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Vulnerability Profile

LAO PEOPLE'S
DEMOCRATIC REPUBLIC



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Notes

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The \$ sign refers to the United States dollar.

A hyphen (-) indicates that the data are either not available or not applicable.

Abbreviations

AML/CFT	Anti-Money Laundering/Combating the Financing of Terrorism
ASEAN	Association of Southeast Asian Nations
AVE	ad valorem equivalent
CDP	Committee for Development Policy
CGE	computable general equilibrium
DFQF	duty-free, quota-free
FDI	foreign direct investment
GDP	gross domestic product
GMS	Greater Mekong Subregion
GNI	gross national income
GNP	gross national product
GVC	global value chain
HAI	Human Assets Index
ICT	information and communications technology
LDC	least developed country
LLDC	landlocked developing country
MNE	multinational enterprise
ODA	official development assistance
ODC	other developing country
OECD DAC	Organisation for Economic Co-operation and Development Development Assistance Committee
PCI	Productive Capacities Index
RCEP	Regional Comprehensive Economic Partnership
SEZ	special economic zone
SMEs	small and medium-sized enterprises

Contents

Notes	iii
Abbreviations.....	iv
Executive summary	viii
1. Introduction	1
2. Situation analysis: economic policy and performance	2
2.1. Regional dynamics and geopolitical risks.....	4
2.2. Economic performance and structure in the regional context.....	5
2.3. Structural transformation	7
2.4. Assessing the state of productive capacities in the Lao People's Democratic Republic.....	9
2.5. Regional trade and integration.....	13
2.6. A milestone in regional integration – the RCEP	15
2.7. COVID-19 related economic challenges	16
3. Identifying areas of vulnerability: Progress under graduation criteria	21
3.1. Gross national income per capita.....	21
3.2. People: Human Assets Index.....	22
3.3. Prosperity: Economic and Environmental Vulnerability Index	28
3.4. Planet and environment.....	35
4. Evaluation of the consequences of identified vulnerabilities.....	37
4.1. Harnessing the nexus between structural transformation and export diversification	37
4.2. Consequences for social development and environmental sustainability	47
4.3. The consequences of climate change and natural disasters	48
4.4. Financial consequences of vulnerabilities: Domestic resource mobilization and debt sustainability.....	51
5. Building resilience and policy recommendations	54
5.1. Promoting enterprise development and strengthening business linkages.....	54
5.2. Addressing external vulnerabilities	59
5.3. Conclusions	60
Bibliography	64
Annexes	
Annex I Key elements of a graduation with momentum strategy for the Lao People's Democratic Republic.....	70
Annex II Additional figures and tables	72
Annex III Definition of product space and economic complexity.....	73

Figures

Figure 1	The conceptual framework of the vulnerability profile.....	2
Figure 2	Gross domestic product: Total and per capita, annual growth rate	3
Figure 3	Exports of goods by main product and total exports of goods.....	4
Figure 4	Selected indicators of competitiveness.....	6
Figure 5	Value added, by sector	7
Figure 6	Gross value added per worker growth.....	8
Figure 7	Sectoral employment.....	8
Figure 8	Labour productivity and labour share, 2018.....	9
Figure 9	Comparison of regional productive capacity index scores.....	10
Figure 10	Productive capacity index for the Lao People's Democratic Republic and benchmarks	10
Figure 11	Productive capacities of the Lao People's Democratic Republic, least developed countries and other developing countries in 2018	11
Figure 12	A comparison of export value of garment sector between 2019 and 2020.....	17
Figure 13	Lao Airline's monthly passengers: Comparison of selected months, 2019 and 2020.....	17
Figure 14	Real gross domestic product growth, Lao People's Democratic Republic and developing economies.....	18
Figure 15	Economic growth	18
Figure 16	Sectoral contribution to economic growth	19
Figure 17	A comparison of fiscal revenue of nine selected months.....	19
Figure 18	Lao People's Democratic Republic: distance from the graduation threshold under the per capita income criterion.....	21
Figure 19	Trend in Gini index in the Lao People's Democratic Republic.....	22
Figure 20	Lao People's Democratic Republic: distance from the graduation threshold under the human assets criterion	23
Figure 21	Lao People's Democratic Republic: Composition of Human Assets Index, 2012–2020	23
Figure 22	Literacy rate, by gender.....	25
Figure 23	Gross enrolment ratio, upper-secondary school, 2018, by province	27
Figure 24	Structure of employment.....	27
Figure 25	Lao People's Democratic Republic: economic and environmental vulnerability criterion	28
Figure 26	Lao People's Democratic Republic: Composition of Economic and Environmental Vulnerability Index, 2012–2020	29
Figure 27	Number of natural disasters, by type and period.....	30
Figure 28	Total investments, by sector.....	32
Figure 29	Domestic and foreign direct investments, by source country	32
Figure 30	Investment and real GDP growth gap and incremental capital-output ratio, 2010–2018	34
Figure 31	Current account balance, the Lao People's Democratic Republic and developing economies.....	34
Figure 32	Lao People's Democratic Republic, environmental performance index	35
Figure 33	Lao People's Democratic Republic and neighbouring countries: natural resource depletion.....	36
Figure 34	Value chains participation and total exports in 2019, by sector.....	38
Figure 35	Mining and quarrying sector, global value chain participation	39
Figure 36	Agriculture, hunting, forestry and fishing, global value chain participation.....	41
Figure 37	Decomposition of the manufacturing sector, top 10 export products and annual growth, by product group.....	42
Figure 38	Exports of services to the world, by category	43

Figure 39	Lao People's Democratic Republic product space, 2019	45
Figure 40	Distance and product complexity for Lao People's Democratic Republic exports and feasible products, 2018	45
Figure 41	Constant GDP growth, external debt and severe natural disasters	48
Figure 42	Global occurrence and damage costs of natural disasters, by disaster type	50
Figure 43	General government net lending/borrowing: Lao People's Democratic Republic and developing economies	53
Figure 44	Composition of external debt of the Lao People's Democratic Republic.....	53
Figure 45	Business environment constraints identified by firms as greatest.....	56
Figure 46	Top business constraints identified by firms, by firm size	56
Figure 47	Fixed broadband and Internet users and Internet tariffs, 2016	57

Tables

Table 1	Lao People's Democratic Republic: pre-eligibility for graduation from LDC status	1
Table 2	Key trade partners	13
Table 3	Average Ad-valorem equivalent, SPS measures, by section and importer	14
Table 4	Average Ad-valorem equivalent, TBT measures, by section and importer.....	14
Table 5	Annual access rate to health-care facilities by pregnant women during January–April 2020.....	23
Table 6	Severe natural disasters between 2011 and 2020	29
Table 7	Logistics Performance Index in the ASEAN region in 2018.....	30
Table A.1	Domestic and foreign investment, by sector, 2019	72
Table A.2	Identified new product potential with the closest “nearby” distance (and highest expected growth) to existing products, by industry.....	72

Boxes

Box 1	The UNCTAD Productive Capacities Index	9
Box 2	Vulnerable agriculture production: The maize value chain.....	41
Box 3	Wood processing sector of the Lao People's Democratic Republic.....	46

Executive summary

This report presents the vulnerability profile (VP) of the Lao People's Democratic Republic, as mandated by General Assembly resolution 59/209 of 20 December 2004. It is intended for use as a background document for the Committee for Development Policy (CDP) deliberations* on the preparedness of the Lao People's Democratic Republic for graduation from the least developed country (LDC) category.

In the 2018 review, the Lao People's Democratic Republic met two of the three thresholds for graduation from LDC status: the per capita income and human assets criteria, given its score at 162 per cent and 110 per cent, respectively, of the relevant graduation threshold. By 2017, the Lao People's Democratic Republic was the thirteenth fastest-growing economy in the world, recording improvements in incomes, poverty, access to some basic services and infrastructure. However, the economy remains largely agrarian, with employment concentrated in agriculture and with labour productivity in the sector considerably lower than in other sectors.

The country is a member of the Greater Mekong Subregion (GMS), the Association of Southeast Asian Nations (ASEAN), the World Trade Organization and the recently established Regional Comprehensive Economic Partnership (RCEP). The GMS, ASEAN and RCEP bring together a range of economies at different stages of development and economic dynamism, with attendant opportunities and challenges for the Lao People's Democratic Republic. However, the country still lags behind ASEAN partners and other LDC members on a range of key indicators concerning competitiveness and productive capacities. The high cost of logistics and trade facilitation, and low quality of human capital, as key components of productive capacities, inhibit the economy's future development prospects. Of concern, also, are signs that the lower-income economies of ASEAN have reached a point where their labour-intensive, export-led growth model geared mainly towards attracting foreign investment is failing to yield the benefits it once did. This means that policymakers of the Lao People's Democratic Republic will be faced with decisions about how the country can most effectively adapt to these circumstances. COVID-19 related economic challenges have introduced a further layer of uncertainty and macroeconomic instability due to significant income, jobs and fiscal revenue losses experienced because of the pandemic. Contractionary fiscal policy is expected to have a further negative effect on demand and indicators of social wellbeing. The report notes that the real economic growth of the Lao People's Democratic Republic is expected to fall from 5.2 per cent in 2019 to 0.2 per cent in 2020. Without COVID-19, the Lao People's Democratic Republic would have expected to sustain a GDP growth of 6.7 per cent for 2020 (IMF World Economic Outlook database, 2020).

The country has pursued a development strategy centred on the exploitation of natural resources. Exploiting the Mekong river to harness hydropower is an important development pillar. However, the Mekong river system has many stakeholders, and its exploitation carries potential geopolitical and sustainability concerns. The country also exploits its significant endowment and potential in mineral and land resources to attract FDI, drive commodity exports and foster integration in regional and global value chains. These strategies have been successful at driving the improvement in development indicators that led to pre-qualification of the Lao People's Democratic Republic for LDC graduation, but they have not been as fruitful in terms of macroeconomic and fiscal stability. Similarly, the current policy approach has not enhanced preparedness and resilience in the face of increasing vulnerability to extreme weather events, nor strengthened linkages between leading sectors and the wider economy, to boost formal entrepreneurship and high-quality jobs growth. Instead, there has been a general trend of rising inequalities and the appearance of new vulnerabilities, such as trade and investment concentration, and widening labour productivity gaps, with the manufacturing sector characterized by poor economic linkages and limited GVC participation. Manufacturing is mainly concentrated in low-value segments. These development strategies have also contributed to a rapid deterioration in natural capital, although the country still maintains the largest forest cover in the region.

The export product space of the Lao People's Democratic Republic is suggestive of a narrow range of new and nearby products with economic gain that offer opportunities for the country to exploit strategic areas with future diversification potential. The report also recommends the development of the services sector to support export diversification.

* Expert Group Meeting on the Preparation of 2021 Triennial Review of the List of Least Developed Countries, 8–15 January 2021 and the 23rd Plenary Session, Committee for Development Policy, 22–26 February 2021.

