^[122]). Further examples of improving seed and fertiliser distribution using e-wallet solutions can be seen throughout the African continent (AUC/OECD, 2022^[4]), demonstrating that smart contracts or other reputation systems can help integrate informal firms into supply chains.

As the biggest provider of jobs in emerging markets, SMEs require the support of their governments to respond effectively to the COVID-19 crisis. To encourage these efforts, countries such as Colombia, with its Economía para la gente (Economy for the people) initiative, have launched national programmes to support and reactivate small enterprises after the crisis. Economía para la gente's main focus is on formalisation and income generation, productive development, innovation and technology, creating a

competitive environment, and providing financing. This will help more than 580 000 micro-businesses (Prosperidad Social, Gobierno de Colombia, 2021^[123]).

Finally, EMnet participants highlight that, in order to achieve an inclusive recovery, the private sector needs to provide a minimal level of social protection to workers to prepare for crises and periods of turmoil that are detrimental to the economy, particularly in countries where governments are not able to provide such protection. This is especially crucial for women, who are, in most cases, primary child caretakers and who are not always offered maternity leave. For example, L'Oréal Group has had a Share and Care programme in place since 2013, which provides a common social policy model across all 67 countries where the company's subsidiaries operate while also allowing for specific characteristics and needs at a local level. Additionally, L'Oréal workers are guaranteed at least 14 weeks of paid maternity leave everywhere in the world (L'Oréal, 2021^[124]). Social assistance programmes launched in response to the COVID-19 crisis have also been at the heart of the economic recovery in LAC, where governments at all levels have been particularly proactive, with at least 15 countries adapting their existing social assistance programmes and 18 countries creating new emergency transfers, while some countries even adopted both strategies (UNICEF, 2021^[125]).

The transformation of trade

The COVID-19 pandemic highlighted weaknesses in the global trading system and, as economies recover, global value chains remain affected by bottlenecks, which in turn are affecting the return to business as usual. Commodity prices and shipping costs have surged, while increased energy and food prices are further contributing to inflation. This is pushing businesses to reconsider their global value chain models, to enhance resilience, to consider reshoring and to embrace Trade 4.0, which combines digitisation and efficient partnerships globally. EMnet participants note that the adoption of digital technologies and commitments to combat climate change are changing the trade landscape and will require changes to its regulatory framework.

Enabling the rise in digital trade and e-commerce

Digital trade is leading to lower costs, faster delivery and greater choice, enabling small businesses to grow. Digital technologies can ensure that border processes are transparent and accessible to traders and that processes at borders require less physical contact. This is particularly important for MSMEs (OECD, 2020^[126]). If disruption in trade is a result of the slowdown in traditional trade, digital trade has increased at an unexpected speed. Global Internet traffic surged by more than 40% in 2020 as a result of increased video streaming, video conferencing, online gaming and social networking (IEA, 2021^[127]). Most Internet traffic takes place in Asia and the Pacific and in North America, with LAC and the Middle East and North Africa accounting for a very small share. According to one forecast, global Internet protocol (IP) traffic in 2022 is expected to exceed all Internet traffic that occurred up to 2016. Moreover, the number of devices connected to IP networks will be more than three times the global population by 2023 (UNCTAD, 2021^[128]). This represents an enormous opportunity for players in the digital field, encouraged by fewer barriers to cross-border trade in digitally enabled services introduced in 2020 compared with 2019. Moreover, policy measures to facilitate digital trade, such as e-payments and e-signatures, are on the rise (OECD, 2021^[129]). Yet, the COVID-19 crisis has seen a rise in unilateralism, which threatens to undermine international collaboration in the digital space. Digital trade rules and regulations remain fragmented across borders and regulatory divergences can result in additional costs for firms, especially for MSMEs – the backbone of most economies – which are least able to cope with patchwork regulation (OECD, 2020^[126]). The OECD's "STRI: Digital services trade restrictiveness index" (OECD, 2022^[130]) indicates that digital barriers are increasing and becoming obstacles for e-commerce, connectivity and digital trade, hindering growth and business opportunities. Key challenges include reducing the barriers to digital infrastructure and

connectivity that still predominate, in order to allow the seamless transfer of data across borders and remove localisation requirements and limitations on online content providers.

EMnet participants urge governments to continue addressing cross-border e-commerce in order to facilitate digital trade. Governments play an important role in helping both to enable digital transactions (using trade to help digitalisation) and to facilitate access (using digitalisation to help trade) for the benefit of businesses and individuals (OECD, 2020^[126]). Policies and regulations for data management – including for flows across borders (Casalini, González and Nemoto, 2021^[131]), fast payments, trade facilitation and digital services – are more critical than ever for businesses to trade online and access new markets and for consumers to enjoy the benefits of secure digital trade. Policies in support of digital trade, in particular multilateral and bilateral trade agreements that cater for the challenges raised by new cross-border digital business models (including, for example, in e-commerce), can support economic recovery across emerging markets and greater opportunities for MSMEs.

Given the rise in unilateralism, ongoing multilateral discussions (such as the WTO Joint Statement Initiative (2021^[132]) to harmonise e-commerce), as well as other multilateral agreements (like the Digital Economy Partnership Agreement (DEPA) (MTI Singapore, 2021^[133]) between several Asia-Pacific Economic Cooperation economies), remain critical for promoting an ambitious rule-setting agenda. EMnet participants underscore the importance of agreements such as the WTO Information Technology Agreement (ITA) to ensure duty-free access to goods. Moreover, multilateral initiatives such as the Global Partnership on Artificial Intelligence (GPAI) (2021^[134]), established through the Group of Seven (G7), show what can be achieved if stakeholders work together from an early stage to maximise the potential benefits of existing and emerging technologies. Other regional examples include that of the African Union Commission, which is supporting platforms to provide interconnected systems for delivering quality, made-in-Africa goods and services within the African Continental Free Trade Area (AfCFTA) via the AeTrade Group (2020^[135]).

Ensuring that the international tax system is fit for purpose in a digitalised and globalised world economy is critical to the advancement of digital trade. In this regard, and as finalised with the OECD, the international community has agreed on a ground-breaking tax deal for the digital age that should result in greater certainty and help ease trade tensions. As agreed by 136 countries and jurisdictions (representing more than 90% of global GDP) through their endorsement of the Statement on the Two-Pillar Solution to Address the Tax Challenges Arising from the Digitalisation of the Economy (OECD, 2021^[136]), multinational enterprises will be subject to a minimum 15% tax rate from 2023. The new minimum tax rate will apply to companies with annual revenue of more than EUR 750 million and is estimated to generate around USD 150 billion in additional global tax revenues annually. Further benefits will also arise through the stabilisation of the international tax system and the increased tax certainty for taxpayers and tax administrators. Developing and emerging economies have played an active role in these negotiations, as reflected in a number of the points included in the Two-Pillar Solution that address the concerns of low-capacity countries (OECD, 2021^[137]).

A collaborative approach to smart regulation

EMnet participants note the need for smart regulation and a responsive regulatory environment that prioritises investment and inclusion, which are critical for stability, continuity and business opportunity across emerging economies. Favourable policies will be key to overcoming challenges and determining the pace of business transformation. In particular, EMnet participants stress the importance of adapting public policies in line with a fast-moving business landscape. In this context, private sector expertise and know-how will need to be harnessed in order for policy makers to develop faster and more reactive responses to new environments.

Smart regulation is imperative in this era of fast-paced innovation and digital technology uptake, with increasing risk of old technologies becoming obsolete. Governments should maintain open, transparent

and constant dialogue with the private sector right from the policy/strategy design stage. EMnet participants emphasise that this is vital to ensuring that recovery initiatives support long-term growth, innovation and competition, thus enabling effective business transformation. Moreover, the private sector calls for data-driven public policies, pointing to the need to first monitor the situation and then regulate for effective policy design.

Open dialogue should extend to regional and international collaboration. Regional partnerships are fundamental in reinforcing regional integration and generating a common response to shared challenges that limit business transformation. Moreover, regional integration can develop regional platforms to establish common standards and share good practices in support of regional competitiveness. In LAC, for instance, regional institutions (including the IDB and CEPAL) will be critical in informing policy reform in support of a green transition and in deepening regional integration by aligning sectoral reforms (e.g. in the energy sector, including renewables and grids) and fiscal reforms (e.g. subsidies and carbon pricing). They are also well placed to co-ordinate with sub-regional partnerships such as the Mercado Común del Sur (Southern Common Market; Mercosur) or the Pacific Alliance.

International collaboration is a unique space within which governments and public institutions can share best practices and guidance on how to design legal frameworks, as well as compare results and policy outcomes, whether in attracting digital or green investments, developing networks and infrastructure, or enhancing affordability and access. International co-operation can act as a facilitator for assessing and comparing what works, promoting access to knowledge and technology, and financing sustainable development.

EMnet participants agree that the global trading system needs to adapt for businesses to reach their emissions reduction targets. Companies can take steps to encourage alignment of trade rules with climate action. For instance, the World Economic Forum (WEF) is launching a two-year work programme – Climate Trade Zero – to support public and private exchange on these issues in pursuit of building a more sustainable trading system. From the public sector side, solutions to mobilise trade policy to support climate action include: (i) reducing tariffs on climate-friendly goods; (ii) unlocking access to technology; and (iii) aligning on carbon-based trade policies (World Economic Forum, 2021^[138]).

Trade strategies should also consider small businesses and be designed to help them face various crises since they were most affected by the COVID-19 pandemic, with approximately 60% of them reporting damage compared with 43% of large firms (ITC, 2021^[139]). The International Trade Centre (ITC) used its survey-based index to identify the factors that allow some SMEs to be more competitive than others. SMEs that showed signs of resilience had one aspect in common: they had diversified their portfolio of buyers and suppliers and were not relying on a sole actor, even for transport links. One of the biggest obstacles to trade for SMEs has been the regulatory trade measures put in place by around 140 countries during the COVID-19 pandemic, which prevented them from accessing certain markets (Prabhakar and Lee, 2021^[140]).

Investment in business transformation across emerging markets

Across emerging markets, the digital transformation, the green transition and sustainable business models present significant opportunities for the private sector, while at the same time contributing to the economic recovery and the achievement of the Sustainable Development Goals (SDGs) (OECD, 2020^[141]).

For example, a net-zero transition will require a substantial increase in investments. Annual investment in clean energy infrastructure is expected to rise from around USD 290 billion in 2020 to approximately USD 880 billion in 2030. Over the next decade, the largest funding increase will be in electricity generation, with annual investment rising from around USD 0.5 trillion in 2020 to USD 1.6 trillion in 2030; for low-carbon technologies in end-use sectors, annual investment will increase from USD 530 billion to

USD 1.7 trillion (IEA, 2021^[71]). This implies a historic surge in clean energy investment in developing and emerging economies – increasing by more than seven times (to more than USD 1 trillion) by the end of the 2020s, with a particular focus on increasing spending in sub-Saharan Africa and Southeast Asia – to put the world on track to achieve net-zero carbon emissions by 2050 (IEA, 2021^[47]). Projections indicate that by 2030, approximately 30% of clean energy investment will take place in Brazil, India and Mexico (IEA, 2021^[47]).

Yet, despite hosting two-thirds of the global population, emerging and developing economies (excluding China) currently account for only one-third of global energy investment and an even smaller, 20%, share of clean energy investment (IEA, 2021^[47]). The COVID-19 crisis has widened the gap between investment needs and current flows. In 2020, clean energy investment in these economies declined by 8% to less than USD 150 billion (IEA, 2021^[71]), and the IEA Sustainable Recovery Tracker shows lower government spending on clean energy in emerging and developing economies relative to advanced economies. Public finance institutions are instrumental to the bankability of projects, the de-risking of financial mechanisms, and the provision of guarantees for projects and loans, yet around 60% of total energy investments and over 70% of clean energy investments in emerging and developing economies are set to be privately financed, notably in renewable power and efficiency (IEA, 2021^[71]). Attracting private investment will depend on adequate public policies to ensure that companies and private investors can support the energy transition while realising the opportunity presented by the green economy in terms of its boost in GDP and economy-wide employment (OECD, 2020^[107]).

EMnet participants agree that in order to facilitate private investment, governments need to provide coherent, stable and predictable policy frameworks. The issue of legal certainty was raised at all EMnet meetings as being key to underpinning a collaborative approach and creating an enabling environment to attract private investment and support business transformation. Companies stressed the need for a long-term, pragmatic, and stable vision, plan and framework to encourage cross-sectoral digital transformation, create the conditions for safeguarding investment security, and generate more bankable projects, including for clean energy projects in underserved areas. As such, emerging and developing economies relying mainly on public funding for new energy projects and industrial facilities will need to reform, strengthen and streamline their policy and regulatory frameworks to attract more private investment (IEA, 2021^[71]).

With most investors having to balance risk and return over an extremely extended period of time, often in situations of very poor liquidity, the visibility of future scenarios remains critically important to increasing appetite for investments, particularly in renewables markets. EMnet participants call on governments to create more visibility with regard to public policy targets and system-level planning. An interesting tool in Europe, which could be replicated across emerging markets, is the European Commission's Regulation on the Governance of the Energy Union and Climate Action, which integrates energy and climate plans that provide visibility for investments (European Commission, 2021^[142]).

Robust, reliable and quality data will be essential to adequate long-term planning and the efficient allocation of resources. In the digitalisation process of circular systems, data also play a critical role, particularly for material exchange platforms and knowledge-sharing networks (OECD, forthcoming^[143]). Within efficiency measures, evidence-based data are essential in building investor confidence, and standards and protocols also help build familiarity and confidence in projects among financial actors (OECD, 2021^[144]).

Creating an enabling environment for investment

The private sector particularly underlined the need for progress on increasing co-ordination across different levels of government. For instance, policy co-ordination in sustainable mobility is required for electric vehicles deployment. In this sector, coherent regulations across different markets are also relevant in avoiding protectionist attitudes and helping generate regional economies of scale. In the EU alone, 70 municipalities have different regulations regarding vehicle use and size. Evidence shows that

substantial differences in regulations in cities and in metropolitan and urban areas, and inconsistent definitions across countries, hinder global comparisons and monitoring of progress (OECD/European Commission, 2020^[145]).

Private investment in digital technologies and infrastructure can be encouraged through sound public policies. During the COVID-19 pandemic, many LAC countries have implemented policies to promote further investment in an inclusive digital transformation, including spectrum allocation; protection against vandalism for telecommunication infrastructure; reduction of taxes; payment schemes for universal service programmes; and standardisation of regulations for network deployment.

Recognising the intersectional impact of ICT services on the overall economy by embedding policies and regulations within digital plans and ensuring that USFs are effectively used to support telecommunications will be crucial at a time when investments are urgently needed. Indeed, one of the main barriers that MNOs face in infrastructure deployment is the existence of various regulations at different levels of government and the lack of a unique and central entity that provides guidelines and standards for telecommunications infrastructure deployment (OECD, 2021^[146]). Independent and adequately resourced regulatory agencies can raise standards and speed up procedures. Interregional and multilateral agreements on investment and network deployment can also provide legal certainty, as can agreements to foster the independence of regulatory bodies. Multilateral initiatives such as the WTO Investment Facilitation for Development (2021^[147]) set common recommendations for governments to align their policies in order to facilitate investment.

Ensuring the rule of law, transparency, non-discrimination and the protection of property rights are key policy challenges for foreign investors across emerging markets. Countries in LAC with clear rules and trusted institutions show 64% higher investment in telecommunications (Jung and Melguizo, 2020^[148]). Enhancing digital tools for public services can help. By digitalising key regulatory systems, governments can increase trust and promote transparency and efficiency across public services for bankable projects. Administrations could, for example, cut time spent on licensing and interacting with the administration during project implementation, which accounts for a high percentage of the length of a project. IEA analysis also describes how governments are turning to digital tools to strengthen the policy cycle of designing, implementing and monitoring energy efficiency policies (IEA, 2021^[149]). The Digital Tools for Rule of Law and Recovery (DT4RR) initiative – developed by Walmart in partnership with LAC actors, including the Organization of American States and the Americas Business Dialogue – supports the introduction of key digital tools into government in order to enhance regulatory systems such as tax administration, customs, procurement and licensing/permitting.

Harnessing sustainable finance

Due to the COVID-19 pandemic, the gap in financing the SDGs, initially estimated at USD 2.5 trillion per year until 2030 (UNCTAD, 2020^[150]), increased to USD 3.7 trillion in 2020 (OECD, 2020^[141]). Institutional investors held more than USD 100 trillion in assets in 2019. Mobilising these investors through public-private collaboration in order to mitigate risks and mainstream sustainability considerations would help close the funding gap at a faster pace (OECD, 2021^[151]).

Private investors are starting to consider sustainability criteria in more of their activities using various instruments, even though emerging markets are not yet taking full advantage of this paradigm shift. The outlook seems quite positive, since, according to the Environmental Finance Bond Database, 2020 was another record-breaking year for the green, social, sustainability and sustainability-linked (GSSS) bond market, with total GSSS bond issuance reaching more than USD 600 billion – nearly doubling the USD 326 billion issued in 2019 (Environmental Finance, 2021^[152]). Apart from bonds, environmental, social and governance (ESG) assets are expected to exceed USD 50 trillion by 2025, accounting for one-third of global assets (Casanova and Miroux, 2021^[153]). Climate-related investments representing USD 130 trillion

in assets under management signed net-zero pledges at COP26 through the Glasgow Financial Alliance for Net Zero (REUTERS, 2021^[154]). As a result of the COVID-19 pandemic, businesses are adopting sustainability criteria to enhance their own resilience and reduce risk across their operations, from their supply chains, production processes and employee relations to their business models and product offerings. Company performance on ESG criteria is also increasingly relevant to leveraging finance. EMnet participants agree that governments can play a key role in providing incentives for companies to transition towards more sustainable investments through price signals such as carbon pricing (IMF, 2021^[155]), or through investment tax incentives if the investments align with the SDGs (OECD, 2021^[156]).

Stakeholders, investors and financial institutions are putting increasing pressure on companies to track, report and measure their impact based on ESG criteria. ESG criteria can reduce the risk perception of investments and are increasingly seen as a competitive factor, yet more work is needed in order to ensure that their ratings are fit for purpose (OECD, 2020^[107]). Market participants are still missing the relevant, comparable and verifiable ESG data they need to properly conduct due diligence, manage risks, measure outcomes, and align investments with sustainable, long-term value (OECD, 2020^[157]). EMnet participants therefore agree on the importance of identifying disclosure metrics that are effective indicators of impact and progress towards ESG objectives. A successful effort to tackle standards on climate disclosure is the Task Force on Climate-related Financial Disclosures, which aims to provide guidance on metrics to be used and recommendations for disclosing climate-related risks and opportunities for businesses. The final goal of the Task Force is to assess risk effectively and develop recommendations to provide information to most participants in financial markets, from banks to asset owners (Task Force on Climate-related Financial Disclosures, 2021^[158]).

EMnet companies noted that progress on sustainable finance taxonomies can support standardisation efforts and better guide financial decisions. However, the definition of sustainable finance is yet to be refined. The OECD report *Developing Sustainable Finance Definitions and Taxonomies* seeks to map how different economies are setting official definitions of sustainable finance. This includes China, with its updated *Green Bond Endorsed Projects Catalogue* removing coal production and the utilisation of fossil energy (OECD, 2020^[159]). Measures to develop green or carbon-intensive taxonomies are under way in emerging and developing economies, including Bangladesh, Brazil, Chile, Colombia, Indonesia, Kenya, Malaysia, Mexico, Mongolia, Peru, Singapore, South Africa and Thailand, and regionally via the *ASEAN Taxonomy for Sustainable Finance*. Sustainable finance taxonomies developed for local capital markets require a pathway to align across sectors and economic plans as well as with international taxonomies (OECD, 2021^[160]).

Mobilising private finance requires enhancing the availability of capital from local sources and higher levels of investment from international providers (IEA, 2021^[47]). Green bond issuances are increasingly utilised as means of mobilising private finance, totalling approximately USD 1 trillion in cumulative green bond issuance since market inception in 2007 (Climate Bond Initiative, 2020^[161]). Despite the COVID-19 crisis, demand for responsible investment has driven green bond issuance in 2020 to the amount of USD 77.7 billion (13% lower than in 2019) (OECD, 2020^[107]). Yet, the growth in the green bond market is mainly dominated by issuers in developed markets, with emerging markets lagging behind. Emerging and developing markets (excluding China) have contributed only around 10% of the global issuance of clean-energy-related sustainable debt.

In the past 20 years, most bond issuances have come from LAC, Southeast Asia and India, which are rapidly booming markets (IEA, 2021^[47]). During 2021, LAC countries have experienced an exceptional increase in sustainable bond issuance, nearly doubling the amount issued in 2020, which could be partly attributed to the evolving regulatory landscape and the update of the International Capital Markets Association Principles, as well as a response to growing social discontent. In Chile, there has been a significant presence of social bonds in the market, especially from governments, aimed at tackling pandemic-induced shocks (Moody's ESG Solutions Group, 2021^[162]). Despite uncertain regulation, Mexico also issued its first social gender bond through Fideicomisos Instituidos en Relación con la Agricultura (the

Agricultural Trust Funds; FIRA) aimed at funding gender initiatives (IDB, 2020^[163]). This gender bond exemplifies how Mexico is paving the way for certain methodologies to set the right KPIs that not only enhance the green transition but also connect with women's empowerment, a key element to the green transition.

Beyond sovereign green bonds, there is a need to further support corporate and sub-regional bond issuance (OECD, 2021^[160]). Green debt issuers in emerging and developing economies use most of the proceeds for renewables projects (80% in India), yet companies point to the attractive offering from sustainability-linked bonds compared with green, social and sustainable bonds. Sustainability-linked bonds can flexibly fund clean energy transitions, providing borrowers with more flexibility in the use of proceeds, particularly in industries where transition is slow due to lack of technology or high costs. EMnet participants agree that with the right KPIs, sustainability-linked bonds can increase the level of ambition of climate-related policies.

The private sector is indeed a leading issuer of sustainable debt, with a significant rise in sustainability-linked bonds, mainly among corporations in Brazil and Mexico. Examples of utilities and energy companies issuing sustainable bonds include Enel, with its corporate general-purpose SDG-Linked Bond; Eni, with its Euro-denominated sustainability-linked bond; and Snam, with energy-related transition bonds. There is significant interest in sustainable finance across emerging economies, with IEnova being the first Mexican private company to obtain a green loan from the IFC (IEnova, 2019^[164]), and companies like Moody's supporting progress by issuing Second Party Opinions (SPOs) on the sustainability credentials of GSSS bonds or loans.

International efforts to support sustainable finance, include the Finance to Accelerate the Sustainable Transition-Infrastructure (FAST-Infra) initiative (CPI, 2021^[165]); the Climate Investment Coalition (CIC) (CIC, 2022^[166]); and the Climate Bonds Initiative (CBI, 2022^[167]), through a Climate Bonds Standard and Certification Scheme. OECD efforts include the OECD Clean Energy Finance and Investment Mobilisation (CEFIM) programme (OECD, 2022^[168]), which takes a multi-stakeholder approach to developing innovative and effective solutions to increase private sector participation in the low-carbon energy transition. Moreover, the World Bank, IMF, OECD and other organisations are working to establish a new global platform to support mobilising affordable financing for a green economic recovery. The platform will explore potential policies and levers as well as new financial instruments that could be implemented in order to promote nature-based solutions, including sovereign sustainability-linked bonds (CGFI, 2021^[169]).

The lack of regulation around sustainable finance remains one of the first obstacles for investors, as underlined by EMnet participants. Green bond markets or sustainability bond markets would benefit from the creation of an enhanced policy space across developing countries. Advanced economies have a role to play in this by providing incentives, such as optional preference schemes, in exchange for progress towards nationally determined contributions to accelerate climate action (UNCTAD, 2021^[170]). Regulatory agencies in emerging economies need to provide a clear framework in the form of national road maps, policies, regulations or guidelines, as well as disclose the existing social and environmental risks in the financial sector in order to foster investment in infrastructure and set out good practice expectations. Some agencies have started providing guidelines on specific instruments, such as the ASEAN Capital Markets Forum's (ACMF's) ASEAN Green Bond Standards in 2018 (ACMF, 2021^[171]).

EMnet participants raise awareness on the challenges that small businesses might encounter in the implementation of some sustainability standards and requirements. Research from the International Trade Centre (ITC) concludes that SMEs have tremendous potential to make an impact on achieving the SDGs through the employment they generate and the business practices they choose to adopt (ITC, 2021^[172]). However, many SMEs lack the necessary resources and expertise to undertake such measures, and EMnet participants advise legislators to ensure that sustainability requirements are proportional to the size of businesses. Harmonisation of rules in different regions can also make it easier for SMEs to compete on a global scale. In order to help SMEs implement due diligence practices, the OECD Centre for Responsible

Business Conduct is working on guidelines to scale responsible business practices across the whole value chain. This includes the development of effective tools for different stakeholders to support and facilitate SME due diligence implementation while ensuring accountability and the reasonableness of requirements (OECD, 2021^[173]). Examples of good practices are the World Wide Fund for Nature (WWF) programmes to help SME owners understand the importance of investing in resource-efficient technologies and how they can reap long-term monetary benefits (Annat, 2021^[174]), or capacity-building training from large businesses or governments to help SMEs implement due diligence and use instruments to address environmental and social risks. Some governments have also implemented financial support to incentivise SMEs to undertake such measures, including in Indonesia, where the government grants SMEs tax reductions and exemptions for pollution control equipment and the cost of water treatment (OECD, 2021^[173]).

Multilateral institutions such as development banks can also help increase sustainable investment in emerging markets. This is the case of the IDB Invest, which provided a USD 125 million financial package to ENGIE Energía Chile, a subsidiary of the ENGIE Group, with the aim of accelerating the decarbonisation of the country's electricity matrix (IDB, 2021^[175]). This experimental pilot financial instrument aims to monetise the displacement of greenhouse gas (GHG) emissions when moving from coal to clean energy. The IDB also supported Eletrobras in Brazil to develop its first green bond framework (GFL, 2021^[176]). Working with such multilateral institutions represents increased opportunities to develop blended instruments that can help investors access these financial instruments and increase their credibility. For example, the IDB has developed a green bond platform to help issuers upload data on projects and money allocations, as well as KPIs that they are committing to. It provides investors with a way to compare the environmental performance of each bond and provides a benchmark for the market (IDB, 2021^[177]).

Finally, EMnet participants emphasise the catalytic role that national and international DFIs can play in decreasing the cost of capital while improving companies' sustainability matrices. DFIs are relevant partners as debt providers to reduce the risks for private investors, and, in some cases, as shareholders or advisors to help penetrate certain markets, given their solid research departments as well as political support, which is particularly relevant for long-term projects. Examples include Voltalia working with BNDES (the Brazilian national development bank) and with other DFIs, such as the European Bank for Reconstruction and Development (EBRD). Yet, EMnet participants point to the need for collaboration in order to overcome potential mismatches between what agreed during the development phase and DFIs' procedure to approve operations.

The role of blended finance

Scaling mobilisation within the private sector through transaction structures such as blended finance is crucial to unlocking the financing needed for business transformation and to achieve the SDGs more widely. EMnet participants highlight opportunities to make better use of blended finance schemes in mobilising commercial capital, and in particular to unlock the trillions of dollars held by institutional investors.

Better use of blended finance can mobilise additional private capital and foster a pipeline of bankable projects, leveraging mechanisms such as the SDG Indonesia One fund. Bridging financing gaps will require boosting blended finance solutions as well as better collaboration between public and private financiers. By working with local partners, developing capacity and improving access to resources, blended finance can help to de-risk clean energy projects and make them attractive for lower-cost investment of private capital. An example of this includes BlackRock's Climate Finance Partnership (CFP), a unique blended finance fund provider of catalytic capital to promote climate-related investment in emerging markets (BlackRock, 2022^[178]).

EMnet participants highlight how blended finance can bring a solution to the issue of finding the right investment project, since large private investors generally focus on capital efficiency and thus seek

transactions of a certain size, which are not always present in the least-developed countries, thus making it difficult for investors to justify investments in such areas. Blended finance can enable access to a number of sizeable deals that fit within investors' mandates with the help of national project preparation funds, provided that the investment and regulatory environment enables such collaboration via technical assistance tools and advisory services (OECD DAC, 2020^[179]). Indeed, EMnet participants underline that private investors need robust commercial propositions as a starting point, which can only work with large tickets that have a clear risk and return profile.

International efforts supporting blended finance like the OECD DAC Blended Finance Principles (OECD DAC, 2020^[179]) can attract commercial investment by using a common framework and understanding of blended finance that ensures financial returns and contribution to sustainable development. Additionally, the OECD-UNDP Impact Standards for Financing Sustainable Development were designed to support donors in the deployment of resources through DFIs and private asset managers in order to maximise their positive contribution towards achieving the SDGs. The OECD-UNDP Impact Standards for Financing Sustainable Development were created to meet the pressing need for better and more measurable evidence on the impact of SDG-related investments, in order to ensure that development commitments are delivered with integrity and avoid impact washing (DAC and DCD, 2021^[180]).