Given the results of the VP assessment of key indicators, namely GNP per capita, Human Asset Index and Economic and Environmental Vulnerability Index, the Lao People's Democratic Republic would pass all the three graduation criteria according to the new methodology adopted by the CDP in February 2020. The country's performance in the EVI partly reflects structural problems, such as the relatively slow progress in the diversification of export products. This long-standing challenge is compounded by recent problems, such as the high budget deficit, economic contraction and rising unemployment, caused by COVID-19. Therefore, it would be advisable that graduation of the Lao People's Democratic Republic from the LDC category be accompanied by a longer transition period. The duration of the transition period will aid the country's potential for graduation with momentum. An economic recovery from something on the scale of COVID-19 under normal circumstances might take at least two to three years. However, given the additional challenges the Lao People's Democratic Republic faces, such as a serious budget deficit, high levels of external debt and low foreign reserves, a transition period of at least five years could be warranted.

It is recommended that the Lao People's Democratic Republic pursue a fresh and focused approach to natural resources-based development that also leverages industrial policy. In the conclusion of this report, three interdependent critical fault lines, namely infrastructure, human capital and domestic resource mobilization supported by enhancements in public institutional capacities are highlighted for short- to medium-term policy action. Developing existing and building new productive capacities, expanding the domestic production sector, including through building new/fostering existing regional value chains (RVCs) (the RCEP provides new possibilities in this area) and forward-looking plans to graduate out of the current duty-free, quota-free (DFQF) support and ODA packages are recommended as priority areas for graduation with momentum and the attention of authorities of the Lao People's Democratic Republic.



1. Introduction

This report presents the vulnerability profile (VP) of the Lao People's Democratic Republic, as mandated by General Assembly resolution 59/209 of 20 December 2004, which stated that "after a country has fulfilled the criteria for graduation for the first time, UNCTAD is mandated to prepare a vulnerability profile on the identified country to be considered by the Committee for Development Policy (CDP) at its following triennial review" (para 3 (b)).

The Lao People's Democratic Republic was first included in the United Nations list of least developed countries (LDCs) in 1971. In its 2018 review of the United Nations list of LDCs, the Lao People's Democratic Republic was determined by the CDP to be pre-eligible for graduation from the category. In the 2018 review, the Lao People's Democratic Republic met two of the three criteria for graduation, namely the income and human assets criteria, attaining scores of 162 per cent and 110 per cent for the Gross National Income (GNI) per capita and Human Assets Index (HAI), respectively (Table 1).

The country's score for the third criterion, the Economic and Environmental Vulnerability Index (EVI), fell short of the graduation threshold. Should the Lao People's Democratic Republic be assessed to meet the GNI and HAI graduation thresholds for a

second time in the next triennial review in 2021, the country will achieve full eligibility for graduation from the LDC category.

The Lao People's Democratic Republic still faces various challenges and vulnerabilities that hinder its economic and social development. The aim of this vulnerability profile is to track the country's progress towards graduation and to enrich the understanding of all major constraints on its development. The analysis is structured along the following four pillars: (a) situation analysis of the country; (b) identification of vulnerabilities based on the five P's¹ of the Sustainable Development Goals, (c) evaluation of effects of the vulnerabilities and (d) policy implications (Figure 1). While the first two pillars adopt a largely descriptive and backward focus, subsequent pillars assume a more forward-looking approach.

The rest of the report is organized as follows. Chapter 2 provides a situation analysis of the path to graduation of the Lao People's Democratic Republic. It first provides a background to the country's progress before delving into the regional dynamics and geopolitical issues the country faces.

¹ The assessment of the vulnerability of the Lao People's Democratic Republic to certain shocks features the 5 Ps of the United Nations 2030 Agenda for Sustainable Development and the Sustainable Development Goals: people, planet, prosperity, peace and partnerships.

Table 1

Lao People's Democratic Republic: pre-eligibility for graduation from LDC status

(2018 review)

	Criteria		
	GNI per capita	Human Assets Index	Economic and Environmental Vulnerability Index [†]
	3-year average		
To pre-qualify for graduation from the LDC list, a country must meet at least two graduation criteria			
Lao People's Democratic Republic score (per cent of graduation threshold)	\$ 1 996 162.4 per cent	72.8 (70.7)* 110.3 per cent (107.2 per cent)*	33.7 (27.8)* 95.9 per cent (115.1 per cent)**

Source: UNCTAD calculations based on CDP data.

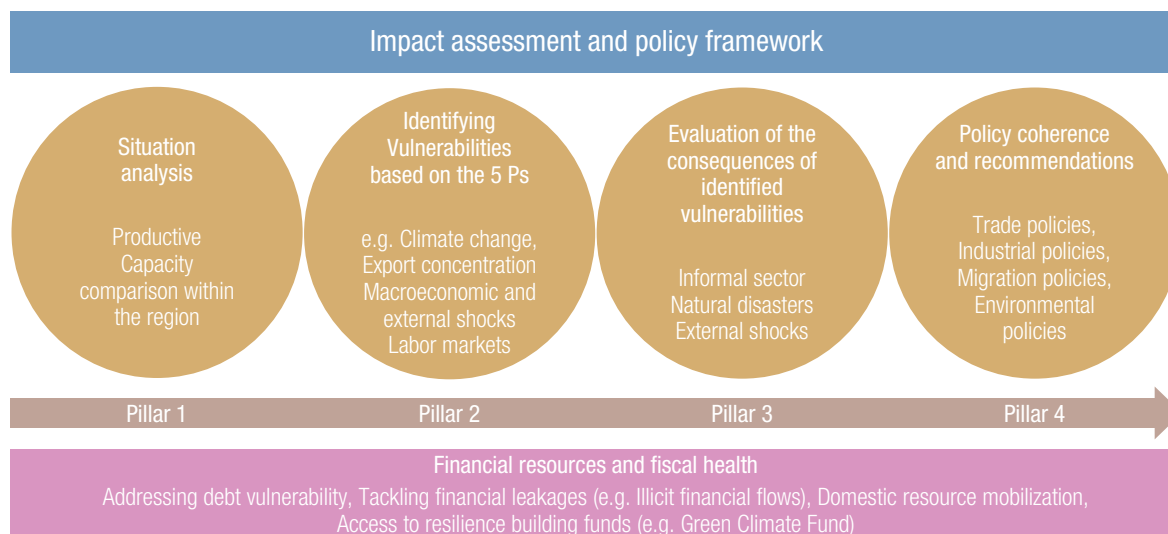
* Updated methodology.

† Renamed the Economic and Environmental Vulnerability Index under the 2020 methodology.

‡ In the case of the EVI, a country meets the graduation criterion if it is below the threshold. The Lao People's Democratic Republic's upward movement in EVI under the new methodology illustrates an improvement in the country's EVI score (i.e. improvement in the EVI score). The Lao People's Democratic Republic scored 36.2 in 2015, 33.7 in 2018, and will provisionally score 27 in 2021, under graduation threshold of 32. The inversion from downward to upward serves to harmonize the interpretation of progress under this Economic and Environmental Vulnerability criterion with the interpretation of progress under the other two criteria: be it above or below the graduation line, an upward trend means that the country has recorded progress with regard to the question of graduation, while a downward trend, is synonymous with deterioration. If the new methodology had been applied in the 2018 review, the Lao People's Democratic Republic would have met the EVI graduation threshold.

Figure 1

The conceptual framework of the vulnerability profile



It then discusses the country’s competitiveness considering its role in the ASEAN group. It complements this discussion with an assessment of the country’s productive capacities in comparison with other countries in the LDC category and those within the ASEAN region. Chapter 3 analyses areas of vulnerability including people, the economy and the environment. It begins with an analysis of the country’s progress in meeting the LDC criteria, identifying the components that make up each criterion and evaluating their contribution to the progress realized, which permits the identification of the areas where improvement has been made and where challenges remain. It also highlights additional sources of vulnerability that are not captured by the three graduation criteria. Chapter 4 analyses the impact of the identified vulnerabilities on the prospects of the Lao People’s Democratic Republic of building a resilient and sustainable economy. Finally, chapter 5 concludes with some policy options based on the main findings.

This updated vulnerability profile also takes into account likely impairments from the COVID-19 pandemic that might impact the eligibility for graduation of the Lao People’s Democratic Republic and/or negatively impact progress on development during the transition phase, and in the longer term, and the updated methodology for the calculation of the HAI and EVI. The findings of this vulnerability profile will inform the CDP decision in 2021 to recommend or not recommend graduation of the Lao People’s Democratic Republic from the LDC category.

2. Situation analysis: economic policy and performance

In 1986, the Lao People’s Democratic Republic Government launched the New Economic Mechanism (NEM) aimed at transitioning the country from a centrally planned to a market-oriented economy. This encompassed the gradual adoption of measures such as partial abolition of price controls,² privatization of State-owned companies in non-strategic sectors,³ liberalization of domestic and foreign trade, and liberalization of foreign investment. Following the first years of the reforms (1986–1990) central planning was dismantled and subsidy schemes were substantially abolished.

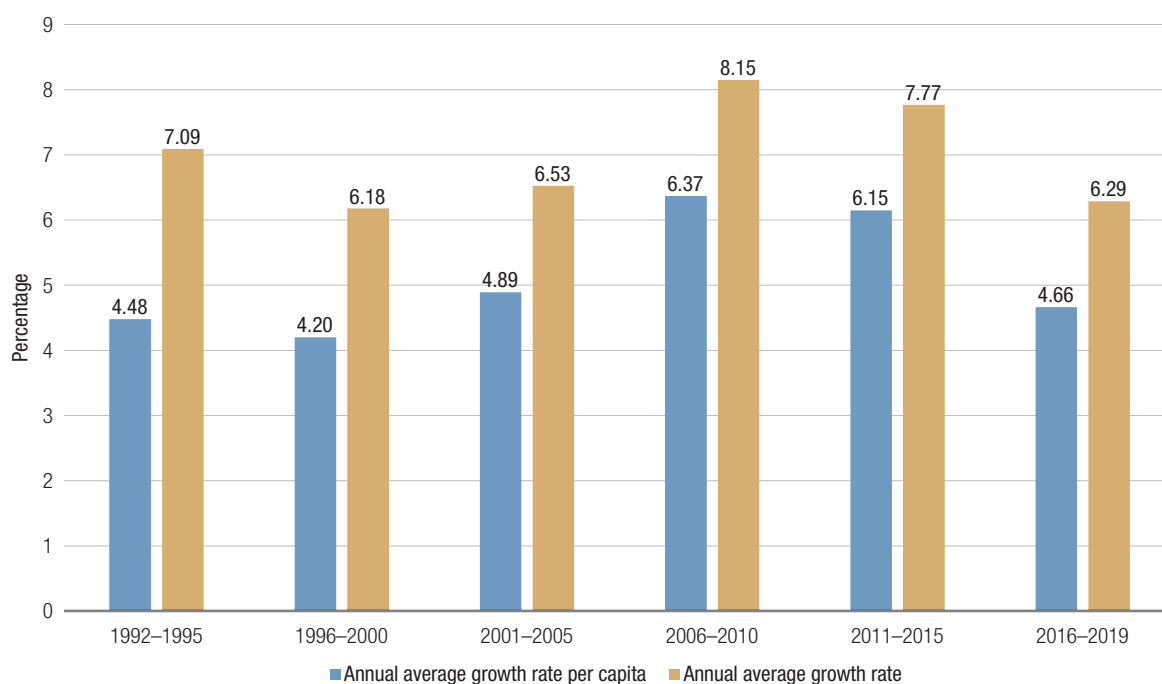
GDP growth recovered and the economy expanded on average by around 6.5 per cent per year during the 1990s (figure 2), due to the expansion of activities in the export-oriented garments sector and the launch in the second half of the 1990s of the first large hydropower projects. The Lao People’s Democratic Republic has largely utilized fiscal incentives – tax holidays and lower profit tax rates – to stimulate investment, particularly foreign direct investment (FDI), under concessions agreements in natural-resource-based sectors

² Except in the case of basic services such as air transport, postal services, and telecommunications.