Financing the green transition

The COVID-19 pandemic has exacerbated near-term fiscal and economic pressures in many emerging and developing economies, leaving less fiscal space to mobilise resources for a sustainable recovery and constraining access to finance that countries need for the energy transition (IEA, 2021^[181]). Private investment can therefore play a key role to support the green transition.

Although many investors recognise the opportunity offered by emerging markets – particularly in wind and solar power, which have become cheaper and more attractive – barriers impede investment flows towards more capital-intensive and lower-carbon assets. Availability of, and access to, affordable finance remains a critical obstacle across emerging markets. Mobilising capital in support of the clean energy transition hinges on addressing cross-cutting factors that affect both the risks and returns faced when making investment decisions.

EMnet participants point to cost of capital as the main cost of renewables, as opposed to the relatively low-variable costs of running a solar plant or wind farm (IEA, 2021^[71]). Despite being key drivers of green and inclusive growth (Koirala, 2019^[182]) and contributing to global economic activity, the cost of finance for MSMEs can far exceed that for larger companies (OECD, 2021^[183]). In many emerging and developing economies, economy-wide nominal financing costs can be up to 1 500 basis points higher than the values for the United States and Europe, and can be even higher in riskier markets and segments (IEA, 2021^[47]).

The lack of sufficient “investment-grade” infrastructure projects poses a further challenge to mobilising private investment as part of the green recovery. Overall, in emerging and developing economies there is a shortage of clean energy investment opportunities with adequate risk and return characteristics that satisfy both key “green” criteria and key investor liquidity requirements. There is a need to develop and expand local capital markets in order to attract the required investment and support long-term sustainability. The Philippines and Viet Nam provide successful country examples that could be replicated across other emerging markets and adapted to local contexts. In the case of Viet Nam, it is worth mentioning its increase in feed-in tariffs for renewables (OECD, 2020^[184]). Greater certainty over a pipeline of potential projects would also enable investors to invest in capacity building while taking calculated risks. Additionally, an Africa-led solution, the Programme for Infrastructure Development in Africa Quality Label, could improve the bankability and implementation of infrastructure projects on the continent (OECD/ACET, 2020^[185]). Strengthening capacity across smaller project developers, governments and local financial institutions can help to design and develop pipelines of bankable projects at scale (OECD, 2021^[160]).

EMnet participants stress the lack of information and data, including on anticipated project performance, as a major hindrance in mobilising further private investment. Similarly, they indicated that building established track records of projects is a key enabler, and provided examples in middle-income emerging markets, such as Chile and Peru, where United States insurance companies have invested in local currency for long-term infrastructure. South Africa's renewable procurement process also serves as a successful example of creating a track record, enabling significant private investment inflows. Another relevant issue is the capacity of smaller local developers to design and prepare these projects. On the efficiency side, challenges include a mix of unique project characteristics and scale, where lack of scalable project pipelines becomes a hurdle (OECD, 2021^[160]). Due to their small scale, measures to improve energy efficiency can be difficult to finance, despite often being the most cost-effective method of reducing emissions (IEA, 2021^[47]).

Macroeconomic stability and evolving financial system rules, including issues such as currency risks and weaknesses in local banking and capital markets, can affect financing in emerging countries. Risk perceptions over exchange rate volatility, where transactions can create mismatches between obligations priced in USD and revenues in local currencies, remain an impediment to attracting more foreign capital. There are also significant challenges facing the issuance of specific financial instruments, including institutional and legal capacity and the cost of issuance. High volatility, illiquidity and the risk levels of bonds in emerging economies have limited international investments. Absence of a dedicated green bond index also raises challenges in benchmarking financial performance (IEA, 2021^[47]).

Complexity can increase barriers to financing and scaling up green projects in emerging economies. EMnet participants argue that in early-stage of energy projects, complex and lengthy procedures involved in contract negotiations, land access and acquisitions, as well as in licensing and permitting may pose hurdles to investments. Furthermore, a lack of standardisation acts as an obstacle to the simplification of scalable contractual frameworks. Standardisation of power purchase agreements (PPA) (e.g. project terms) can prepare projects to be pooled as securitised assets for trading in capital markets and ensure transparent negotiations.

Building on digitalisation to increase sustainable finance

EMnet participants agreed on the potential of digital transformation to promote sustainable practices and finance, by removing informational asymmetries and creating tools to help investors clearly assess risks. Big data, AI, the IoT and blockchain are currently some of the promising technologies identified to mobilise sustainable finance by making the analysis of data more accurate (The Sustainable Digital Finance Alliance, 2018^[186]). The Green Digital Finance Alliance (launched by Ant Financial Services and UNEP) uses a multi-stakeholder approach involving international organisations, DFIs and the finance sector to investigate the potential for digital finance to promote greater investment in line with the SDGs (GDFA, 2022^[187]).

In particular, EMnet companies highlight the role of innovation as a key lever in tackling financing challenges. Innovative financing structures and facilities can help project developers access long-term capital and de-risk investment, by making the access to data faster and cheaper and improving transparency. Creating innovative platforms may be a viable solution to provide the required scale of financing; this could be achieved by consolidating existing operational assets based in emerging markets.

Fintech was discussed as an instrument allowing greater access to capital for smaller projects. The provision of real-time performance data makes it easier for investors to evaluate and price risks, also leading to more confidence in project returns. Simultaneously, EMnet participants emphasised the need to implement fintech solutions to empower women. Indeed, M-PESA in Kenya, a mobile money transfer solution, has allowed women to change their financial behaviour as their consumption rates have increased and many have moved from farming to retail (ADB, 2019^[188]). The rising number of fintech solutions, such as Alibaba's Alipay or Paytm in India, can allow women to move to more productive activities and increase

their savings, thereby supporting formalisation (ADB, 2019^[188]). In addition, digital platforms are making it cheaper and easier to finance smaller-scale energy efficiency and renewable energy projects, and countries are applying these technologies to attract and raise capital from new investors (OECD, 2020^[189]), facilitating the standardisation of smaller projects and making project due diligence easier and less costly.

New service models and digital payments can also address hurdles, especially in energy efficiency and electrification. As Internet penetration rates continue to increase, particularly in densely populated urban areas across emerging markets, EMnet participants see an opportunity for more information to be created through the aggregation of big data analytics. They point to such innovation potentially enabling innovative credit assessments, particularly to increase the financial inclusion of traditionally excluded populations.

Such innovative approaches are particularly critical for mobilising retail investors in many emerging and developing economies. Lessons can be learned from Indonesia's recent retail green sukuk issuance (financial Islamic bond) using a digital platform. The retail sukuk platform used was developed internally, allowed for 24-hour access, and was mobile compatible, easy to use, and allocated sukuk on a first-come, first-served basis to ensure fairness. The government's retail green sukuk issuance aimed to develop a more sustainable investor base and help raise awareness, particularly among millennials, of the importance of addressing climate change and related environmental issues.

References

- Prosperidad Social, Gobierno de Colombia (2021), *Economía para la gente: una respuesta de inclusión productiva ante la “nueva normalidad”*, <https://prosperidadsocial.gov.co/Noticias/economia-para-la-gente-una-respuesta-de-inclusion-productiva-ante-la-nueva-normalidad/>. [123]
- 3R Initiative (2021), *About Us*, <https://www.3rinitiative.org/about>. [83]
- Absa (2021), *African Rainbow and Absa launch a renewable energy investment platform*, ABSA press release, <https://www.absa.co.za/media-centre/press-statements/2021/african-rainbow-and-absa-launch-a-renewable-energy-investment-platform/> (accessed on 15 March 2022). [57]
- ACMF (2021), *ASEAN Green Bond Standards*, ACMF, <https://www.theacmf.org/initiatives/sustainable-finance/asean-green-bond-standards> (accessed on 2 March 2022). [171]
- ADB (2019), *Closing the Gender Gap in Financial Inclusion through Fintech*, Asian Development Bank, <https://www.adb.org/publications/closing-gender-gap-financial-inclusion-through-fintech> (accessed on 15 March 2022). [188]
- AeTrade (2020), *African E-Trade Group*, <https://www.aetrade-group.com/>. [135]
- African Union (2020), *The Digital Transformation Strategy For Africa (2020-2030)*, African Union, Addis Ababa, <https://au.int/sites/default/files/documents/38507-doc-dts-english.pdf> (accessed on 23 March 2022). [40]
- Agrotic (n.d.), *AgroTIC*, <https://carloshinojosa.me/project/agrotic/> (accessed on 6 April 2022). [122]
- Alliance for affordable internet (2021), *The Costs of Exclusion: Economic Consequences of the Digital Gender Gap*, Web Foundation, <http://www.a4ai.org> (accessed on 7 March 2022). [28]
- Amazon (2019), *The Climate Pledge*, <https://sustainability.aboutamazon.com/about/the-climate-pledge>. [58]
- Annat, L. (2021), *Reaching the 95% Engaging SMEs to scale responsible business practices in the global garment & footwear supply chain*, OECD, Paris, <https://mneguidelines.oecd.org/OECD-Garment-Forum-2020-Session-Note-Engaging-SMEs-to-Scale-Responsible-Business-Practices.pdf>. [174]
- Arakpogun, E. et al. (2020), “Threading the needle of the digital divide in Africa: The barriers and mitigations of infrastructure sharing”, *Technological Forecasting and Social Change*, Vol. 161, p. 120263, <https://doi.org/10.1016/j.techfore.2020.120263>. [17]
- ASEAN (2021), *ASEAN Digital Integration Index Report: Measuring Digital Integration to Inform Economic Policies*, <https://asean.org/wp-content/uploads/2021/09/ADII-Report-2021.pdf>. [42]
- Asian Development Bank (2017), *Meeting Asia’s Infrastructure Needs*, Asian Development Bank, Manila, Philippines, <https://doi.org/10.22617/fls168388-2>. [88]
- ATC (2021), *American Tower Corporation: Corporate Responsibility*, <https://www.american-tower.com/corporate-responsibility/society.html>. [61]

- Atlantic Council (2021), *LAC 2025: Three Post-COVID Scenarios*, Atlantic Council, Washington, DC,, https://www.atlanticcouncil.org/wp-content/uploads/2021/04/2025PostCovidLatAm_Final.pdf. [103]
- AUC/OECD (2022), *Africa's Development Dynamics 2022: Regional Value Chains for a Sustainable Recovery*, African Union Commission, Addis Ababa/OECD Publishing, Paris, <https://dx.doi.org/10.1787/2e3b97fd-en>. [4]
- AUC/OECD (2021), *Africa's Development Dynamics 2021: Digital Transformation for Quality Jobs*, AUC, Addis Ababa/OECD Publishing, Paris, <https://doi.org/10.1787/0a5c9314-en>. [22]
- AWS (2021), *AWS Digital Training*, <https://aws.amazon.com/training/digital/>. [106]
- Bancolombia (2020), *The Path to a Conscious Generation: Integrated Annual Report 2020*, https://www.bancolombia.com/wcm/connect/00d650f7-2685-4d2d-922c-e76763ae32ca/Grupo_Bancolombia_Annual_Report_2020.pdf?MOD=AJPERES. [36]
- BlackRock (2022), *Climate Finance Partnership*, BlackRock, <https://www.blackrock.com/institutions/en-us/strategies/alternatives/real-assets/infrastructure/climate-finance-partnership> (accessed on 2 May 2022). [178]
- Botta, E. (2021), *The green recovery: an opportunity to address inequalities?*, <https://oecd-environment-focus.blog/2021/06/10/the-green-recovery-an-opportunity-to-address-inequalities/>. [49]
- Campbell, K. et al. (2019), *The 5G economy : How 5G technology will contribute to the global economy*. [13]
- Casalini, F., J. González and T. Nemoto (2021), *Mapping commonalities in regulatory approaches to cross-border data transfers*, OECD Publishing, Paris, <https://doi.org/DOI:10.1787/ca9f974e-en>. [131]
- Casanova, L. and A. Miroux (2021), *Emerging Market Multinationals Report 2021: Building the Future on ESG Excellence*, EMI Cornell, <https://doi.org/10.7298/cvhn-dc87>. [153]
- CBI (2022), *Climate Bonds Initiative | Mobilizing debt capital markets for climate change solutions*, Climate Bonds Initiative, <https://www.climatebonds.net/> (accessed on 15 March 2022). [167]
- Centre for European Reform (2022), *The 'Fit For 55' Climate Proposals Explained*, <https://www.cer.eu/publications/archive/bulletin-article/2021/fit-55-climate-proposals-explained>. [50]
- CEPAL (2021), *Declaration of Circular Cities of Latin America and the Caribbean*, CEPAL, Rome, https://www.cepal.org/sites/default/files/events/files/declaracion_eng_vr01_final.pdf (accessed on 6 April 2022). [95]
- CGFI (ed.) (2021), *Centre on Green Finance and Investment: 2021 Forum Agenda*, CGFI, <https://www.oecd.org/cgfi/forum/CGFI-Forum-2021-Agenda.pdf> (accessed on 15 March 2022). [169]
- CIC (2022), *Home | ClimateIC*, Climate Investment Coalition, <https://www.climateinvestmentcoalition.org/> (accessed on 15 March 2022). [166]

- Circle Economy (2021), *The Circularity Gap Report*, <https://www.circularity-gap.world/2021>. [78]
- Circular Economy Coalition for Latin America and the Caribbean (2021), *Coalition on Circular Economy for Latin America and the Caribbean*, <https://www.coalicioneeconomiciacircular.org/en/elementor-7/inicio-english/>. [81]
- Climate Bond Initiative (2020), *\$1 Trillion Mark Reached in Global Cumulative Green Issuance: Climate Bonds Data Intelligence Reports: Latest Figures*, <https://www.climatebonds.net/2020/12/1trillion-mark-reached-global-cumulative-green-issuance-climate-bonds-data-intelligence>. [161]
- CPI (2021), *FAST-Infra*, Climate Policy Initiative, <https://www.climatepolicyinitiative.org/fast-infra/> (accessed on 15 March 2022). [165]
- DAC and DCD (2021), *Proposed Impact Standards for Financing Sustainable Development-Part 1: Proposed Standards*, [https://one.oecd.org/document/DCD/DAC\(2021\)6/FINAL/en/pdf](https://one.oecd.org/document/DCD/DAC(2021)6/FINAL/en/pdf) (accessed on 15 March 2022). [180]
- EMnet (2021), *Business Insights on Emerging Markets 2021*, OECD Development Centre, Paris, <https://www.oecd.org/dev/Business-Insights-Emerging-Markets-2021.pdf> (accessed on 2 May 2022). [2]
- EMnet (2021), *Key Messages: EMnet Working Group on Digital Transformation in Emerging Markets*, EMnet, https://www.oecd.org/dev/KeyMessages_Digital_Transformation_Emerging_Markets.pdf (accessed on 15 March 2022). [33]
- EMnet (2021), *Key Messages: EMnet Working Group on Green Economy in Emerging Markets*, EMnet, https://www.oecd.org/dev/Key_Messages_EMnet_Green_Economy_EnergyTransitionEmergingMarkets.pdf (accessed on 15 March 2022). [46]
- EMnet (2020), *Business Insights on Emerging Markets 2020*, OECD Development Centre, Paris, <https://www.oecd.org/dev/EMnet-Business-Insights-2020.pdf> (accessed on 2 May 2022). [90]
- Enel (2021), *Circular cities impacts on decarbonization and beyond*, https://www.enel.com/content/dam/enel-com/documenti/media/circular-cities_october2021.pdf (accessed on 6 April 2022). [93]
- Enel (2021), *Enel brings forward decarbonization by 10 years*, Enel, <https://www.enel.com/company/stories/articles/2021/12/decade-electrification> (accessed on 2 May 2022). [62]
- Enel (2021), *Enel Foundation and IEA launch The Glass House Project: a fresh look at Energy Employment opportunities in the Just Transition*, <https://www.enelfoundation.org/news/a/2021/04/enel-foundation-and-iea-launch-the-glass-house-project--a-look-a>. [116]
- Enel (2021), *Innovation Hubs*, <https://startup.enel.com/en/innovation-hub.html>. [111]
- Enel (2020), *Circular cities Cities of tomorrow*, <https://www.enel.com/content/dam/enel-com/documenti/media/paper-circular-cities-2020.pdf>. [94]

- Enel (2019), *Vila Olímpia, the future of cities is in São Paulo*, [91]
<https://www.enel.com/company/stories/articles/2019/10/urban-futurability-vila-olimpia-enel-brazil>.
- Enel (2018), *Hoja de Ruta de Transición Energética*, [69]
<https://www.enel.pe/es/sostenibilidad/transicion-energetica-peru-2050.html>.
- Enel Group (2021), *Enel and Schneider Electric join the World Economic Forum in launching the Toolbox of Solutions for urban transformation: 200+ decarbonization solutions for cities* | Enel Group, Enel, <https://www.enel.com/media/explore/search-press-releases/press/2021/09/enel-and-schneider-electric-join-the-world-economic-forum-in-launching-the-toolbox-of-solutions-for-urban-transformation-200-decarbonization-solutions-for-cities-> (accessed on 23 March 2022). [96]
- Eni (2021), *Eni opens Innovation Outpost in Silicon Valley*, <https://www.eni.com/en-IT/media/news/2021/11/eni-opens-innovation-outpost-silicon-valley.html> (accessed on 6 April 2022). [113]
- Eni (2021), *Eni presents Plenitude at its Capital Markets Day*, eni.com, <https://www.eni.com/en-IT/media/press-release/2021/11/eni-capital-markets-day.html> (accessed on 5 April 2022). [55]
- Eni (2021), *Eni's strategy on climate change*, <https://www.eni.com/en-IT/low-carbon/strategy-climate-change.html>. [52]
- Environmental Finance (2021), *Sustainable Bonds Insight 2021 published*, Environmental Finance, <https://www.environmental-finance.com/content/news/sustainable-bonds-insight-2021-published.html> (accessed on 15 March 2022). [152]
- Equinor (2021), *Our climate ambitions: We're going for net zero, but what does that really mean?*, <https://www.equinor.com/en/sustainability/climate.html>. [53]
- EU (2021), *The Americas and the Caribbean Regional Multiannual Indicative Programme 2021-2027*, EU. [44]
- European Commission (2021), *Governance of the Energy Union and Climate Action*, https://ec.europa.eu/clima/eu-action/climate-strategies-targets/progress-made-cutting-emissions/governance-energy-union-and-climate-action_en. [142]
- European Environment Agency (2019), *Paving the way for a circular economy: insights on status and potentials*, Publications Office of the European Union, Luxembourg, <https://doi.org/10.2800/383390>. [79]
- EY (2021), *How closing the supply chain loop opens the door to long-term value*, https://www.ey.com/en_gl/consulting/how-closing-the-supply-chain-loop-opens-the-door-to-long-term-value. [77]
- GDFA (2022), *Green Digital Finance Alliance*, <https://greendigitalfinancealliance.org/> (accessed on 15 March 2022). [187]
- GFL (2021), *With IDB's support, Brazil's Eletrobras issues its first Green Bonds to finance electricity transmission lines*, GFL, <https://greenfinancelac.org/resources/news/with-idbs-support-brazils-eletrobras-issues-its-first-green-bonds-to-finance-electricity-transmission-lines/> (accessed on 2 March 2022). [176]

- Google (2021), *24/7 Carbon-Free Energy by 2030*, [60]
<https://www.google.com/about/datacenters/cleanenergy/>.
- GPAI (2021), *Global Partnership on Artificial Intelligence (GPAI)*, <https://gpai.ai/>. [134]
- GSMA (2021), *La oportunidad para una América Latina digital y conectada*, GSMA, [3]
<https://www.gsma.com/latinamerica/wp-content/uploads/2021/04/La-oportunidad-para-una-America-Latina-digital-y-conectada.pdf> (accessed on 6 April 2022).
- GSMA (2021), *The Mobile Economy Latin America 2021*, GSM Association. [5]
- GSMA (2021), *The Mobile Gender Gap Report 2021*, GSM Association. [23]
- GSMA (2020), *La Economía Móvil en America Latina 2020*, GSM Association, [1]
https://www.gsma.com/mobileeconomy/wp-content/uploads/2020/12/GSMA_MobileEconomy2020_LATAM_Esp.pdf (accessed on 8 March 2022).
- GSMA (2020), *Mobile technology and economic growth: Lessons to accelerate economic growth and recovery*, GSM Association, https://www.gsma.com/betterfuture/wp-content/uploads/2020/11/Mobile-technology-and-economic-growth_web.pdf (accessed on 3 March 2022). [12]
- GSMA (2017), *Effective Spectrum Pricing: Supporting better quality and more affordable mobile services*, GSMA, <http://www.gsma.com> (accessed on 6 April 2022). [10]
- Houngbonon, G., C. Rossotto and D. Strusani (2021), *Enabling Private Investment in 5G Connectivity in Emerging Markets*, International Finance Corporation. [11]
- Huawei (n.d.), *RuralStar: Remote Doesn't Mean Out of Reach - Huawei*, [20]
<https://www.huawei.com/en/tech4all/stories/ruralstar> (accessed on 6 April 2022).
- IDB (2021), *IDB and IDB Invest launch the Green Bond Transparency Platform*, IDB, [177]
<https://www.iadb.org/en/news/idb-and-idb-invest-launch-green-bond-transparency-platform> (accessed on 2 March 2022).
- IDB (2021), *IDB Invest and ENGIE Chile debut the world's first pilot project to monetize the cost of decarbonization*, IDB Invest, <https://www.idbinvest.org/en/news-media/idb-invest-and-engie-chile-debut-worlds-first-pilot-project-monetize-cost-decarbonization> (accessed on 2 March 2022). [175]
- IDB (2020), *Mexico issues the first Social Gender Bond in the national stock market through FIRA*, <https://www.iadb.org/en/news/mexico-issues-first-social-gender-bond-national-stock-market-through-fira>. [163]
- IEA (2021), *Better energy efficiency policy with digital tools*, IEA, Paris, [149]
<https://www.iea.org/articles/better-energy-efficiency-policy-with-digital-tools>.
- IEA (2021), *Data Centres and Data Transmission Networks*, IEA, Paris, [127]
<https://www.iea.org/reports/data-centres-and-data-transmission-networks>.
- IEA (2021), *Empowering Cities for a Net Zero Future*, IEA, Paris, [84]
<https://www.iea.org/reports/empowering-cities-for-a-net-zero-future>.

- IEA (2021), *Financing clean energy transitions in emerging and developing economies*, IEA, Paris, <https://www.iea.org/reports/financing-clean-energy-transitions-in-emerging-and-developing-economies>. [47]
- IEA (2021), *Net Zero by 2050: A Roadmap for the Global Energy Sector*, IEA, Paris, <https://www.iea.org/reports/net-zero-by-2050>. [71]
- IEA (2021), *The importance of focusing on jobs and fairness in clean energy transitions*, IEA, Paris, <https://www.iea.org/commentaries/the-importance-of-focusing-on-jobs-and-fairness-in-clean-energy-transitions> (accessed on 15 March 2022). [101]
- IEA (2021), *World Energy Investment 2021*, IEA, Paris, <https://www.iea.org/reports/world-energy-investment-2021>. [181]
- IEA (2020), *World Energy Outlook 2020*, IEA, Paris, <https://www.iea.org/reports/world-energy-outlook-2020>. [56]
- IEnova (2019), *Beyond Energy: Our Sustainability + Financial Report*, https://www.ienova.com.mx/pdf/english/Sustainability_Financial_Report_2019.pdf. [164]
- IFC (2021), “Investing in Sustainable Access to Communications”, <http://www.ifc.org> (accessed on 6 April 2022). [70]
- IFC/Mastercard (2019), *Digital Access: The Future of Financial Inclusion in Africa*, https://www.ifc.org/wps/wcm/connect/region_ext_content/ifc_external_corporate_site/sub-saharan+africa/resources/201805_report_digital-access-africa. [39]
- IICA (2021), *Rural Connectivity in Latin America and the Caribbean*, Inter-American Institute for Cooperation on Agriculture. [16]
- ILO (2021), *Green jobs*, <https://www.ilo.org/global/topics/green-jobs/lang--en/index.htm>. [117]
- ILO (2020), “The future of work in the digital economy”, International Labour Organization, https://www.ilo.org/wcmsp5/groups/public/---dgreports/---cabinet/documents/publication/wcms_771117.pdf (accessed on 15 March 2022). [100]
- IMF (2021), *Securing a Green Recovery: The Economic Benefits from Tackling Climate Change*, International Monetary Fund, <https://www.imf.org/en/News/Articles/2021/04/15/sp041521-securing-a-green-recovery> (accessed on 15 March 2022). [155]
- Inter American Development Bank, IDB Invest and Finnovista (2018), *Fintech: América Latina 2018: Crecimiento y consolidación*, IDB, <https://doi.org/10.18235/0001377>. [24]
- INTERPOL (2021), *ASEAN Cyberthreat Assessment 2021: Key Cyberthreat Trends Outlook from the ASEAN Cybercrime Operations Desk*, <https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwiwjob28qn1AhVRVhoKHJRJARMQFnoECAMQAQ&url=https%3A%2F%2Fwww.interpol.int%2Fcontent%2Fdownload%2F16106%2Ffile%2FASEAN%2520Cyberthreat%2520Assessment%25202021%2520-%2520final.pdf&usq=A>. [41]
- IRENA (2021), *World Energy Transitions Outlook: 1.5°C Pathway*, International Renewable Energy Agency, Abu Dhabi, https://irena.org/-/media/Files/IRENA/Agency/Publication/2021/Jun/IRENA_World_Energy_Transitions_Outlook_2021.pdf. [48]

- IT Web (2021), *CSIR, Siemens unlock digital skills for college students*, [110]
<https://www.itweb.co.za/content/KzQenqjVDOeqZd2r>.
- ITC (2021), “At a Glance: Empowering the Green Recovery”, ITC, [139]
<https://doi.org/10.18356/9789210057660c003>.
- ITC (2021), *SME Competitiveness Outlook 2021: Empowering the Green Recovery*, [172]
https://www.intracen.org/uploadedFiles/intracenorg/Content/Publications/ITC_SMECO-2021.pdf.
- ITF (2021), *ITF Transport Outlook 2021*, OECD Publishing, Paris, [92]
<https://doi.org/10.1787/16826a30-en>.
- ITU (2021), *Telecommunications/ICTs for rural and remote areas*, International [14]
 Telecommunications Union.
- ITU (2021), *The economic impact of broadband and digitization through the COVID-19 pandemic* [9]
Econometric modelling, International Telecommunication Union.
- ITU (2020), *New ITU study estimates US\$ 428 billion are needed to connect the remaining 3* [7]
billion people to the Internet by 2030, ITU, <https://www.itu.int/en/mediacentre/Pages/PR16-2020-ITU-publishes-Connecting-Humanity-study.aspx> (accessed on 5 April 2022).
- Jung, J. and A. Melguizo (2020), *How can Latin America go digital? The role of both* [148]
telecommunication regulation and institutions,
http://vox.lacea.org/?q=review/latam_go_digital.
- Koirala, S. (2019), “SMEs: Key drivers of green and inclusive growth”, *OECD Green Growth* [182]
Papers, No. 2019/03, OECD Publishing, Paris, <https://dx.doi.org/10.1787/8a51fc0c-en>.
- Kučan, D. (2021), *Intermediate cities: a green and transformative post-COVID-19 recovery?*, [87]
<https://oecd-development-matters.org/2021/07/07/intermediate-cities-a-green-and-transformative-post-covid-19-recovery/>.
- L'Oréal (2021), *Share & Care: Where L'Oréal and social protection meet*, [124]
<https://www.loreal.com/en/news/group/share-care-where-loreal-and-social-protection-meet/>.
- Laubinger, F., E. Lanzi and J. Chateau (2020), *Labour market consequences of a transition to a* [114]
circular economy: A review paper, OECD Publishing, Paris.
- Loasana, N. (2020), “Online sexual abuse has more than doubled during pandemic”, *The Jakarta* [26]
Post, <https://www.thejakartapost.com/news/2020/11/25/online-sexual-abuse-has-more-than-doubled-during-pandemic.html> (accessed on 3 March 2022).
- Mastercard (2021), *Reimagining support for small businesses*, [35]
<https://www.mastercard.com/news/insights/2021/reimagining-sme-support/>.
- Mastercard (2020), *Mastercard and USAID Partner to Launch 'Project Kirana'*, Mastercard. [29]
- Mastercard (2019), *Center for Inclusive Growth*, <https://www.mastercardcenter.org/insights/how-mobile-payments-can-help-keep-children-in-school>. [38]
- McKinsey & Company (2021), *The big choices for oil and gas in navigating the energy transition*, [51]
<https://www.mckinsey.com/industries/oil-and-gas/our-insights/the-big-choices-for-oil-and-gas-in-navigating-the-energy-transition>.