³ Excluding sectors such as military affairs, police, water, electricity and postal services. See Bertelsmann Stiftung (2018).

Figure 2

Gross domestic product: Total and per capita, annual growth rate



Source: UNCTADstat database.

Notes: Growth rates are based on GDP at constant 2015 United States dollars. The annual average growth rate for a period of n years is derived using the least squares method.

and special economic zones (SEZs), with specific incentive packages negotiated on a case-by-case basis to drive GDP growth (OECD, 2017; Kim, 2017; KPMG, 2018). This FDI-friendly export-oriented growth strategy attracted FDI first into the garments industry in the early 1990s. Manufacturing became a major source of foreign earnings, representing more than 40 per cent of total merchandise exports in 2001–2004 (UNCTADstat database). However, its importance declined markedly to 6.4 per cent of total merchandise exports in 2019, due to a number of factors, including the abolition of the Multi-Fibre Arrangement (MFA) in January 2005 that affected the competitiveness of the industry, and the surge in new and more dynamic products in the country's export basket. Large investments in mining and hydropower projects since the 2000s pushed the growth rate of merchandise exports to new highs, especially between 2005 and 2009, registering an annual average of 28.9 per cent.

Exports of the Lao People's Democratic Republic took off – both in absolute value and as percentage of GDP – after 2005 (figure 3), mainly driven by FDI in two large copper and gold mines⁴ and in two large

power projects.⁵ The average annual growth rate of exports surged from 2.1 per cent in 1996–2004 to 24.3 per cent in 2005–2014. Growth thereafter slightly slowed to 18.4 per cent in 2015–2019, due to lower demand and the maturing of operations at the two big mines, which contributed to the stagnation of the sector (World Bank, 2017a).

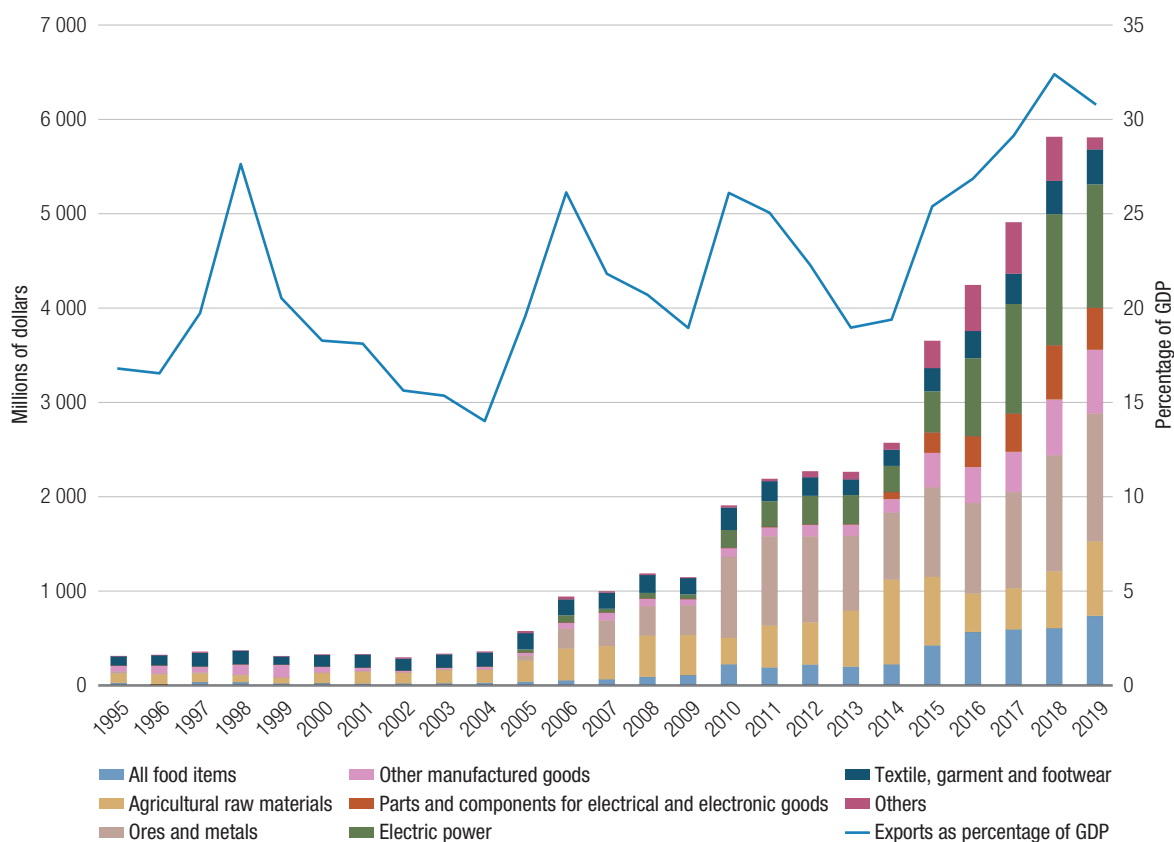
By 2017, the Lao People's Democratic Republic was the thirteenth fastest-growing economy in the world. Incomes rose and poverty declined, with access to some basic services, including education, health and infrastructure, having improved considerably, despite a growth slowdown due to natural disasters in recent years. As a result, in 2011 the World Bank raised the income categorization of the Lao People's Democratic Republic from low to lower-middle-income status as GDP per capita and Human Development indicators showed significant improvement. The Lao People's Democratic Republic's broader priorities and development objectives are guided by the Vision 2030, the ten-year Development Plan Strategy 2016–2025 and 2016–2020 eighth National Socioeconomic Development Plan (NSED). These planning

⁴ Lane Xang Minerals and Phu Bia Mining, which started production in 2005 and 2008, respectively.

⁵ The Nam Theun 2 Hydropower Project (2010) and the Hongsa Lignite Power Plant (2016).

Figure 3

Exports of goods by main product and total exports of goods



Source: UNCTADstat database.

Note: All food items include SITC 0+1+22+4; agricultural raw materials include SITC 2 less 22, 27 and 28; ores and metal include SITC 27+28+68; parts and components for electrical and electronic goods include SITC 759 +764 +772 +776.

frameworks focus on promoting innovative, green growth and sustainable development, reducing poverty and graduating from the LDC status.

2.1. Regional dynamics and geopolitical risks

The country is one of six members⁶ of the Greater Mekong Subregion (GMS) and one of ten members⁷ of the Association of Southeast Asian Nations (ASEAN). The 10 ASEAN countries, together with Australia, China, Japan, New Zealand and the Republic of Korea, signed the Regional Comprehensive Economic Partnership (RCEP), the world's largest trading bloc, in November 2020. While global FDI has been stagnant for the last decade, the RCEP group has shown a consistent

upward trend up to 2019 (UNCTAD, 2020c). The deal, concluded after eight years of negotiations, was hastened by the desire to spur recovery from the COVID-19 pandemic, which led to a drop in FDI in the region of about 15 per cent. However, this compares favourably to a drop of around 35 per cent in global FDI. The region is set to lead a global recovery in FDI (UNCTAD, 2020c).

The Lao People's Democratic Republic already receives the bulk of its FDI from RCEP members, but the creation of the trade agreement could help the country play a stronger role in global value chains (GVCs), helped by strengthened economic linkages between its main trading partners China, Thailand and Viet Nam, and large industrialized countries (Australia, Japan, New Zealand, Singapore and the Republic of Korea).⁸

The major geopolitical risks that can be identified are linked to the objective and strategies of the Lao

⁶ The Nam Theun 2 Hydropower Project (2010) and the Hongsa Lignite Power Plant (2016).

⁷ Brunei, Cambodia, Indonesia, Lao People's Democratic Republic, Malaysia, Myanmar, Philippines, Singapore, Thailand and Viet Nam.

⁸ See <https://news.un.org/en/story/2020/11/1077732>.

People's Democratic Republic to position itself as a preferred supplier of electricity in Asia, by pursuing a development strategy centred on the exploitation of its significant endowment and potential to harness and export hydropower in the region.

Since the Mekong River is shared by six nations in South-East Asia, it renders hydropower development in any one nation subject to transboundary impacts. The overloading of the river system with dams raises concerns about the alteration of the ecosystem that could have a detrimental impact on fisheries, fish migrations, and the economies and livelihoods of the communities who depend on the natural resources provided by the Mekong basin, including beyond the country's borders.

The Mekong River system is also complex and characterised by a wide variety of stakeholders that utilize water resources. This presents a challenge to develop hydropower sustainably and equitably. It is further complicated by the diversity of perspectives to be accommodated in scientific and political consensus on environmental issues and assessments, including on the implications of climate change. Moreover, adaptation to climate change has become one of the focal points of Mekong River development as the absolute capacity of the Mekong River has reduced considerably, due to more frequent episodes of drought and increased establishment of dams, to levels which experts consider to have reached a crisis point. Notwithstanding a shared recognition that enhanced energy solutions are vital for accelerating industrialization in the Greater Mekong Subregion, tensions remain ever present between Mekong Basin countries that wish to leverage hydropower exports (e.g. Cambodia,⁹ Lao People's Democratic Republic and Myanmar).

The potential for geopolitical interests external to the region to disrupt the Lao People's Democratic Republic's development strategy also exists as the sustainable development of the Mekong basin is increasingly framed as a global public good¹⁰ too important to be ignored. Several donor-led, and

arguably competing initiatives, exist to this end.¹¹ Moreover, as Asia continues to outpace other regions in wealth formation and consumption, the GMS and ASEAN attract global interest, including as a battleground of economic and political rivalry among global economic powers. Notably, ASEAN is now the world's fifth largest economy, and it overtook the European Union as the largest trading partner of China in the first quarter of 2020.¹² ASEAN is also the fourth-largest export market of the United States of America and the European Union's third largest trading partner (after the China and the United States of America).

Beyond these political economy issues, reputational concerns linked to sustainable FDI¹³ and local business operations in the Mekong economic corridors, could eventually be an additional source of geopolitical vulnerability for the Lao People's Democratic Republic to watch as it pursues its economic policy of establishing export-oriented special economic zones (SEZs) and industrial parks as a primary means of attracting private investment, boosting exports and driving industrialization. Any deficiencies in government capacity to oversee hydropower projects and adequately mitigate negative impacts on the environment and the well-being of its population and that of its neighbours, implies a potential source of geopolitical instability and revenue volatility for the country's economic performance and ambitions.

2.2. Economic performance and structure in the regional context

The Lao People's Democratic Republic is the smallest (population size/internal market potential) and only land-locked country located in the Mekong River basin region and is thus reliant on maintaining good relations and infrastructure linkages with its neighbours for regional and international trade. The trade openness of the Lao People's Democratic Republic was estimated at 62.9 per cent in 2018 (ASEAN Secretariat, 2019). Both the GMS and ASEAN bring together a range of economies at different stages of development and economic dynamism. The gap between the richest member States of ASEAN, which include Brunei, Malaysia and Singapore and

⁹ Cambodia suspended its plans to build new hydropower dams on the Mekong in March 2020 in response to community opposition, see <https://www.theguardian.com/world/2020/mar/20/cambodia-scraps-plans-for-mekong-hydropower-dams>.

¹⁰ In terms of aquatic genetic wealth and diversity, the Mekong is surpassed only by the Amazon and is considered of strategic value to global biodiversity. The Mekong basin is also one of the most fertile farmland areas.

¹¹ For example, China, Japan, the European Union and the United States of America have launched specific policies and initiatives for the Mekong Region.

¹² <https://www.aseanbriefing.com/news/asean-overtakes-eu-become-chinas-top-trading-partner-q1-2020/>

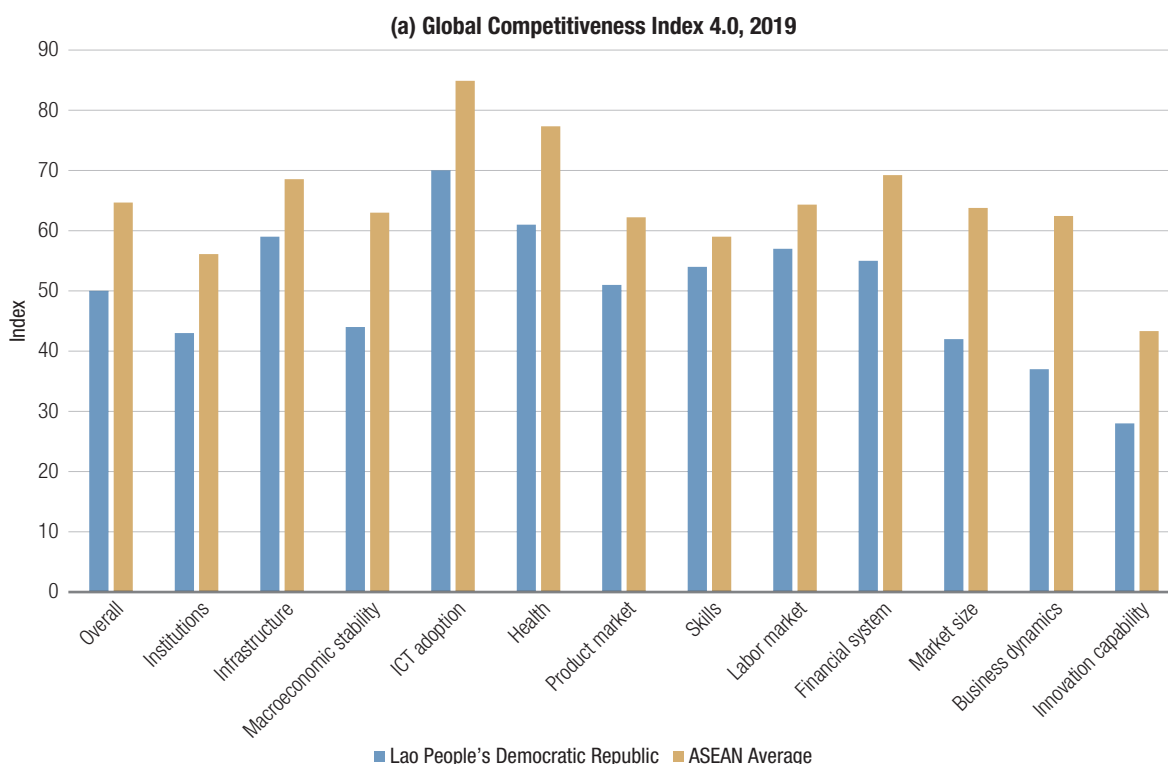
¹³ Including in the context of the Sustainable Development Goals and the rising importance of sustainable corporate practice and impact investing.

lower middle-income members such as Indonesia, the Philippines and Viet Nam, is significant, with the distance between the richest and poorest members (Cambodia, Lao People's Democratic Republic and Myanmar) even wider (World Economic Forum and Asian Development Bank, 2017).

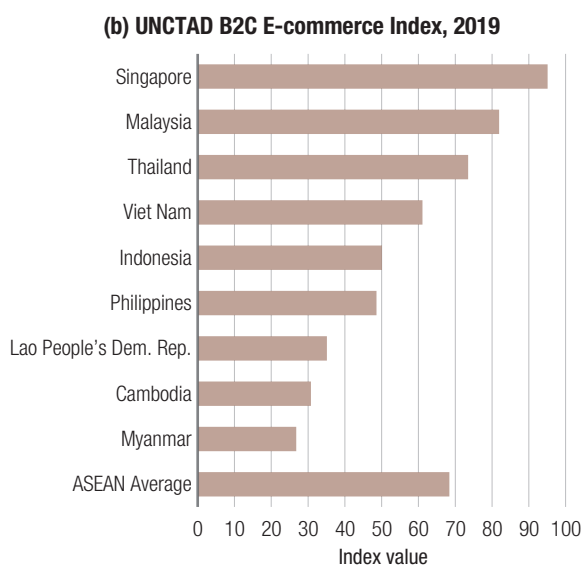
Figure 4 presents regional comparisons on a selection of indicators of competitiveness. As can be expected, the Lao People's Democratic Republic and other LDC members of ASEAN lag behind more advanced regional partners on all indicators. For example, the UNIDO Competitive Industrial

Figure 4

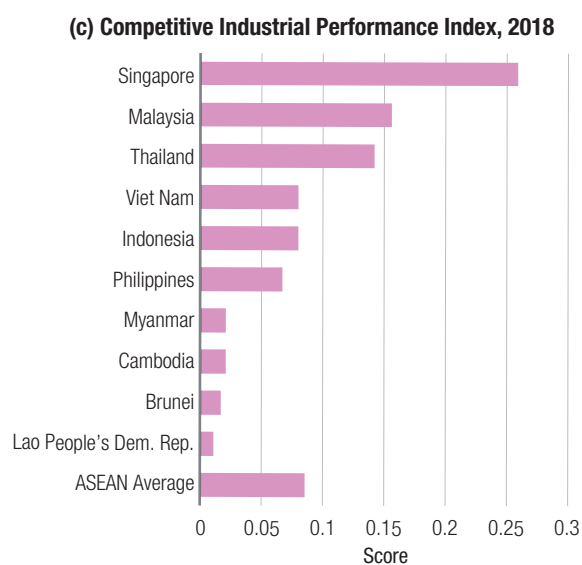
Selected indicators of competitiveness



Source: World Economic Forum (2019).



Source: UNCTAD (2019b).



Source: UNIDO (2020) higher index values indicate higher readiness.

Performance Index, which benchmarks the ability of countries to produce and export manufactured goods competitively, shows that the Lao People's Democratic Republic lags behind all its ASEAN partners, including other LDC members. According to UNCTAD's B2C E-commerce Index, the Lao People's Democratic Republic outperforms other LDC members on e-commerce readiness.

These disparities represent opportunities, as evidenced by the fact that Cambodia, the Lao People's Democratic Republic, Myanmar and Viet Nam, which have enjoyed more than 6.0 per cent GDP annual growth since 2010, accounted for the highest expansions in ASEAN aggregate real GDP growth in 2010–2018. However, as discussed in later chapters, such disparities indicate the need for a catch-up effort by lagging countries such as the Lao People's Democratic Republic.

2.3. Structural transformation

The Lao People's Democratic Republic lags its neighbours in terms of the contribution of its industrial sector to GDP in 2018. This implies that the country has advanced the least among GMS members in terms of structural transformation and industrialization (Figure 5), with competitiveness outside of natural resources low. Services represents the largest contributor to GDP. The breakdown of the sectoral origins of GDP of the Lao People's Democratic

Republic in 2018 was 41.7 per cent services, 31.7 per cent industry (including construction and mining) and 15.7 per cent agriculture, forestry and fishing.

Manufacturing growth was stagnant for most of the last decade despite the recent emergence of a few sectors (parts and components) which have been better integrated in regional value chains, albeit from a low base and largely confined to the SEZs (World Bank, 2017b).

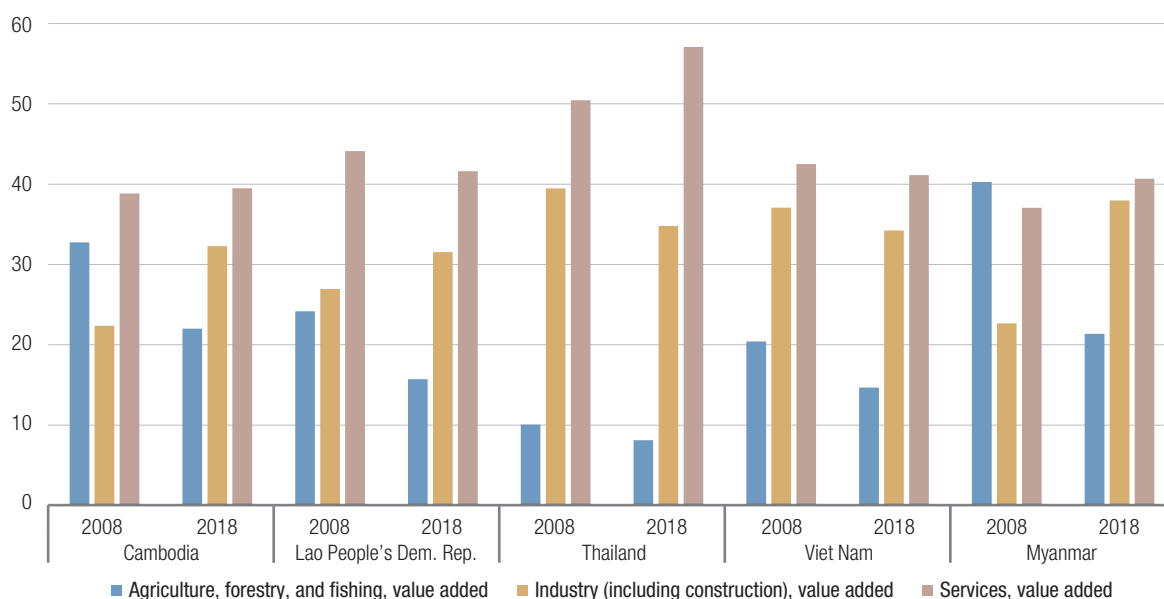
In the Lao People's Democratic Republic, the strongest sectoral growth in value added over the period 2010 to 2018 has been in the construction sector (annual average growth rate of 17 per cent), although its contribution to GDP growth has been lower compared to services sectors (total) and mining and utilities. Growth in mining and utilities has also been strong, at 11 per cent during the same period. In contrast, agricultural growth has lagged far behind other sectors between 2010 and 2018, at 3 per cent, although it accounts for the highest share of employment (Figure 7). The manufacturing sector contributed 8.6 per cent value added in 2018, down from 8.9 per cent in 2010, although its employment share increased slightly from 5 per cent in 2010 to 7 per cent in 2018 (Figure 7).