- Melguizo, A., E. Salido and W. Leaman (2022), *A faster path to digital transformation in Latin America*, Development Matters, OECD, <https://oecd-development-matters.org/2022/03/02/a-faster-path-to-digital-transformation-in-latin-america/> (accessed on 8 March 2022). [8]
- Microsoft (2021), *Pushing the limits of what AI can do in accessibility*, <https://www.microsoft.com/en-us/ai/ai-for-accessibility>. [34]
- Microsoft (2021), *The Microsoft Global Skills Initiative Program*, <https://www.microsoft.com/en-in/campaign/GlobalSkillInitiative/>. [104]
- Microsoft (2020), *Grab and Microsoft Partner to Upskill Singapore Driver- and Delivery-partners in Tech*, <https://news.microsoft.com/en-sg/2020/10/27/grab-and-microsoft-partner-to-upskill-singapore-driver-and-delivery-partners-in-tech/>. [105]
- Millicom (2021), *Conectadas helps women and girls develop digital skills*, Millicom, <https://www.millicom.com/2020annualreport/conectadas-helps-women-and-girls-develop-digital-skills> (accessed on 2 March 2022). [31]
- Millicom (2020), *Supporting Teachers Through Digital Training | Millicom 2020 Annual Report*, <https://www.millicom.com/2020annualreport/supporting-teachers-through-digital-training> (accessed on 6 April 2022). [32]
- Millicom (2020), *Value Of Tigo Money During Pandemic*, Millicom.com, <https://www.millicom.com/2020annualreport/value-of-tigo-money-during-pandemic/> (accessed on 5 April 2022). [37]
- Moody's ESG Solutions Group (2021), *ESG Data Guide 2021*, <https://www.environmental-finance.com/content/guides/esg-guide-entry.html?planid=2&productid=450&editionid=5>. [162]
- Morgan G et al. (2020), *Infrastructure for gender equality and the empowerment of women*, UNOPS, Copenhagen, <https://content.unops.org/publications/UNOPS-Infrastructure-for-Gender-Equality-and-the-Empowerment-of-women.pdf> (accessed on 5 April 2022). [72]
- MTI Singapore (2021), *Digital Economy Partnership Agreement (DEPA)*, <https://www.mti.gov.sg/Improving-Trade/Digital-Economy-Agreements/The-Digital-Economy-Partnership-Agreement>. [133]
- Nasdaq (2021), *1.6 Million Salvadorans Now Using Bitcoin Chivo Wallet*, Nasdaq, <https://www.nasdaq.com/articles/1.6-million-salvadorans-now-using-bitcoin-chivo-wallet-2021-09-20> (accessed on 2 March 2022). [121]
- OCP (2021), *Mohammed VI Polytechnic University*, <https://careers.ocpgroup.ma/en/careers/our-engagement/growing-together/mohammed-vi-polytechnic-university>. [109]
- OECD (2022), *"STRI: Digital services trade restrictiveness Index"*, *OECD Statistics on International Trade in Services (database)*, <https://doi.org/10.1787/d7753537-en> (accessed on 26 January 2022). [130]
- OECD (2022), *Clean Energy Finance and Investment Mobilisation*, OECD, <https://www.oecd.org/cefim/> (accessed on 15 March 2022). [168]
- OECD (2022), *Recommendation of the Council on Broadband Connectivity*, *OECD/LEGAL/0322*, OECD, Paris, [http://file:///C:/Users/MartinezJimenez_A/Downloads/OECD-LEGAL-0322-en%20\(1\).pdf](http://file:///C:/Users/MartinezJimenez_A/Downloads/OECD-LEGAL-0322-en%20(1).pdf). [21]

- OECD (2021), *Centre on Green Finance and Investment 2021 Forum*, [183]
<https://www.oecd.org/cgfi/forum/>.
- OECD (2021), *Clean Energy Finance and Investment Policy Review of Indonesia*, Green Finance and Investment, OECD (2021), Clean Energy Finance and Investment Policy Review of Indonesia, Green Finance and Investment, OECD Publishing, Paris, [160]
<https://doi.org/10.1787/0007dd9d-en>.
- OECD (2021), *Enhancing economic performance and well-being in Chile - Policy Actions for a more dynamic telecommunication sector*, [146]
https://www.oecd.org/economy/surveys/CHL_OECD_policy_actions_dynamic_telecommunication_sector.pdf.
- OECD (2021), *Gender and the Environment: Building Evidence and Policies to Achieve the SDGs*, OECD Publishing, Paris, [73]
<https://dx.doi.org/10.1787/3d32ca39-en>.
- OECD (2021), *India Energy Efficiency Finance Platforms and Protocols Webinar*, [144]
<https://www.oecd.org/environment/cc/cefim/india/energyefficiencyfinanceplatformsandprotocolswebinar.htm>.
- OECD (2021), *International community strikes a ground-breaking tax deal for the digital age*, [137]
<https://www.oecd.org/tax/international-community-strikes-a-ground-breaking-tax-deal-for-the-digital-age.htm>.
- OECD (2021), *Investment and sustainable development: Between risk of collapse and opportunity to build back better*, OECD, Paris, [156]
<https://www.oecd.org/investment/Between-risk-of-collapse-and-opportunity-to-build-back-better.pdf> (accessed on 15 March 2022).
- OECD (2021), *Mobilising institutional investors for financing sustainable development in developing countries: Emerging evidence of opportunities and challenges*, OECD, Paris. [151]
- OECD (2021), *OECD Responsible Business Conduct: OECD Guidelines for Multinational Enterprises*, [63]
<https://mneguidelines.oecd.org/>.
- OECD (2021), *OECD Services Trade Restrictiveness Index: Policy trends up to 2021*, OECD, Paris, [129]
<https://www.oecd.org/trade/topics/services-trade/documents/oecd-stri-policy-trends-2021.pdf>.
- OECD (2021), *OECD/G20 Base Erosion and Profit Shifting Project. Statement on a Two-Pillar Solution to Address the Tax Challenges Arising from the Digitalisation of the Economy*, [136]
<https://www.oecd.org/tax/beps/statement-on-a-two-pillar-solution-to-address-the-tax-challenges-arising-from-the-digitalisation-of-the-economy-october-2021.pdf>.
- OECD (2021), *Recommendation of the Council on Digital Security of Critical Activities*, [43]
 OECD/LEGAL/0456, <https://www.oecd.org/sti/ieconomy/recommendation-on-digital-security-of-critical-activities.htm>.
- OECD (2021), *SME-tailored due diligence*, OECD, Paris, [173]
<https://mneguidelines.oecd.org/Session-note-2021-OECD-Garment-Forum-SME-tailored-due-diligence.pdf>.
- OECD (2020), *Developing Sustainable Finance Definitions and Taxonomies*, Green Finance and Investment, OECD Publishing, Paris, [159]
<https://dx.doi.org/10.1787/134a2dbe-en>.

- OECD (2020), *Digitalisation Webinar - Opportunities for Fintech to Scale up Finance for Clean Energy*, <https://www.oecd.org/environment/cc/cefim/digitalisationwebinar-opportunitiesforfintechtoscaleupfinanceforcleanenergy.htm>. [189]
- OECD (2020), *Environment at a Glance 2020*, OECD Publishing, Paris, <https://doi.org/10.1787/4ea7d35f-en>. [74]
- OECD (2020), *Global Outlook on Financing for Sustainable Development 2021: A New Way to Invest for People and Planet*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/e3c30a9a-en>. [141]
- OECD (2020), *Going Digital in Brazil, OECD Reviews of Digital Transformation*, OECD Publishing, <https://doi.org/10.1787/e9bf7f8a-en>. [102]
- OECD (2020), *Informality and Social Inclusion in the times of COVID-19: OECD-LAC Social Inclusion Ministerial Summit*, <https://www.oecd.org/about/secretary-general/oecd-lac-social-inclusion-ministerial-summit-july-2020.htm>. [119]
- OECD (2020), *Leveraging Digital Trade to Fight the Consequences of COVID-19*, OECD Publishing, Paris, <https://www.oecd.org/coronavirus/policy-responses/leveraging-digital-trade-to-fight-the-consequences-of-covid-19-f712f404/>. [126]
- OECD (2020), *Making the green recovery work for jobs, income and growth*, OECD Publishing, Paris, <https://www.oecd.org/coronavirus/policy-responses/making-the-green-recovery-work-for-jobs-income-and-growth-a505f3e7/>. [107]
- OECD (2020), *Multi-dimensional Review of Viet Nam: Towards an Integrated, Transparent and Sustainable Economy*, OECD Development Pathways, OECD Publishing, Paris, <https://dx.doi.org/10.1787/367b585c-en>. [184]
- OECD (2020), *OECD Business and Finance Outlook 2020: Sustainable and Resilient Finance*, OECD Publishing, Paris, <https://doi.org/10.1787/eb61fd29-en>. [157]
- OECD (2020), *OECD Digital Economy Outlook 2020*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/bb167041-en>. [6]
- OECD (2020), *Rural Development Strategy Review of Ethiopia: Reaping the Benefits of Urbanisation*, OECD Publishing, Paris, <https://doi.org/10.1787/a325a658-en>. [98]
- OECD (2020), *The Circular Economy in Cities and Regions: Synthesis Report*, OECD Urban Studies, OECD Publishing, Paris, <https://doi.org/10.1787/10ac6ae4-en>. [80]
- OECD (2019), *Enhancing the contribution of digitalisation to the smart cities of the future*, OECD Publishing, Paris, <https://www.oecd.org/regional/regionaldevelopment/Smart-Cities-FINAL.pdf>. [89]
- OECD (2019), *Global Material Resources Outlook to 2060: Economic Drivers and Environmental Consequences*, OECD Publishing, Paris, <https://doi.org/10.1787/9789264307452-en>. [76]
- OECD (2018), *Bridging the Digital Divide: Include, Upskill, Innovate*, OECD Publishing, Paris, <https://www.oecd.org/digital/bridging-the-digital-gender-divide.pdf>. [27]

- OECD (2018), *OECD Due Diligence Guidance for Responsible Business Conduct*, [64]
<https://mneguidelines.oecd.org/OECD-Due-Diligence-Guidance-for-Responsible-Business-Conduct.pdf>.
- OECD (forthcoming), *Digitalisation for the Transition to a Resource Efficient and Circular Economy*. [143]
- OECD DAC (2020), *OECD DAC Blended Finance Principle 4: Focus on Effective Partnering for Blended Finance*, https://www.oecd.org/dac/financing-sustainable-development/blended-finance-principles/documents/Principle_4_Guidance_Note_and_Background.pdf (accessed on 15 March 2022). [179]
- OECD/ACET (2020), *Quality Infrastructure in 21st Century Africa: Prioritising, Accelerating and Scaling up in the Context of Pida (2021-30)*, <https://www.oecd.org/dev/Africa-Quality-infrastructure-21st-century.pdf>. [185]
- OECD/European Commission (2020), *Cities in the World: A New Perspective on Urbanisation*, OECD Urban Studies, OECD Publishing, Paris, <https://dx.doi.org/10.1787/d0efcbda-en>. [145]
- OECD/SWAC (2020), *Africa's Urbanisation Dynamics 2020: Africapolis, Mapping a New Urban Geography*, OECD Publishing, Paris, <https://doi.org/10.1787/b6bccb81-en>. [85]
- OECD/UN-HABITAT/UNOPS (2021), *Global State of National Urban Policy 2021: Achieving Sustainable Development Goals and Delivering Climate Action*, OECD Publishing, Paris, <https://dx.doi.org/10.1787/96eee083-en>. [99]
- PACE (2018), *Platform for Accelerating the Circular Economy*, <https://pacecircular.org/>. [82]
- Pototschnig, A. (2021), *Conceptual models and frameworks for improving the regulation and management of the electricity systems in Peru. Thematic Line 4: Transmission systems*, DFC Economics, <http://www.minem.gob.pe/minem/archivos/Theme%204-Transmission%20Systems%20Improved%20Regulation%20and%20Management-Final%20Report-20210616.pdf>. [66]
- Prabhakar, D. and S. Lee (2021), *COVID-19 Non-Tariff Measures: The Good and the Bad, through a Sustainable Development Lens*, United Nations, New York, https://unctad.org/system/files/official-document/ser-rp-2021d3_en.pdf. [140]
- Raven, A. (2017), *A New Solar Park Shines a Light on Egypt's Energy Potential*, Creating Markets, IFC, https://www.ifc.org/wps/wcm/connect/news_ext_content/ifc_external_corporate_site/news+and+events/news/cm-stories/benban-solar-park-egypt (accessed on 27 April 2022). [75]
- REUTERS (2021), *COP26 coalition worth \$130 trillion vows to put climate at heart of finance*, REUTERS, <https://www.reuters.com/business/cop/wrapup-politicians-exit-cop26-130tn-worth-financiers-take-stage-2021-11-03/> (accessed on 2 March 2022). [154]
- Santiso, C. (2020), *Resetting the state for the post-COVID digital age*, Development Matters OECD, <https://oecd-development-matters.org/2020/08/03/resetting-the-state-for-the-post-covid-digital-age/> (accessed on 8 March 2022). [45]
- Schneider Electric (2021), *Electrical installation and safety training*, [108]
<https://www.se.com/ww/en/work/services/field-services/electrical-distribution/operate/training/>.

- Schneider Electric (2021), *Welcomer to the GIGATON PPA*, <https://gigatonppa.com/>. [59]
- SEGIB & CEAPI (2020), *El papel del sector privado en tiempos de pandemia: Ideas para el debate*, <https://www.segib.org/wp-content/uploads/Informe-El-papel-del-sector-privado-en-tiempos-de-Pandemia-Ideas-para-el-debate-Julio-2020.pdf>. [120]
- Shell (2021), *The Energy Transformation Scenarios*, Shell, <https://www.shell.com/energy-and-innovation/the-energy-future/scenarios/the-energy-transformation-scenarios.html#iframe=L3dIYmFwcHMvU2NlbnFyaW9zX2xvbmdfaG9yaXpvbnMv> (accessed on 2 March 2022). [65]
- Siemens (2021), *Empowering Indonesia's young generation to be skilled workforce*, <https://new.siemens.com/id/en/company/jobs/training-and-internship.html>. [112]
- Smart Farm India (n.d.), *Smart Farm India – Connecting solutions to end rural poverty*, <https://www.smartfarmindia.org/> (accessed on 5 April 2022). [19]
- Suri, S. and F. Bonaglia (2021), *Why local? Why now? Strengthening intermediary cities to achieve the SDGs*, <https://unhabitat.org/why-local-why-now-strengthening-intermediary-cities-to-achieve-the-sdgs>. [97]
- Task Force on Climate-related Financial Disclosures (2021), *2021 Status Report*, Task Force on Climate-related Financial Disclosures, Basel, <https://www.fsb.org/wp-content/uploads/P141021-1.pdf> (accessed on 15 March 2022). [158]
- Telefónica (2022), *Connecting the unconnected: A Rural Manifesto for Latin America - Telefónica*, Telefonica Blog, <https://www.telefonica.com/en/communication-room/connecting-the-unconnected-a-rural-manifesto-for-latin-america/> (accessed on 8 March 2022). [18]
- Telefónica (2021), *Se duplicó la participación femenina en labores técnicas de telecomunicaciones a través del proyecto 'Mujeres en Red' – Sala de Prensa*, <https://saladeprensa.telefonica.com.pe/se-duplico-la-participacion-femenina-en-labores-tecnicas-de-telecomunicaciones-a-traves-del-proyecto-mujeres-en-red/> (accessed on 6 April 2022). [30]
- The Adecco Group (2020), *Skills for the Green Economy*, <https://www.adeccogroup.com/future-of-work/latest-research/skills-for-the-green-economy/>. [115]
- The Sustainable Digital Finance Alliance (2018), *Digital Technologies for Mobilizing Sustainable Finance: Applications of Digital Technologies to Sustainable Finance*, The Sustainable Digital Finance Alliance, https://docs.wixstatic.com/ugd/3d4f2c_6767ef5b999c4e3fa42c0e05e6ea2ac3.pdf (accessed on 15 March 2022). [186]
- TotalEnergies (2020), , *Total adopts a new Climate Ambition to Get to Net Zero by 2050*, <https://totalenergies.com/media/news/total-adopts-new-climate-ambition-get-net-zero-2050>. [54]
- UNCTAD (2021), *Digital Economy Report 2021. Cross-border data flows and development: For whom the data flow*, United Nations, New York, https://unctad.org/system/files/official-document/der2021_en.pdf. [128]
- UNCTAD (2021), *Trade and Development Report 2021*, United Nations, New York, https://unctad.org/system/files/official-document/tdr2021_en.pdf. [170]

- UNCTAD (2020), "World Investment Report 2020 (Overview)", *United Nations Conference on Trade and Development* 6 (52). [150]
- UNICEF (2021), *COVID-19: Social Protection responses in Latin America and the Caribbean*, <https://www.unicef.org/lac/en/covid-19-social-protection-responses-in-latin-america-and-caribbean>. [125]
- United Nations (2021), *The World Social Report 2021: Reconsidering Rural Development*. [15]
- United Nations (2019), *World Urbanization Prospects: The 2018 Revision*, United Nations, New York, <https://population.un.org/wup/Publications/Files/WUP2018-Report.pdf>. [86]
- USAID (2022), *The Gender Digital Divide*, USAID - Digital Inclusion & GeoCenter. [25]
- Voltaia (2022), *Sustainability*, <https://www.voltaia.com/about/sustainability>. [67]
- World Bank (2021), *Digital transformation in Vietnam: Skills must transform too*, <https://blogs.worldbank.org/eastasiapacific/digital-transformation-vietnam-skills-must-transform-too>. [118]
- World Economic Forum (2021), *Delivering a Climate Trade Agenda: Industry Insights*, World Economic Forum, https://www3.weforum.org/docs/WEF_Delivering_a_Climate_Trade_Agenda_2021.pdf. [138]
- WTO (2021), *Investment facilitation for development news archives*. [147]
- WTO (2021), *Joint initiative on e-commerce news archives*, https://www.wto.org/english/news_e/archive_e/jsec_arc_e.htm. [132]
- X-ELIO (2021), *X-ELIO is committed to regenerating the environment of the lesser kestrel in the South East Region of Spain*, <https://x-elio.com/x-elio-is-committed-to-regenerating-the-environment-of-the-lesser-kestrel-in-the-south-east-region-of-spain/>. [68]

4

Emerging markets moving ahead with ESG policies

Lourdes Casanova, Senior Lecturer, Gail and Rob Cañizares Director, Emerging Markets Institute at Cornell S.C. Johnson College of Business, Cornell University

Anne Miroux, Faculty Fellow, Emerging Markets Institute at Cornell's S.C. Johnson College of Business, Cornell University

Emerging countries are increasingly important players in global initiatives for sustainability and responsible business conduct. Governments in these regions are also stepping up their efforts to promote better integration of environmental, social, and governance (ESG) factors in investment decisions and corporations by introducing new policies and regulations on ESG-related issues. In this chapter we shall focus on describing current initiatives in ESG within emerging markets, which are essential for the success of global efforts in key areas such as sustainability and climate change.

Key messages

- ESG is taking up in emerging markets: in 2021, emerging market firms accounted for about 23% of the business signatories of the United Nations Global Compact, a corporate initiative that calls upon businesses to adopt sustainable and socially responsible policies and practices
- The number of ESG reporting provisions in some countries such as Argentina, Brazil, China, Colombia, India, and South Africa are exceeding or moving towards the European Union average
- Emerging markets are also increasingly taking part in the large-scale efforts to incorporate ESG into the financial sphere. The number of signatories of Principles for Responsible Investment doubled in emerging markets over 2019-2021. Furthermore, the increasing presence of emerging market firms in global sustainability indexes confirms the trend.
- Influenced by global initiatives such as the United Nations Sustainable Development Goals and the 2015 Paris Agreement on climate change, emerging markets have increasingly begun to implement their own national and regional initiatives around ESG.
- In emerging markets, ESG has traditionally been dominated by voluntary measures. Increasingly, however, these countries are also implementing mandatory regulations, even becoming global leaders in some cases.
- Both investors and consumers scrutinize the ESG positions of companies. As of 2021, half of the 44 stock exchange partners of the Sustainable Stock Exchange Initiative were in emerging markets.
- Over the years, South Africa has put in place a network of regulations in ESG, accompanied in some cases by major business-led initiatives. The financial sector in South Africa has been a leader in integrating ESG issues into business practices.
- India's approach to ESG has been progressively moving from voluntary to mandatory. The integration of ESG into business practices is still at a nascent stage but is gaining traction in the country.
- The state has played a significant role in Thailand's progress on ESG matters. Particular attention has been paid to the conservation of nature, people's well-being and enhance transparency and accountability in firms. Overall, ESG compliance and reporting are still mostly voluntary in Thailand.
- Brazil's ESG focus has largely been on the environment due to the country's large natural endowments. The country has no strict ESG disclosure or compliance requirements for listed companies; however, it has been a regional leader in sustainability indices.

Introduction

Several developments illustrate the growing take up of ESG in emerging markets. In 2021, emerging market firms accounted for about 23% of the business signatories of the United Nations Global Compact, a corporate initiative that calls upon businesses to adopt sustainable and socially responsible policies and practices. As of September 2021, Brazil alone had 714 Global Compact signatories, Mexico 490, China 430, and Colombia 322, more than most developed countries. By comparison, other than France with 1 342, and Germany with 589, signatories lag from other major advanced economies such as the United States (373), Japan (338), and the United Kingdom (426). ESG take-up in emerging markets is also evident in the growing number of reporting provisions on sustainability issues in emerging countries (see country descriptions below). As of 2020, Argentina, Brazil, China, Colombia, India, and South Africa are among those with the largest number of ESG reporting provisions, with their number exceeding or getting close to the European Union average (Carrots & Sticks, 2021^[1]).

Emerging markets are also increasingly taking part in the large-scale efforts to incorporate ESG into the financial sphere. They significantly increased their participation in the Principles for Responsible Investment (PRI), a set of six principles launched in 2006 at the New York Stock Exchange for investors and aimed at encouraging the incorporation of ESG issues into investment practices. The number of PRI signatories from emerging economies more than doubled over 2019-2021. As of March of 2022, they accounted for about 14% of all signatories in the world. Brazil and South Africa had 115 and 74 signatories respectively, some of the highest counts among emerging markets.

In addition, in 2021, of the 114 partners of the Sustainable Stock Exchange Initiative (SSEI, see Table 4.1)¹, a group of stock exchanges committed to encourage sustainable investment, almost half belonged to emerging and developing economies. In 2021, 26 members of the Initiative had ESG reporting as a listing rule compared to 16 in 2018 and, of these, 13 were emerging economies. All but one of the E20+1² emerging economies have stock exchanges that are SSEI partners, and half of them have stock exchanges with ESG reporting as a listing requirement (see Table 4.1). Notably, out of the top 10 leaders in sustainability disclosure among SSEI partners, two were from emerging markets in 2018: Thailand (the Stock Exchange of Thailand, ranked 7th) and South Africa (the Johannesburg Stock Exchange, ranked, 8th) (Sustainable Stock Exchanges Initiative, 2018^[2]). In a similar vein, all but four of the E20+1 emerging economies group are members of the Network for Greening the Financial System (NGFS) that brings together central banks and financial supervisors to develop and implement initiatives for greening finance and the economy in their respective countries.

The number of firms from emerging markets in global sustainability indexes, such as the Dow Jones Sustainability World Index (DJSI)³, also illustrate the trend. For instance, companies from the E20+1 countries made up about 10% of the Index in 2020. A few emerging economies stand out, such as Thailand with 12 firms in the World DJSI, the same as the Netherlands and just behind Switzerland, and not far from other major developed economies such as Germany, Italy, and Spain. Further down, Brazil with 7 has more firms in the index than Sweden, Finland, and Canada.

According to the IMF (Gautam, Goel and Natalucci, 2022^[3]), 18% of the foreign financing in emerging markets (excluding China) in 2022 corresponds to ESG investments, a fourfold growth in recent years. Growing at 20% per year, green bonds continue to be a key component of these ESG investments. The growing share of ESG related financing in emerging markets has been partly driven by private sector initiatives combined with government policies aimed at promoting better integration of ESG factors in corporate investment decisions, as seen in next section.

Moving forward with ESG policies in emerging economies

As stated in the previous section, emerging markets have made significant progress in designing and implementing ESG policies and initiatives. Influenced by global initiatives such as the United Nations Sustainable Development Goals (SDGs) and the 2015 Paris Agreement on climate change, emerging markets have increasingly begun to implement their own national and regional initiatives around ESG.

In emerging markets, ESG has traditionally been dominated by voluntary measures. For instance, Brazil's sustainable finance framework has a strong voluntary component, starting with the 1995 *Protocolo Verde*, a voluntary commitment for the financial sector to factor environmental and social implications into financial decision making. In India, the guidelines launched by the Ministry of Corporate Affairs over the years to foster Corporate Social Responsibility (CSR) and encourage responsible business conduct were all voluntary. In South Africa, at the core of corporate governance is the King's Code, one of the most important examples of the private sector bonding together towards ESG initiatives (see below the cases of Brazil, India, South Africa and Thailand). ESG reporting standards are also voluntary in many emerging markets and their respective exchanges.

Increasingly, however, emerging markets are implementing mandatory regulations as well, even becoming global leaders in some cases. For example, as described below, India is the first country globally to legally mandate Corporate Social Responsibility through the Company Act of 2013 and Thailand is the first Asian country, and one of the very few in the world, to create a National Action Plan for human rights in business settings. Many stock market exchanges are also moving towards mandatory ESG disclosure, including India, Nigeria, South Africa, Thailand, and China's Hong Kong and Shenzhen Stock Exchanges. As discussed earlier, despite South Africa's King's Code being a voluntary set of guidelines, the Johannesburg Stock Exchange (JSE) mandates all listed firms to comply with all principles of the King's Code (see below). Chinese authorities also have issued several new regulations and procedures on ESG related issues including China's Corporate Social Credit System (CSCS) intended to regulate corporate behavior for both foreign and local companies. This shift from voluntary to mandatory ESG initiatives in emerging markets highlights the importance emerging markets are placing on ESG within their national agendas.

In line with mandatory and recommended public policies, the private sector has also been regulating the space. Both investors and consumers scrutinize the ESG positions of companies. One indicator is the presence of sustainable indices within emerging markets' national stock exchanges. As of 2021, 44 stock exchange partners of the Sustainable Stock Exchange Initiative offered sustainability indexes, about half of which were in emerging markets. Two thirds of the E20+1 countries have at least one sustainability index (Table 4.1). Most notably, China has more than 50 sustainable indices amongst its three exchanges, and India and Brazil six each, indicating strong investors demand and pressure for companies to make ESG a priority. The importance of ESG is further supported by the growing number of ESG funds and the development of the sustainable bond market in emerging markets. The share of emerging economies in sustainable funds rose from USD 140 billion to close to USD 200 billion over 2018-2020 (Amundi Asset Management & International Finance Corporation, 2021^[4]). The trend was largely led by China, but Brazil, Chile, and Indonesia, as well as India were also important issuers - though at lower levels. India saw the creation of ten ESG-dedicated funds from 2018 to 2021 (see below).

As of 2022, China⁴ is the world's largest CO₂ emitter and at the same time leader in several green technologies like solar panels, wind energy or electrical vehicles. While coal continues to be an important source of power plants, at COP26 in Glasgow in 2021, China committed to increase to 25% the share of non-fossil fuels in its economy by 2030 and become carbon neutral by 2060. As regards to governance, China's strict Corporate Social Credit System (CSCS) regulates corporate behavior for both foreign and local companies in a multifaceted way.

In the following section, we examine a few countries case studies: South Africa, India, Thailand and Brazil. With China, these countries are the ones occupying the five top positions, based on their number of firms,

in the Emerging Markets Institute list of the 200 best ESG corporate performers from emerging markets (Casanova and Miroux, 2021^[5]). These case studies highlight the diversity of situations as regards ESG in emerging economies: the legacy of the past and the importance of ESG regulation in South Africa; the policy drive to promote ESG practices and reporting in Thailand; the push for regulatory reform in China over the past ten years, and the mandatory steps taken by India. While recognizing the challenges faced in setting up appropriate ESG frameworks and on driving further progress, the examples below demonstrate the significant and steady progress being made in emerging markets on ESG issues.

South Africa

Regulation drives ESG integration in South Africa (Principles for Responsible Investment and CFA Institute, 2019^[6]). Over the years, the country has put in place a network of regulations in ESG, accompanied in some cases by major business-led initiatives.

- In the *Environment* area, recent moves include the 2019 implementation of a carbon tax aimed at businesses that emit high levels of greenhouse gases. In addition, in October 2021, and after three years of consultations with stakeholders, South Africa's cabinet approved the Climate Change Bill for submission to Parliament. The bill proposes a framework to coordinate action and establish public and private sector obligations related to climate change. In relation with COP26, the country has specific targets to reduce CO₂ emissions by 2030.
- In the *Social* area, priorities have focused on improving health and safety among employees, expanding workplace benefits, and increasing diversity. Particularly important in that respect are South Africa's efforts to address its historic race-based inequity, through for instance the 1998 Employment Equity Act and the 2003 Broad-Based Black Economic Empowerment Act. Since the 2008 Companies Act, public companies and those that attract high level of public interest have also been required to have a Social and Ethics Committee, whose function is to monitor and report on ESG-related matters among others.
- In *Governance*, there is a relatively well-developed framework set up through various laws, and the King Code which is a set of voluntary principles and guidelines on corporate governance. The King Code has played an influential role in South Africa and is recognized as one of the world's leading corporate governance codes. For insurers as well as companies listed on the Johannesburg Stock Exchange (JSE), complying with the code and reporting on its application is mandatory. Furthermore, many firms use the King Code on a voluntary basis (Davids and Kitcat, 2020^[7]).