An important indicator of prosperity is labour productivity, average gross value added per worker growth has accelerated only slightly by about 1.1 per cent since the 2010s (Figure 6). This increase

Figure 5

Value added, by sector

(Percentage of GDP)

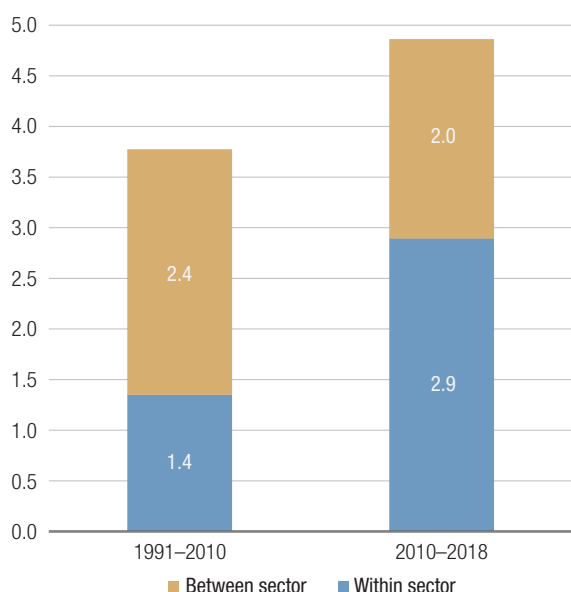


Source: UNCTAD secretariat calculations, based on data from UNCTAD (UNCTAD, Forthcoming).

Figure 6

Gross value added per worker growth

(Annual percentage)



Source: UNCTAD calculations (2020).

in the performance was mainly on the back of improvements in within-sector productivity, especially in the agriculture sector. However, between-sector productivity effects were also important over the same time period, with gains having accrued from reallocating labour from agriculture to manufacturing and services sectors in particular (Figure 7). From a broader perspective, labour productivity registered

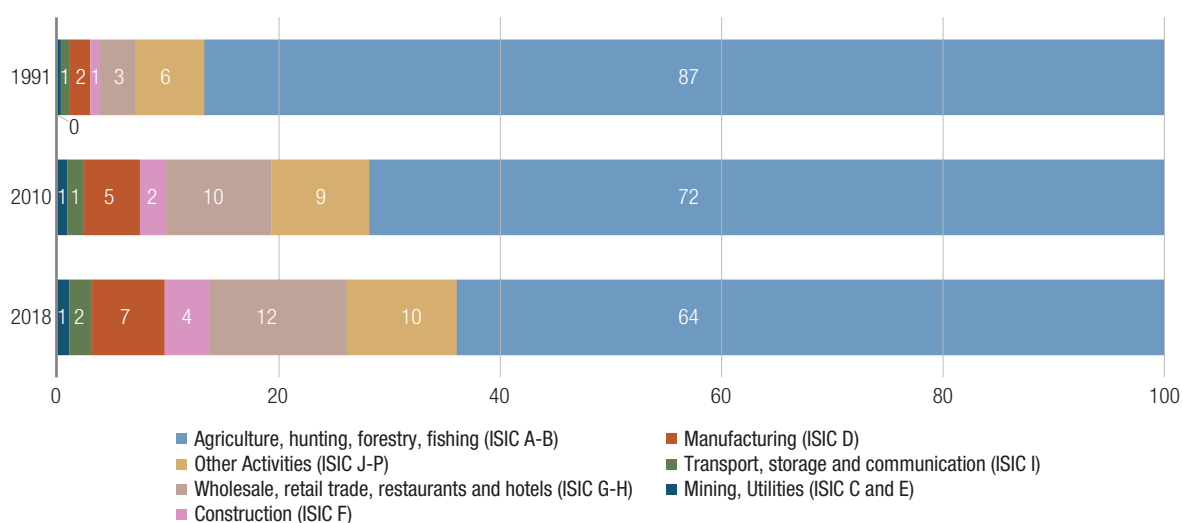
an average growth of 4.9 per cent per year (compared to 4.4 per cent in Bangladesh and 6.8 per cent in Myanmar) in 2010–2018. Of the 4.9 per cent, 2.9 per cent was the result of within-sector productivity increases and 2.0 per cent from the allocation of labour towards more productive sectors – signs of meaningful structural economic transformation (Figure 8).

Between 2010 and 2018, total employment in the Lao People’s Democratic Republic increased by approximately 629,000, with agriculture and wholesale and retail trade alone accounting for half of that increase (23 per cent and 26 per cent, respectively). Although agriculture remains the largest employer in the country, the share of the sector has declined quite significantly, namely by 23 percentage points, between 1991 and 2018. Wholesale and retail trade, other activities and construction sectors absorbed most of this change. With 64 per cent of the labour force employed in agriculture in 2018, this sector accounted for the largest contribution (24 per cent) to increases in total labour productivity between 2010 and 2018. Despite recent improvements in the sectoral productivity, agriculture is still characterized by low productivity levels (as measured by gross value added by worker), with labour productivity being considerably lower than in other sectors (Figure 8). The large gap between agriculture and other sectors indicates the potential gains and scope for the reallocation of labour, especially for boosting total productivity and promoting sustained economic growth. The second

Figure 7

Sectoral employment

(Percentage)



Source: UNCTAD calculations based on ILO database on employment by sector in 2020.

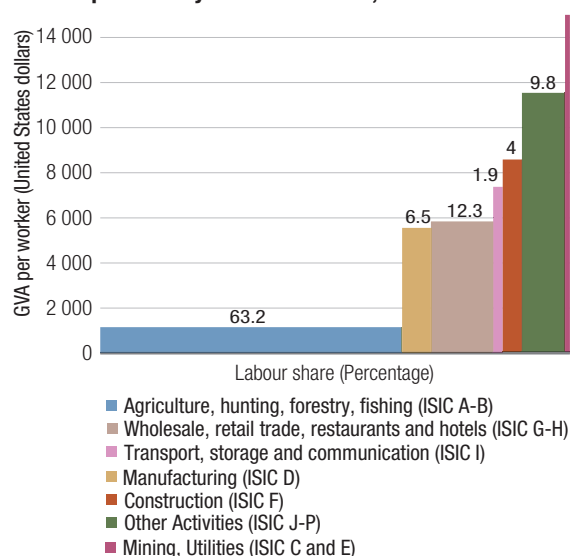
largest contributor to total labour productivity has been mining and utilities (22 per cent), with an employment share of 1 per cent in 2018. This underlines how high productivity growth in the capital-intensive mining sector, where direct benefits materialize mainly in the form of revenues generated by the sector, does not necessarily translate into significant job creation.

For the Lao People's Democratic Republic and other LDCs in the region, proximity to “factory Asia” (the regional GVC production hub) – in particular the China growth pole – can be expected to accelerate integration into regional and global value chains, as firms from China, Japan, Thailand and Viet Nam are increasingly propelled by rising labour costs or labour shortages to relocate or outsource operations to lower-cost countries (UNCTAD, 2018). However, the role of Asian LDCs in global value chains is largely downstream, with limited or short-lived benefits from GVC integration, especially in the light of the threat of automation. According to the World Bank, the Lao People's Democratic Republic is well placed to attract downstream electronics manufacturing, although occupations in this industry are considered at particularly high risk of automation (World Bank, 2018a). The precise impacts of the “fourth industrial revolution” cannot be predicted with accuracy and the technical nature of production is a crucial consideration in every case, but various assessments of ASEAN readiness (Chang et al., 2016; The Asia Foundation, 2020; World Economic Forum and Asian Development Bank, 2017) suggest that the region is already at the crossroads where labour-intensive, export-led growth geared mainly to attracting foreign investment, ceases to yield the benefits it once did. Individual ASEAN members also increasingly conclude bilateral trade agreements, and this contributes to a shifting of comparative access to major markets in North America and Europe.

Box 1 The UNCTAD Productive Capacities Index

The UNCTAD Productive Capacities Index (PCI) is the first comprehensive attempt to measure productive capacities in all economies, LDCs and non-LDC, developed and developing. The index builds on the conceptualization of productive capacities defined as the productive resources, entrepreneurial capabilities and production linkages which together determine the capacity of a country to produce goods and services and enable it to grow and develop” (UNCTAD, 2006). As such, the PCI is a composite index of an initial list of 46 indicators belonging to eight components, namely natural capital, human capital, energy, transport, ICT, institutions, structural change and the private sector. A detailed description of the methodology for the construction of the PCI is provided by UNCTAD (2020a), but for the purpose of this publication, it is sufficient to say that – after imputation and/or forecasting of missing data as required – principal component analysis is applied to reduce the dimensionality of the data. The resulting factor weights are then used in the weighting of the individual indicators to construct each PCI component, which is subsequently standardized using the max–min normalization. The overall PCI score is finally obtained as a geometric mean of the eight components, whereby the geometric mean is chosen to reduce the level of “substitutability” across components. The PCI scale, both for the aggregate index and its components, ranges from 0 to 100, with 100 being the best score.

Figure 8
Labour productivity and labour share, 2018



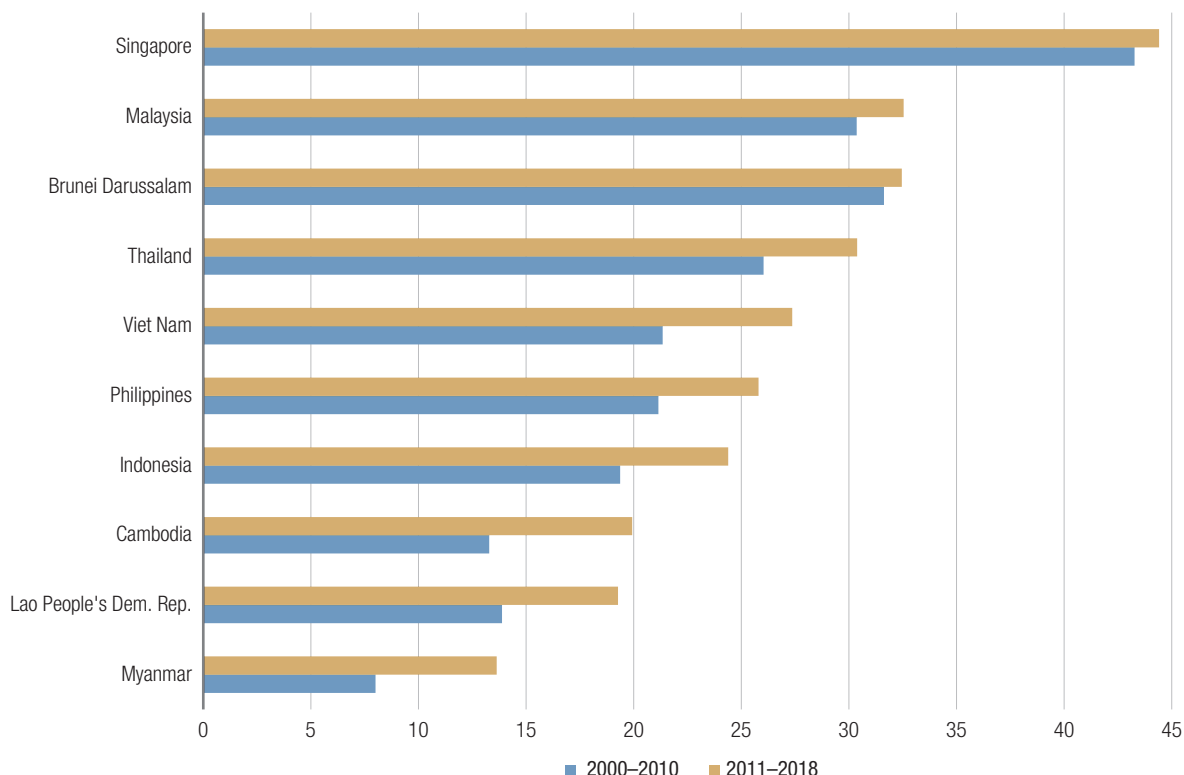
Source: UNCTAD calculations based on the ILO database on employment by sector and the United Nations Statistics Division database on gross value added by industries at current prices.