Sustainable Finance

The financial sector in South Africa has been a leader in integrating ESG issues into business practices. For instance, the Code for Responsible Investing in South Africa (CRISA), launched in 2011, is a voluntary private sector initiative addressed to institutional investors and their service providers. Aligned with the Principles for Responsible Investment (PRI), the Code aims at encouraging the inclusion of ESG issues into investment decisions. A revised draft, to inter alia enhance monitoring as well reporting obligations and reinvigorate the Code, was published in 2021. Regulation also played a role in promoting ESG integration into investment decision-making and analysis. The guidance on regulation 28 of the 1956 Pension Fund Act published by the Financial Sector Conduct Authority (FSCA) in 2011, for instance, requires that ESG factors be considered when evaluating the sustainability of an asset. Regulation 28 applies to pension funds, but it has also influenced the ESG practices of other institutional investors and asset managers in South Africa.

In 2019, South Africa's Reserve Bank joined the Network for Greening the Financial System, and the National Treasury is a member of the IFC-supported Sustainable Banking Network to support global efforts

towards accelerating sustainable financing and the development of international standards. In October 2021, just before the COP 26, the Treasury published an updated version of its draft technical paper, *Financing a Sustainable Economy*, a key step in strengthening sustainable finance in South Africa by identifying gaps in the nation's legal and policy framework. The same month, it published its own draft green taxonomy to help the financial sector in selecting green investments in line with international best practice and South Africa's national policies and priorities (South Africa Sustainable Finance Initiative, 2021^[8]).

The Johannesburg Stock Exchange (JSE)— a PRI signatory and a founding signatory of the Sustainable Stock Exchange initiative – also plays an influential role in promoting corporate transparency and ESG practices in South Africa. In addition to requiring listed firms to comply with the King Code and report on it, as mentioned above, the Johannesburg Stock Exchange also provides guidance for companies on ESG disclosure in accordance with guidelines set out by the Sustainable Stock Exchange Initiative (SSEI, see Table 4.1). The Johannesburg Stock Exchange was the first emerging market stock exchange, and one of the first globally, to introduce in 2004 a sustainability index for companies based on indicators related to environment, social and governance practices (JSE, 2020^[9]). It launched a Green Bond Segment in 2017, later expanded to become an all-compassing Sustainability Segment, the first in Africa.

As of 2021, 71 South African companies were signatories of the Principles for Responsible Investing and 38 had joined the UN Global Compact, a relatively high number compared to other large emerging economies. South Africa is considered advanced with respect to ESG, reflecting its strong regulatory approach as well as major business initiatives taken over the years such as the King Code and CRISA. Although, there is room for improvement in more meaningful action and implementation, renewed policy efforts have been made, with corporations moving into more active participation and taking proactive steps to assess ESG (Bulbulia, 2020^[10]).

India

India's approach to ESG has been progressively moving from voluntary to mandatory. Measures have been put in place to push for the adoption of electric vehicles, promote renewable energy, reduce CO₂ emissions; improve access to clean water and sanitation; promote healthcare, education, and women empowerment; and tackle corruption. The integration of ESG into business practices is still at a nascent stage but is gaining traction in the country.

The Ministry of Corporate Affairs and the Securities and Exchange Board of India (SEBI) have played an important role in promoting ESG. The Ministry started the movement with the 2009 "Voluntary Guidelines on Corporate Social Responsibility", followed by the 2012 "National Voluntary Guidelines on Social, Environmental and Economic Responsibilities of Business" (NVGs), which stressed the importance of the environmental, social, and economic responsibilities of companies and the need to integrate ESG into business practices. In 2019, the Ministry released the National Guidelines for Responsible Business Conduct to make them more aligned with the United Nations Sustainable Development Goals (SDGs).

- On the *Environment* dimension, in 2017, the Securities and Exchange Board of India released guidelines for green bonds. At the COP26 summit in 2021, Prime Minister Modi pledged to cut carbon emissions by USD 1 billion by 2030 and achieve net-zero carbon emissions by 2070.
- Along the *Social* dimension, in 2013, India adopted a new Company Act that made it mandatory for companies of a certain turnover and profitability to spend a minimum of 2% of their net profits on Corporate Social Responsibility activities. India thus became the first country to legally mandate social responsibility for enterprises (Prasad, 2014^[11]).
- In *Governance*, the Securities and Exchange Board plays a particularly important role. In 2012, it mandated the top 100 listed companies by market capitalization to file business responsibility reports based on the National Voluntary Guidelines on Social, Environmental and Economic

Responsibilities of Business. The Securities and Exchange Board also requires that two third of the directors on the remuneration and audit committee of listed firms be independent directors. It formed the Kotak Committee on Corporate Governance in 2017 with a view to improve corporate governance standards for listed companies. In 2021, the Securities and Exchange Board introduced a new framework, the Business Responsibility and Sustainability Report, which aims to bring India's sustainability reporting closer to global reporting standards and will be mandatory for the top 1000 listed companies from fiscal year 2023. To increase transparency in investment decisions, in 2019, the Securities and Exchange Board issued monitoring and reporting guidelines on stewardship for insurance companies, pension funds as well as mutual funds and alternative investment funds, following the example of the Insurance Regulatory Development Authority and the Pension Fund and Development Authority that had taken similar steps a few years before⁶.

Sustainable Finance

Sustainable finance has begun to gain ground in India. In 2020 alone, USD 2.3 billion was raised via sustainable bond issuances. Several funds dedicated to ESG have also emerged in the past three years: ten such funds were created between 2018 and March 2021, with USD 1.4 billion in assets under management (CRISIL, 2021^[12]). In addition, in 2021, a Social Stock Exchange was created so that social enterprises and voluntary organizations could raise capital more easily (The Financial Express, 2021^[13]). India also has several ESG-related indexes, including the S&P BSE 100 ESG Index of the Bombay Stock Exchange, and the Nifty 100 ESG Index of the National Stock Exchange (see Table 4.1). India has also joined various global initiatives related to ESG. In 2019, it became a founding member of the European Commission-led International Platform on Sustainable Finance, a forum for driving environmentally sustainable finance. In 2021, the Central Bank became a member of the Network for Greening the Financial System.

167 Indian firms are signatories of the UN Global Compact and 24 are signatories of the PRI as of November 2021. The 2021 Dow Jones Sustainability World ranking includes six Indian firms as sustainability leaders, with Hindalco Industries Ltd achieving gold and Wipro Ltd reaching the silver distinction (S&P Global, 2022^[14]).

Thailand

The state has played a significant role in Thailand's progress on ESG matters, adopting over the years several laws and regulations such as the Enhancement and Conservation of the National Environmental Quality Act, the Factory Act, The Hazardous Substance Act, the Occupational Safety Health, the Public Health Act, and the Act Supplementing the Constitution Relating to the Prevention and Suppression of Corruption.

- On the *Environment* dimension, particular attention has been paid to the conservation of nature, partly because of importance for the Thai economy of industries such as tourism and fishing, which are especially impacted by environmental issues. At COP26, the government committed to reduce its greenhouse emissions between 20% and 25% by 2030.
- In *Social*, sustainable growth and development are at the core of Thailand's 20-Year National Strategy (2018-2037), with human resource development, social equality, and green growth as three of its six target areas. The government's 4.0 policy — whose goal is to move the country into sustainability and prosperity, by leveraging the 4th industrial revolution — includes social well-being, human development, and environment protection among its key objectives. Thailand is a regional leader in Responsible Business Conduct (OECD, 2021^[15]). It was the first Asian country to create a standalone National Action Plan on Business and Human Rights (2019-2022) in line with the UN Guiding Principles, and focusing on labor, community land and environmental resources, human rights, and cross border investments and multinational enterprises (OECD,

2021^[15]). To date, only 22 countries in the world have such an Action Plan in place. The government has also taken steps to encourage Thai state-owned enterprises to follow Responsible Business Conduct standards and practices.

- For the *Governance* dimension, the Thai Securities and Exchange Commission issued in 2017 a new Corporate Governance Code (CG Code), replacing the 2012 Principles of Good Corporate Governance issued by the Stock Exchange of Thailand, to provide guidance and enhance transparency and accountability in firms. The Code requires company boards to engage in sustainability reporting that meets domestic and international standards. As of 2021, the Securities and Exchange Commission announced it was developing its own ESG disclosure framework, with special emphasis on climate change disclosures (Azizuddin, 2021^[16]).

Sustainable Finance

The Banking sector of Thailand has taken several steps to move forward on sustainable finance. For instance, encouraging financial institutions to integrate sustainability into their business and operating models is one of the key objectives of Thailand's Central Bank's three-year strategic plan (2020-2022). In 2019, under the central bank's leadership, the Thai Bankers' Association launched the Responsible Lending Guidelines. The latter has been signed by most banking institutions in Thailand (Bank of Thailand et al., n.d.^[17]). The central bank is part of the Network for Greening the Financial System. In addition, with the support of the World Bank's International Financial Corporation (IFC), the central bank has been developing since 2019 a Sustainable Finance policy framework to help the banking sector improve ESG risk management practices and direct more capital to projects and sectors with environmental and social benefits (IFC, 2019^[18]). The Securities and Exchange Commission has also been moving forward on sustainable finance. In 2018, it launched the Green bond regulation, and in 2021, it announced it was developing a sustainable finance taxonomy (Azizuddin, 2021^[16]).

The Stock Exchange of Thailand, a member of the Sustainable Stock Exchanges Initiative promotes sustainability disclosure among listed companies. It has published its own Guidelines for Sustainable Reporting based on the Global Reporting Initiative (GRI) and made ESG reporting on CSR policies and activities mandatory for listed companies since 2014. However, reporting of key performance indicators is voluntary. In 2015, the Exchange launched Thailand Sustainability Investment (THSI), a list of publicly listed companies based on ESG criteria such as measures to address climate change, energy and water conservation, human rights protection, workplace safety, board independence, and anti-corruption; on this basis, it created a Sustainability Index, the SET THIS, in 2018.

There have also been many efforts from entities from the capital markets and the financial sector. Thailand's securities authorities, for instance, have worked hard to promote ESG practices. Sustainability has become a priority of the Securities and Exchange Commission Strategic Plan. In 2017, the Securities and Exchange Commission also launched the Investment Governance Code 2017 (I Code) that sets out governance principles and guidance for responsible investment by institutional investors (SEC, n.d.^[19]).

Overall, ESG compliance and reporting are still mostly voluntary in Thailand. While several stakeholders consider that ESG implementation could be improved, awareness has been rising. Thailand is a leader in sustainability reporting (OECD, 2021^[15]) and a significant number of Thai companies are included in global sustainability indexes and rankings. The most recent DJSI World ranking published in November 2021 included eleven Thai firms in the gold category (S&P Global, 2022^[14]), the highest number from an emerging market.

Brazil

Brazil has several policies addressing social, governance and environmental issues. Brazil's ESG focus has largely been on the environment due to the country's large natural endowments. Its environmental

policy includes general environmental regulations as well as specific regulations targeting, for instance, deforestation, ocean pollution and air quality.

- In *Environment*, the Federal Constitution provides the basis of the nation's environmental policy. In 1981, the National Environmental System (SISNAMA) was created to safeguard, regulate, and enforce environmental quality. However, since 2018, environmental protection has weakened, spurring global controversies on, for instance, the preservation of the rainforest in the Amazon Basin. According to Biological Conservation, from 2019 to 2020, the Brazilian government issued over 50 legislative acts weakening environmental protection (Vale et al., 2021^[20]), (Yale E360, 2021^[21]). At COP26 the country committed to create green jobs and preserve the Amazon. At the same time and while President Bolsonaro did not attend the summit, it pledged to cut emissions in half by 2030, achieve carbon neutrality by 2050 and end illegal deforestation by 2029.
- In the *Social* dimension, government policies include income transfer programs to reduce poverty and inequality, such as the Bolsa Familia program launched in 2003. More social policies were put in place due to the COVID pandemic, including a targeted and time-bound fiscal package for social assistance, which amounted to approximately 11% of the country's Gross Domestic Product in 2020.
- In *Governance*, corporate governance regimes are set by Brazilian Corporate Law and are complemented by regulations from the Brazilian Securities Commission (the CVM Rulings) and the Brazilian Stock Exchange (also known as B3). However, governance is a controversial topic in the country as transparency and law enforcement are still challenging. International bodies such as OECD have been helping Brazil to address bribery and corruption-related issues (OECD, 2014^[22]), (OECD, 2019^[23]), but much work is still needed.

Sustainable Finance

Brazil's banking system has made efforts to build a sustainable finance framework, focusing in particular on environmental issues. The first standards and regulations date back to the 1990s. In 1995, five Brazilian banks signed the first framework, Protocolo Verde (Green protocol in English), a voluntary commitment to consider environmental and social factors in financial decision-making. Private banks and the Brazilian Federation of Banks (FEBRABAN) later joined Protocolo Verde. Over the following decades, several resolutions and regulations were adopted that aimed to establish standards for voluntary reporting on environmental matters, prevent the financing of companies involved in deforestation, and require the issuers of securities to disclose whether and how they implemented environmental and social policies (Teixeria and Rink, 2020^[24]). In 2014, the Resolution on Social and Environmental Responsibility for Financial Institutions created a list of principles that financial institutions should consider when developing ESG policies (IFC and SBN, 2018^[25]). Joining the Network for Greening the Financial System in 2020, Brazil's central bank announced that sustainability would be integrated in its strategic plan, including in future regulatory changes. In September 2021, the Central Bank published new ESG regulations for the National Financial System (Trench, Rossi and Watanabe, 2021^[26]).

Brazil has no strict ESG disclosure or compliance requirements for listed companies. However, the Brazilian Securities and Exchange Commission (CVM) requires companies to submit an annual reference form disclosing socio-environmental risks, environmental policy, compliance costs, and company adherence to the Code of Best Practices of Corporate Governance issued by the Brazilian Institute of Corporate Governance (Sustainable Stock Exchanges Initiative, 2009^[27]), (Instituto Brasileiro de Governança Corporativa, 2015^[28]). To further improve the quality of ESG information disclosed, the Securities and Exchange Commission launched in December 2020 a consultation on the amount of ESG-related information companies should be required to disclose.