2.4. Assessing the state of productive capacities in the Lao People's Democratic Republic

Building productive capacities successfully requires knowing their current levels and specifying benchmarks against goals and targets, and other developing countries. UNCTAD recently developed a Productive Capacities Index (PCI) aimed at measuring and benchmarking productive capacity indicators in order to provide policymakers with the knowledge of the strengths and the weaknesses of the productive capacities of their respective economies, which will help them evaluate past policy choices and formulate strategies for effective capacity building (see box 1).

Figure 9

Comparison of regional productive capacity index scores



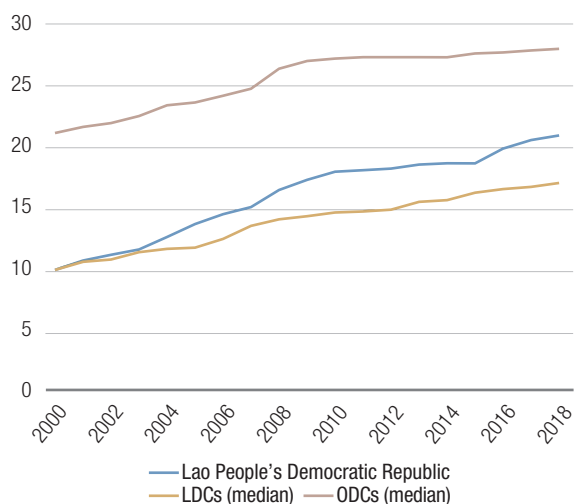
Source: UNCTAD calculations, based on data from UNCTAD (UNCTAD, 2020a).

Over the past two decades, the average overall PCI scores for all countries in South-East Asia have improved to varying magnitudes and degrees. Nevertheless, the Lao People's Democratic Republic

has lagged most countries in the region (including fellow LDC, Cambodia) on productive capacities, particularly in recent years (2011–2018). The Lao People's Democratic Republic, together with Cambodia and Myanmar, are found at the bottom in the region with respect to the overall PCI score. As the level of productive capacities in an economy is linked to its stage of development, it is expected that LDC members of ASEAN rank the lowest in the region on PCI scores (Figure 9).

Figure 10

Productive capacity index for the Lao People's Democratic Republic and benchmarks



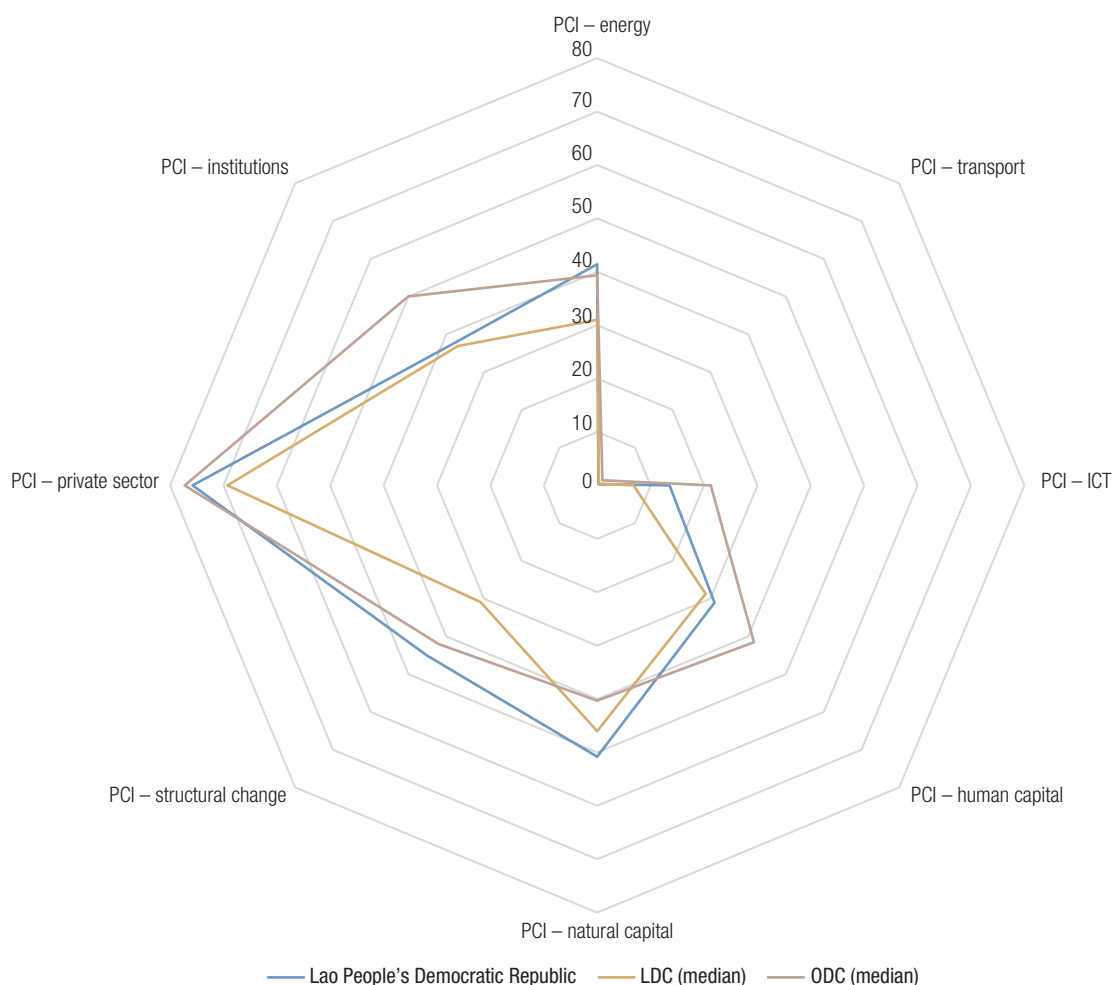
Source: UNCTAD calculations, based on data from UNCTAD.

The Lao People's Democratic Republic displays a steady improvement in its PCI, with a trajectory parallel to that of LDCs and ODCs particularly after 2008/09 (figure 10). The country's overall performance in recent years has remained lower than ODCs, yet the Lao People's Democratic Republic has widened the gap in its score vis-à-vis the median value of the PCI for LDCs, especially after 2003, which bodes well for the sustainability of the country's graduation prospects.

To investigate more thoroughly the underpinnings of the trend and progress on the PCI score of the Lao People's Democratic Republic, it is instructive to examine the eight individual components of the PCI. Like many LDCs, the challenges of

Figure 11

Productive capacities of the Lao People's Democratic Republic, least developed countries and other developing countries in 2018



Source: UNCTAD calculations, based on data from (UNCTAD, 2020a).

building productive capacities and structurally transforming the economy (through diversification) persist in the Lao People's Democratic Republic (only slight improvements in the structural change component of the PCI in 2000–2018), despite the significant advances in human capital (see the detailed discussion under the HAI) and private sector development components of the PCI. The rigidities of economic structural transformation are manifested in: (a) the constant share of the manufacturing sector's share of GDP at around 7–8 per cent in recent years; and (b) the latter implies a limited integration of the Lao People's Democratic Republic into regional and global value chains. The Lao People's Democratic Republic joined the free trade agreement with ASEAN countries in 1998 and has been a member of the World Trade Organization (WTO) since 2013. The country has potentially significant opportunities to diversify the economy

by expanding trade with its more populous GMS neighbours.

In 2018, on the composite Productive Capacities Index (PCI), the Lao People's Democratic Republic outperformed the LDC median score in relation to all PCI components, except for transport. The quality of transport networks remains below regional standards, acting as a major impediment to doing business in the Lao People's Democratic Republic and for further economic development and diversification.¹⁴ Supply side bottlenecks with respect to ICT provision (when compared to ODCs) still weigh down the overall competitiveness of the Laotian economy, despite improvements over the last 20 years (figure 11). The country has the lowest ICT availability and penetration in South-East Asia,

¹⁴ World Economic Forum, 2019.

with only 67 out of 100 people having access to a mobile telephone.¹⁵

The private sector strongly contributed to the overall PCI score for the Lao People's Democratic Republic. The high performance of the private sector category, despite a challenging environment for enterprise and private sector development¹⁶ as will be seen later, is due to the fact that its components are mainly related to cost and time to export and import. Unlike other landlocked developing countries, more than 85 per cent of the country's trade is within the region, and a large proportion of this is with neighbouring countries, notably China, Thailand and Viet Nam, which considerably reduces the cost of transport and logistics as compared to longer distance trade. Yet, the country has one of the highest logistics costs in the ASEAN region (more than double those of other ASEAN countries).¹⁷

The Lao People's Democratic Republic's PCI score places it in 137th position in a total of 195 countries, indicating a need for improvement across all PCI indicators to advance in the building of productive capacity and competitiveness. Particular attention should be placed on those indicators for which the country lags farthest behind ODCs, such as institutions, human capital and ICT.

Human capital, as a component of productive capacities, is critical for the development of countries at all income levels. Developing countries need to strengthen their human capital and productive capacities to have a workforce prepared for the more highly skilled jobs of the future to compete effectively in the global economy and to achieve sustained and inclusive economic growth (UNCTAD, 2020b; World Bank, 2020a). Enterprises of the Lao People's Democratic Republic increasingly face competition from neighbouring countries as regional integration processes deepen and as a result, the demands on training, quality and the productivity of the Lao People's Democratic Republic workforce continue to rise. Human capital is a key determinant of FDI attraction as well as the potential for the transfer of technology for catch-up growth. It also underpins the evolution of a given economy's comparative

advantage within the global economy, GVCs and production networks. Improvements to skills and capacity of domestic labour help to diversify the economy and to shift the type of investment inflows to those that rely on skilled labour and technology-intensive production processes. Labour market skills mismatches may result in lower wages, lesser returns to educational investment, diminished job satisfaction, career prospects or even unemployment (ILO and WTO, 2017). In general, firms tend to underinvest in training, especially in the context of GVCs, because they may expect a greater share of the returns to accrue to employees and to competitors (ILO and WTO, 2017). Under such conditions, firms may even downgrade their strategies by implementing suboptimal technologies or limit innovation or expansion in response to skill shortages.

Regional disparities are widening as more developed ASEAN economies – Brunei, Indonesia, Malaysia, Singapore, Thailand and the Philippines – actively develop their education systems to compete in the global knowledge economy (Khalid et al, 2019). In 2017, the Human Capital Index of the Lao People's Democratic Republic was 0.45, compared to 0.47 for Myanmar, 0.49 for Cambodia, 0.6 for Thailand and 0.67 for Viet Nam. The Lao People's Democratic Republic saw an increase in skilled labour from ASEAN member States. More skilled labour, preferred by large companies and international organisations, increases competition against Lao workers (Intal and Chen, 2017). Lower skilled workers, and workers whose skills have not stayed up to date, are often vulnerable to losing their jobs even if employment is increasing overall (ILO and WTO, 2017).

Investments in human capital will be crucial to making the integration process more inclusive. As noted by the ADB (2019), the country will not be able to tap its potential demographic dividend or reduce its dependence on foreign skilled workers unless it reduces dependence on natural resource exploitation and low-cost labour in order to make the transition to higher value added sectors. At present, within the region, Viet Nam has emerged as the biggest beneficiary of a trend where foreign investors seek to complement their China operations by shifting some production to other lower-cost countries in response to rising costs in China and trade tensions with the United States (Koty, 2020; UNCTAD, 2020c). Manufacturing remained the single largest recipient of FDI in Viet Nam, accounting for 47 per cent of all FDI in the country. Japanese companies operating

¹⁵ See <https://doi.org/10.1787/9789264276055-en>.

¹⁶ According to the World Bank, high informality, limited skills, a burdensome business environment that is discriminately enforced, and limited competition have prevented the emergence of a vibrant private sector in the Lao People's Democratic Republic (World Bank, 2017c).

¹⁷ See <https://www.nationthailand.com/business/30312839>.

in industrial clusters in Thailand also transfer the labour-intensive parts of their production process to SEZs in Cambodia, the Lao People's Democratic Republic and Myanmar. As investors increasingly consider other factors besides labour costs, the Lao People's Democratic Republic is not assured of being the most attractive investment destination among this group. According to the UNCTAD *World Investment Report (2020)*, FDI inflows to the Lao People's Democratic Republic fell by 58 per cent, to an 8 year low of \$557 million in 2019, driven mainly by declining investment in power generation and mining (UNCTAD, 2020c).

The shortage of skilled labour in the Lao People's Democratic Republic exists alongside inadequate supplies of unskilled labour (EMC, 2017). Significantly higher wages in Thailand compared to local jobs resulting in outmigration from rural areas of the Lao People's Democratic Republic closest to the Thai border mean that the increase in non-farm activities in the Lao People's Democratic Republic has not been accompanied by a significant shift from rural to urban employment (World Bank, 2016). Within the region, income differentials and demographic change are expected to continue to stimulate demand for labour migration.

2.5. Regional trade and integration

As of 2019, 98.6 per cent of goods in intra-ASEAN trade were subject to zero tariffs (ASEAN Secretariat, 2019). The import and export profile of the Lao People's Democratic Republic (Table 2) shows a high reliance on intra-regional trade. In 2019, the ASEAN share in the exports and imports of the

Lao People's Democratic Republic was 52 per cent and 59 per cent, respectively.

However, non-tariff measures (NTMs) have proliferated as tariffs have declined. By May 2019, the number of NTMs in ASEAN numbered 5,886, up from 1,634 measures in 2005 (ASEAN Secretariat, 2019). The NTMs range from regulations on sanitary and phytosanitary standards (SPS) to trade-related measures (e.g. quantitative and anti-dumping restrictions). ASEAN members continue to address product regulations in response to consumer concerns and areas positively associated with the Sustainable Development Goals to enhance the regulatory benefits from NTMs. As discussed in Knebel and Peters (2019), SPS and TBT measures have significant price-raising effects but their important regulatory functions to protect health and the environment justify their existence. Their harmonization is necessary to mitigate the costs they impose on trade requiring enhanced effort to achieve deeper regional integration within ASEAN.

Ad valorem equivalents (AVE) of NTMs for ASEAN countries have been constructed by Ing and Cadot (2019). There is a large dispersion between ASEAN economies on SPS measures. The analysis reveals that the Lao People's Democratic Republic is subject to higher compliance costs from trade with its top trading partners, Thailand and Viet Nam. This makes it harder (and more costly) for producers of the Lao People's Democratic Republic to upgrade their products for these markets.

Table 2

Key trade partners

(Exports and imports SITC Rev. 3)

Principle exports 2019	Percentage of total	Principle imports 2019	Percentage of total
Ores and metals	23.4	Machinery and transport equipment	38.4
Electric power	22.5	Manufactured goods	22.4
All food items	12.7	Mineral fuels	17.0
Machinery and transport equipment	3.6	Chemicals/products nes.	6.3

Main destination of exports	Percentage of total	Main origins of imports	Percentage of total
Thailand	41.2	Thailand	48.5
China	33.9	China	30.4
Viet Nam	9.5	Viet Nam	7.9
European Union (EU27)	5.7	European Union (EU27)	2.5
Japan	2.3	Japan	2.1

Source: UNCTAD based on UNCTADstat database.

Note: Ores and metals include SITC 27+28+68; all food items include SITC 0+1+22+4.

Table 3

Average Ad-valorem equivalent, SPS measures, by section and importer

(Percentage)

HS Section	BRN	IDN	KHM	LAO	MMR	MYS	PHL	SGP	THA	VNM
Animal products	12.4	16.1	23.4	26.0	8.9	6.2	9.2	8.0	21.23	17.2
Vegetable products	6.0	4.4	2.8	4.4	8.9	5.47	0.5	7.4	5.8	5.1
Fats and oils	14.0	6.0	0.1	18.5	26.3	18.4	0.0	16.1	11.5	38.87
Food beverage and tobacco	3.1	3.8	4.0	-1.3	4.3	4.9	4.9	13.8	8.1	5.5
<i>Simple average</i>	<i>8.9</i>	<i>7.6</i>	<i>7.6</i>	<i>11.9</i>	<i>12.1</i>	<i>8.8</i>	<i>3.7</i>	<i>11.3</i>	<i>11.7</i>	<i>16.6</i>

Source: Ing and Cadot (2019).

Note: AVE = ad valorem equivalent, HS = Harmonized System, SPS = sanitary and phytosanitary. Brunei (BRN), Cambodia (KHM), Indonesia (IDN), Lao People's Democratic Republic (LAO), Malaysia (MYS), Myanmar (MMR), Philippines (PHL), Singapore (SGP), Thailand (THA) and Viet Nam (VNM). Estimates that are exactly equal for two countries correspond to cases where the interaction terms are not significant, leaving only the direct term which is common to all countries.

Table 4

Average Ad-valorem equivalent, TBT measures, by section and importer

(Percentage)

HS Section	BRN	IDN	KHM	LAO	MMR	MYS	PHL	SGP	THA	VNM
Chemicals	3.3	7.3	0.8	4.4	-0.9	5.6	-0.4	0.6	0.3	0.7
Plastics and rubber	3.1	5.1	3.1	-2.5	-4.2	3.1	2.4	3.1	7.7	10.5
Leather	4.9	5.7	-1.4	-1.4	-1.4	4.8	-1.9	4.9	-1.4	-1.4
Textile and apparel	4.8	6.9	7.2	7.8	7.8	9.4	6.9	9.9	7.1	7.8
Footwear	2.5	5.1	2.1	2.1	2.1	2.1	1.8	2.5	2.1	2.0
Cement etc.	7.1	5.0	3.9	3.9	3.9	3.9	4.3	9.4	7.8	6.0
Metals and metal product	3.6	10.3	4.7	6.6	4.1	5.1	9.3	5.2	4.7	8.6
Machinery	8.1	4.1	-2.8	4.5	3.3	7.0	2.7	3.3	3.3	1.8
Transport equipment	4.8	1.5	7.5	6.9	12.9	6.1	5.5	6.3	8.7	12.9
<i>Simple average</i>	<i>4.7</i>	<i>5.7</i>	<i>2.8</i>	<i>3.6</i>	<i>3.1</i>	<i>5.2</i>	<i>3.4</i>	<i>5.0</i>	<i>4.5</i>	<i>5.4</i>

Source: Ing and Cadot (2019).

Note: ASEAN = Association of Southeast Asian Nations, AVE = ad valorem equivalent, HS = Harmonized System, TBT = technical barriers to trade. Brunei (BRN), Cambodia (KHM), Indonesia (IDN), Lao People's Democratic Republic (LAO), Malaysia (MYS), Myanmar (MMR), Philippines (PHL), Singapore (SGP), Thailand (THA) and Viet Nam (VNM). Estimates that are exactly equal for two countries correspond to cases where the interaction terms are not significant, leaving only the direct term which is common to all countries.

Table 3 shows a breakdown of average AVEs for SPS measures, by HS section¹⁸ and ASEAN importer, for agrifood products. Among ASEAN member States, the highest average compliance costs for SPS measures on agrifood products across all sectors is for Viet Nam (16.6 per cent), Myanmar (12.1 per cent) and the Lao People's Democratic Republic (11.9 per cent) and is linked to limited technical capacity of enforcement and monitoring in these countries. For imports to the Lao People's Democratic Republic, the costs of SPS compliance are highest for animal products (26.0 per cent).

For manufactured products, the main NTMs are technical barriers to trade (TBT). Compliance

with TBTs seems to be less costly than SPS measures. Table 4 shows a breakdown of average AVEs for TBT measures, by HS section and ASEAN importer, for manufactured products. The highest compliance costs on imports of the Lao People's Democratic Republic are observed in the textile and apparel sector (7.8 per cent), followed by transport equipment (6.9 per cent), metals (6.6 per cent) and machinery (4.5 per cent). According to the Doing Business indicators, the Lao People's Democratic Republic has the highest number of import documents in the region, and this constitutes the main cost factor for compliance on TBTs rather than the measures themselves (Ing and Cadot, 2019).

Estimates that are exactly equal for two countries correspond to cases where the interaction terms are not significant, leaving only the direct term which is common to all countries.

¹⁸ Product classification is done at the national tariff line level or at 6-digits of the Harmonized System (HS), which distinguishes about 5,200 different products.