Brazil has been a regional leader in sustainability indices. In 2000, the Brazilian Stock Exchange created the Novo Mercado (New Market, in English) a special listing segment that requires companies to heighten

transparency on corporate governance issues. In 2005, it released the Corporate Sustainability Index (ISE). Information about the overall and component scores of companies included in the index have not been disclosed to the public in the past, but this was to change as of January 2022 (A Bolsa do Brasil, 2021^[29]).

Brazil counts the largest number of signatories of the UN Global Compact among emerging economies, and one of the largest globally. Since 2019, however, a few controversial measures taken by the government, combined with major corporate corruption scandals or environmental disasters involving the meatpacker JBS, the oil company Petrobras and the mining corporation Vale, have been detrimental to its public image, on the environmental front.

Table 4.1. Emerging economies participation in the Sustainable Stock Exchange Initiative: the E20+1

Country	SSEI Member	Exchange Name	ESG Reporting Required	Stock Market has Sustainability Index	If Yes, Index Name
China	Yes	Hong Kong Exchanges and Clearing Limited	Yes	Yes	Hang Seng Corporate Sustainability Index
					Hang Seng ESG Index
		Shanghai Stock Exchange	No	Yes	Covered by 27; e.g., SSE Corporate Governance Index
		Shenzhen Stock Exchange	Yes	Yes	Covered by 22; e.g., CCTV 50 Index
India	Yes	Bombay Stock Exchange	Yes	Yes	S&P BSE CARBONEX
					S&P BSE 100 ESG
					S&P BSE GREENEX
		National Stock Exchange of India	Yes	Yes	Nifty100 ESG Index Nifty100 Enhanced ESG Index S&P ESG India Index
Russia	Yes	Moscow Exchange	No	Yes	MOEX – RSPP Sustainability Vector Index.
					MOEX – RSPP Responsibility and Transparency Index.
Brazil	Yes	B3	No	Yes	Covered by 6; e.g., IGC-NM
Mexico	Yes	Bolsa Institucional de Valores (BIVA)	No	Yes	FTSE4Good BIVA Index
		Bolsa Mexicana de Valores (Mexican Stock Exchange)	No	Yes	S&P/BMV Total Mexico ESG Index
					ISRS Sustainability Index
Indonesia	Yes	Indonesia Stock Exchange	Yes	Yes	SRI-KEHATI
Turkey	Yes	Borsa Istanbul	No	Yes	BIST Sustainability Index
					Corporate Governance Index
Saudi Arabia	Yes	Saudi Exchange	No	No	
Iran	Yes	Iran Fara Bourse Securities Exchange	No	No	
		Tehran Stock Exchange	No	No	
Thailand	Yes	Stock Exchange of Thailand	Yes	Yes	SETTHSI

Nigeria	Yes	Nigerian Stock Exchange	Yes	No	
Argentina	Yes	Bolsas y Mercados Argentinos (BYMA) and Bolsa de Comercio de Buenos Aires (BCBA)	Yes	Yes	Sustainability Index
Egypt	Yes	Egyptian Exchange	Yes	Yes	SP/EGX ESG Index
Philippines	Yes	Philippine Stock Exchange	Yes	No	
Malaysia	Yes	Bursa Malaysia	Yes	Yes	FTSE4Good Bursa Malaysia
Bangladesh	Yes	Chittagong Stock Exchange	No	No	
South Africa	Yes	Johannesburg Stock Exchange	Yes	Yes	FTSE/JSE Responsible Investment Index FTSE/JSE Responsible Investment Top 30 Index
Colombia	Yes	Bolsa de Valores de Colombia	No	Yes	IR Recognition Index Dow Jones Sustainability MILA Pacific Alliance Index
Vietnam	Yes	Hanoi Stock Exchange	Yes	No	
		Ho Chi Minh Stock Exchange	Yes	Yes	Sustainability Index (VNSI)
Pakistan	No				
Chile	Yes	Bolsa de Comercio de Santiago	No	Yes	Dow Jones Sustainability Chile Index

Source: Authors, based on data from SSE Stock Exchange Database, <https://sseinitiative.org/exchanges-filter-search/>, accessed March 2022.

ESG will continue be a major focus of emerging markets

The world is facing multiple challenges and many of them are linked to core ESG concerns. Many of the goals that the global community has set for the world including those on climate, the United Nations SDGs and more generally on sustainability and the reduction of inequality will not be achieved without the active participation of emerging markets. Most of the world's population lives in emerging markets and the most challenging ESG goals also lie within emerging markets.

Thus, it is vital that emerging markets take active steps to make rapid progress on different dimensions related to ESG concerns. As the chapter has shown, there is reason for hope as most emerging markets are actively engaged on ESG issues. They are increasing their commitments to reduce and eliminate CO₂ emissions, improve social policies and transparency, and do their share to achieve the UN's SDGs. ESG in emerging markets is rising to the forefront of public and private sector discussions.

Notes

¹ The Sustainable Stock Exchanges Initiative, a partnership program organized by the United Nations Committee on Trade and Development (UNCTAD), the United Nations Global Compact, United Nations Environment Program (UNEP), and the Principles for Responsible Investing (PRI) provides a global platform to explore how exchanges can enhance performance on ESG issues and encourage sustainable investment.

² The “E20+1” is a list of 21 top emerging economies, and includes: Argentina, Bangladesh, Brazil, Chile, Colombia, Egypt, India, Indonesia, Iran, Malaysia, Mexico, Nigeria, Pakistan, Philippines, Russia, Thailand, Turkey, Saudi Arabia, South Africa, Vietnam, as well as China. These economies account for about 44% of global GDP on a PPP basis. For details on the selection process, please see Casanova and Miroux, 2021, Chapter 3. <https://ecommons.cornell.edu/handle/1813/66953>

³ The Dow Jones Sustainability World Index (DJSI) comprises a list of the world’s leading sustainable companies in terms of their environmental, social, and economic criteria, established by S&P Dow Jones and the firm RobecoSAM. The DJSI selects firms based on their Total Sustainability scores.

⁴ China, a key country in this regard, requires a detailed study which is beyond the scope of this chapter.

⁵ For more information on the EMI list of the 200 ESG best corporate performers from emerging markets, see Casanova and Miroux, 2021, Chapter 3. Annex II. <https://ecommons.cornell.edu/handle/1813/66953>

⁶ The Insurance Regulatory Development Authority and the Pension Fund and Development Authority of India issued stewardship guidelines for insurance companies and pension funds in 2017 and 2018 respectively.

References

- A Bolsa do Brasil (2021), *B3’s sustainability index will disclose companies’ ESG ranking positions*, A Bolsa do Brasil, https://www.b3.com.br/en_us/news/ise-b3-has-just-been-revised-to-facilitate-investitors-analysis.htm (accessed on 15 April 2022). [29]
- Amundi Asset Management & International Finance Corporation (2021), *Emerging Market Green Bonds Report 2020: On the Road to Green Recovery*, Amundi Asset Management & International Finance Corporation, <https://www.ifc.org/wps/wcm/connect/0fab2dcd-25c9-48cd-b9a8-d6cc4901066e/2021.04+-+Emerging+Market+Green+Bonds+Report+2020+-+EN.pdf?MOD=AJPERES&CVID=nBW.6AT> (accessed on 15 April 2022). [4]
- Azizuddin, K. (2021), *Thailand to develop sustainable finance taxonomy and ESG disclosure rules*, Responsible Investor, <https://www.responsible-investor.com/thailand-to-develop-sustainable-finance-taxonomy-and-esg-disclosure-rules/> (accessed on 15 April 2022). [16]
- Bank of Thailand et al. (n.d.), *Sustainable Finance Initiatives For Thailand*, Bank of Thailand, https://www.bot.or.th/Thai/SustainableBanking/Documents/Sustainable_Finance_Initiatives_for_Thailand.pdf (accessed on 15 April 2022). [17]
- Bulbulia, T. (2020), *ESG gaining prominence in SA, but more to be done*, Creamer Media, <https://www.engineeringnews.co.za/article/esg-making-strides-in-sa-but-more-to-be-done-2020-03-10> (accessed on 15 April 2022). [10]
- Carrots & Sticks (2021), *Sustainability reporting instruments worldwide*, Carrots & Sticks, <https://www.carrotsandsticks.net/> (accessed on 15 April 2022). [1]
- Casanova, L. and A. Miroux (2021), *Emerging Market Multinationals Report 2021: Building the Future on ESG Excellence*, Emerging Markets Institute at Cornell University. [5]

- CRISIL (2021), *CRISIL ESG Compendium*, CRISIL S&P Global, [12]
<https://www.crisil.com/en/home/what-we-do/financial-products/crisil-esg-compendium.html>
 (accessed on 15 April 2022).
- Davids, E. and R. Kitcat (2020), *The legal and regulatory framework surrounding shareholder activism in South Africa*, Financial Regulation Journal, [7]
<https://financialregulationjournal.co.za/2020/02/13/the-legal-and-regulatory-framework-surrounding-shareholder-activism-in-south-africa/> (accessed on 15 April 2022).
- Gautam, D., R. Goel and F. Natalucci (2022), *Sustainable Finance in Emerging Markets is Enjoying Rapid Growth, But May Bring Risks – IMF Blog*, IMF Blog, [3]
<https://blogs.imf.org/2022/03/01/sustainable-finance-in-emerging-markets-is-enjoying-rapid-growth-but-may-bring-risks/> (accessed on 22 March 2022).
- IFC (2019), *IFC and Bank of Thailand Join Hands to Accelerate Sustainable Finance in Thailand*, IFC, [18]
<https://pressroom.ifc.org/all/pages/PressDetail.aspx?ID=17697> (accessed on 15 April 2022).
- IFC and SBN (2018), *Sustainable Banking Network (SBN) Global Progress Report*, IFC, [25]
https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/publications/publications_report_sbnglobalprogress2018 (accessed on 15 April 2022).
- Instituto Brasileiro de Governança Corporativa (2015), *Code of Best Practices of Corporate Governance 5th Edition*, Instituto Brasileiro de Governança Corporativa, [28]
<https://conhecimento.ibgc.org.br/Paginas/Publicacao.aspx?PubId=23610> (accessed on 15 April 2022).
- JSE (2020), *JSE to evolve Green Bond Segment*, JSE, [9]
<https://www.jse.co.za/news/press-releases/jse-evolve-green-bond-segment-all-encompassing-sustainability-segment> (accessed on 15 April 2022).
- OECD (2021), *OECD Investment Policy Reviews: Thailand*, OECD Investment Policy Reviews, [15]
 OECD Publishing, Paris, <https://dx.doi.org/10.1787/c4e4ee1c-en>.
- OECD (2019), *Brazil must immediately end threats to independence and capacity of law enforcement to fight corruption*, OECD, [23]
<https://www.oecd.org/corruption/brazil-must-immediately-end-threats-to-independence-and-capacity-of-law-enforcement-to-fight-corruption.htm> (accessed on 15 April 2022).
- OECD (2014), *Phase 3 Report on Implementing the OECD Anti-Bribery Convention in Brazil*, OECD, [22]
<https://www.oecd.org/daf/anti-bribery/Brazil-Phase-3-Report-EN.pdf> (accessed on 15 April 2022).
- Prasad, A. (2014), *India's new CSR law sparks debate among NGOs and businesses*, The Guardian, [11]
<https://www.theguardian.com/sustainable-business/india-csr-law-debate-business-ngo> (accessed on 15 April 2022).
- Principles for Responsible Investment and CFA Institute (2019), *ESG Integration in Europe, the Middle East, and Africa*, CFA Institute, [6]
<https://www.unpri.org/download?ac=6036> (accessed on 15 April 2022).
- S&P Global (2022), *The Sustainability Yearbook*, S&P Global, [14]
<https://www.spglobal.com/esg/csa/yearbook/2022/ranking/> (accessed on 15 April 2022).

- SEC (n.d.), *Investment Governance Code 2017*, CG Thailand, [19]
<https://www.sec.or.th/cgthailand/en/pages/rulesregulation/icodeii.aspx> (accessed on 15 April 2022).
- South Africa Sustainable Finance Initiative (2021), *National Treasury publishes updated Technical Paper on Financing a Sustainable Economy.*, South Africa Sustainable Finance Initiative, <https://sustainablefinanceinitiative.org.za/> (accessed on 15 April 2022). [8]
- Sustainable Stock Exchanges Initiative (2018), *Sustainable Stock Exchanges Report on Progress*, Sustainable Stock Exchanges Initiative, [2]
<https://sseinitiative.org/publication/sustainable-stock-exchanges-report-on-progress-2018/> (accessed on 15 April 2022).
- Sustainable Stock Exchanges Initiative (2009), *Brazil Disclosure reference form*, Sustainable Stock Exchanges Initiative, <https://sseinitiative.org/securities-regulator/disclosure-reference-form-2009/> (accessed on 15 April 2022). [27]
- Teixeria, G. and S. Rink (2020), *Mainstreaming Sustainability In Brazil's Finance Sector: Policy actions for a national supporting framework*, <https://www.labinovacaofinanceira.com/wp-content/uploads/2020/12/GIZ-Mainstreaming-sustainability-ENG-final.pdf> (accessed on 15 April 2022). [24]
- The Financial Express (2021), *Social stock exchanges in India: Can they help lift the underserved?*, The Financial Express, <https://www.financialexpress.com/market/social-stock-exchanges-in-india-can-they-help-lift-the-underserved/2350675/> (accessed on 15 April 2022). [13]
- Trench, Rossi and Watanabe (2021), *Brazil: The Central Bank of Brazil publishes new ESG regulations for the National Financial System*, Lexology, <https://www.lexology.com/library/detail.aspx?g=df2fb8da-aa16-4f16-a380-a2ced5484a1a> (accessed on 15 April 2022). [26]
- Vale, M. et al. (2021), "The COVID-19 pandemic as an opportunity to weaken environmental protection in Brazil", *Biological Conservation*, Vol. 255, p. 108994, [20]
<https://doi.org/10.1016/j.biocon.2021.108994>.
- Yale E360 (2021), *Brazil Has Weakened Dozens of Environmental Laws During the Pandemic*, Yale E360, <https://e360.yale.edu/digest/brazil-has-weakened-dozens-of-environmental-laws-during-the-pandemic> (accessed on 15 April 2022). [21]

**For more information about the OECD Emerging Markets Network,
contact the Secretariat:**

dev.emnet@oecd.org

www.oecd.org/dev/oecdemnet.htm

EM»net
OECD EMERGING MARKETS NETWORK



Cornell
SC Johnson College of Business
Emerging Markets Institute