2.6. A milestone in regional integration – the RCEP

On 15 November 2020, the Lao People's Democratic Republic signed the Regional Comprehensive Economic Partnership (RCEP), one of the biggest trade and investment blocs in the world to date, together with other ASEAN countries, as well as Australia, China, Japan, New Zealand and the Republic of Korea. Together, members of the RCEP account for about 30 per cent of world's GDP and population. Concluded after eight years of negotiations, the RCEP mainly consolidates and updates existing free trade agreements (FTAs)¹⁹ among the 15 RCEP Participating Countries and could provide further impetus to deeper integration of regional supply chains and economies in East and South-East Asia.²⁰ The agreement could improve access to the funds of the Belt and Road Initiative (BRI) of China and generate economic gains through increased market access by strengthened intraregional connectivity. The Lao People's Democratic Republic already receives more than 90 per cent of its FDI from the RCEP members; economic cooperation under the RCEP could help the Lao People's Democratic Republic to play a stronger role in global value chains (GVCs) by means of even greater investment in infrastructure and manufacturing projects.²¹

The tangible benefits of RCEP are expected to be more pronounced for the North Asian bloc, namely China, Japan and the Republic of Korea (when compared to the South Asian bloc), as the RCEP covers the China–Japan and Japan–Republic of Korea bilateral relationships previously not subject to free trade agreements.²² The deal must be ratified by at least six ASEAN countries and three non-ASEAN countries before coming into force (which might take up to two years after ratification). The RCEP provides some flexibility for less-developed members to implement the practical and legislative changes it requires. For example, the Lao People's Democratic Republic is only required to eliminate tariffs on 30 per cent of trade in goods, given its smaller economy, and will have three to five years to upgrade customs procedures. Overall, the deal eliminates tariffs and

quotas on 65 per cent of goods traded within the RCEP bloc, which will gradually increase to cover 90 per cent of trade in goods in 20 years' time. Some agricultural²³ and sensitive goods will be excluded from these tariff reductions.^{24, 25} The Agreement also includes provisions on intellectual property, telecommunications, financial services, e-commerce and professional services.²⁶ However, labour rights and environmental standards are missing from the agreement.

The overall impact of RCEP could be modest (at least in the short term) and spread over time, as it is not primarily a tariff-focused trade deal – many imported goods already qualify for duty-free status through existing FTAs via the ASEAN bloc and bilateral deals between ASEAN and other participating countries.²⁷

A major benefit of the RCEP will be the harmonization of rules of origin (RoO), allowing companies to ship products across the region more easily without encountering different rule of origin criteria for each step in the manufacturing process or in each country crossed. This will lower transaction costs for trading with multiple countries in the wider region and create a more stable environment for trade. According to a recent study, it is estimated that common RoO could reduce export costs, thereby boosting merchandise exports among the RCEP members by around \$90 billion on average annually (4 per cent of 2019 intra-zone merchandise trade and 0.5 per cent of global merchandise trade) with \$0.2 billion on average annually for the Lao People's Democratic Republic.²⁸ Also, an integrated regional customs regime could make the region more

¹⁹ All RCEP members have FTAs with one another (with varying rules and regulations on trade, investment and services), except Japan (UNCTAD, 2020d).

²⁰ See <https://www.brookings.edu/blog/order-from-chaos/2020/11/16/rcep-a-new-trade-agreement-that-will-shape-global-economics-and-politics/>.

²¹ See <https://unctad.org/news/new-asian-trade-bloc-could-help-boost-post-pandemic-investment>.

²² Ibid.

²³ About 70 per cent of the Lao are working in the agricultural sector, and subsistence farming is still the norm in the country. Tariff elimination on agricultural products might have serious consequences for small-scale producers (particularly for women).

²⁴ See <https://uk.reuters.com/article/uk-asean-summit-rcep-explainer/what-happens-now-the-rcep-trade-deal-has-been-signed-idUKKBN27W0WJ>.

²⁵ See <https://www.worldpoliticsreview.com/trend-lines/29228/rcep-is-more-of-a-win-for-southeast-asia-than-china-alone>.

²⁶ See <https://rcepsec.org/legal-text/>.

²⁷ The average tariff of ASEAN countries on imports from RCEP partners had already dropped to 1.8 per cent (as of 17 November 2020) from 4.9 per cent in 2005. Available at https://www.allianz.com/en/economic_research/publications/specials_fmo/2020_11_17_RCEP_RulesOfOrigin.html.

²⁸ See https://www.eulerhermes.com/content/dam/onemarketing/ehndbx/eulerhermes_com/en_gl/erd/publications/pdf/2020_11_17_RCEPrulesoforigin.pdf. The methodology is based on Cadot et al (2002), Carrère and De Melo (2006).

attractive to further diversification of supply chains for multinational companies, potentially driving more foreign investment to small ASEAN countries such as the Lao People's Democratic Republic (due to its low cost environment).²⁹

The provisions in the agreement are expected to enable the RCEP members to build resilient economies for post-pandemic recovery more effectively, both individually and as a bloc. However, there might be several caveats to being a signatory to a FTA such as RCEP for developing countries (particularly ASEAN LDCs such as the Lao People's Democratic Republic) in the midst of COVID-19, as developing countries are particularly vulnerable to the ongoing pandemic crisis, given their limited capacities to respond (e.g. lack of domestic financial resources and high debt levels, etc.). Developing countries need policy and fiscal space to raise finances for combating COVID-19 and reviving their trade and industry (UNCTAD, 2020d). However, the RCEP may further restrict policy and fiscal space of developing countries through decreased customs revenue due to tariff elimination and inability to control regulations of imports of luxury items (e.g. video games, movies etc.; indeed with increasing digitalization, more tariff revenues are expected to be lost). According to a recent study by UNCTAD, most ASEAN countries' imports post RCEP might rise more than their exports, leading to a deterioration in their balance of trade with respect to the RCEP members.³⁰

2.7. COVID-19 related economic challenges

The country's first cases of COVID-19 occurred in March 2020 and forced the Government to adopt containment measures. While these measures proved successful in arresting the spread of the virus, with no new cases reported for 59 consecutive days by 10 June 2020, the Lao People's Democratic Republic economy struggled with negative or low growth in the range of -1.8 per cent to 1 per cent forecast for 2020.

The Lao People's Democratic Republic has among the lowest infection and test rates in the world and these appear to be linked (World Bank, 2020b), although containment measures ranging from selective containment, nationwide lockdown and gradual opening applied by the Government from February to May 2020 are also recognized to have helped avert a major health crisis. The pandemic affected the Lao People's Democratic Republic economy through multiple channels, including tourism, international trade, foreign investment, commodity prices, exchange rates and lower remittances. High-frequency data collected by the World Bank in May and early July (World Bank, 2020b) indicate that significant shares of workers have either lost their jobs or had to change jobs as a result of the pandemic. Yet, significantly more households experienced declines in their incomes, as many who remained employed saw their earnings fall (World Bank, 2020b).

Mostly labour-intensive sectors and those linked to global and regional value chains were affected. The garment industry, which accounts for 1.2 per cent of GDP or 4 per cent of merchandise exports, was the most affected by supply chain disruptions and a risk of lowering demand (Figure 12). According to data from the Ministry of Industry and Commerce, export values of the country's garments for first nine months of 2020 fell by 10 per cent compared to same period in 2019, from \$21.3 million in January 2020 to \$5.4 million in April 2020, when lockdown measures were enforced, although it picked up after May 2020 following the relaxation of COVID-19 restrictions. However, all garment firms report a high likelihood of bankruptcy with 30,000 jobs at risk should the COVID-19 pandemic persist into 2021.

In addition, many manufacturers, including of food, low-technology products (apparel, leather, furniture, wood, paper), and medium and high-technology products (chemicals, plastics, metal and non-metal products, electric machinery and machinery) located in SEZs are experiencing a sales and revenue contraction, and disruption in operations due to input delivery-related problems and lockdown measures, and are laying off workers as a result. According to a UNIDO survey undertaken in June 2020, firms in SEZs are encountering growing cashflow difficulties with knock-on effects to their ability to fulfil orders (UNIDO, 2020). The shortage of foreign labour is another problem faced by manufacturers. Some investors were at the stage of factory construction or equipment installation and faced a shortage in expertise due to lockdown measures enforced in China, impacting the progress of investment

²⁹ Ibid.

³⁰ The analysis uses SMART methodology (Studies using General Equilibrium Models (CGEs) find significant gains from the RCEP for the members; however, the assumptions underlying the CGE models may not apply to developing countries – see Banga, Rashmi, Critique of Impact Assessment of Regional Trade Agreements Using Non-Tariff Measures (2017) for a detailed discussion), with assumption of removal of all tariffs on all products between the RCEP countries.

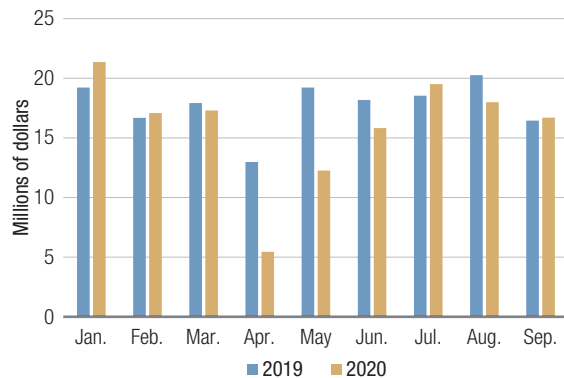
projects in the first six months of 2020. Services SEZs located along the Lao People's Democratic Republic–China border area collectively laid off 81 per cent of their 44,382 workers.

Overall export performance for the first quarter remained buoyant, supported by strong hydropower exports to Thailand, such that higher electricity output in 2020 is expected to partly compensate for the slowdown in other sectors.

The construction sector (10 per cent of GDP) was also disrupted in the first half of 2020 due to delays and the suspension of large infrastructure projects during the lockdown and lower growth in China. Two mega investment projects, namely the Lao People's Democratic Republic–Chinese railway and Vangvieng highway construction projects, could not obtain construction materials during March–May 2020 and experienced a shortage of workers, as Chinese workers could not enter the Lao People's Democratic Republic. This is not expected to push forward the original completion dates, as the Government was able to speedily address problems related to the supply of construction materials and foreign workers.

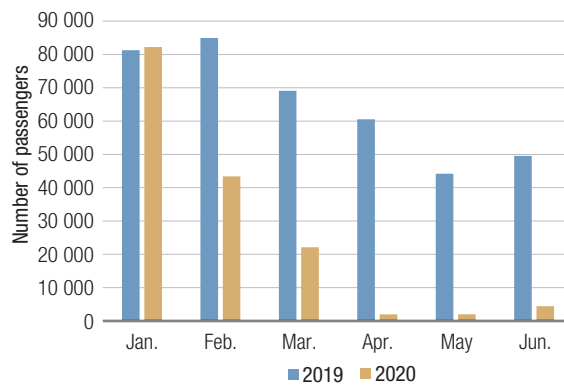
Travel restrictions meant the tourism and travel sectors, which are among the main sources of foreign currency earnings for the Lao People's Democratic Republic (around 4 per cent of GDP), were immediately affected, with knock-on effects on supporting sectors (tour operators, handicrafts, accommodation and restaurants, at 3 per cent of GDP; and transport, at 1.7 per cent of GDP). Respondents to a survey initiated by the Lao National Chamber of Commerce and industry (LNCCI) reported revenue losses (precipitating job losses), with the tourism sector the most affected – 37 per cent of tourism sector respondents reported a drop of over 80 per cent in year-on-year revenue in the first quarter of the year compared to the same period in 2019. The impact of COVID-19 began even before the Lao People's Democratic Republic had its first confirmed case at the end of March 2020, as health or lockdown measures were enforced by neighbouring countries and worldwide. National lockdown measures and the closing of international border gates stopped the travel of foreign and domestic tourists (Figure 13). In June 2020, passenger numbers remained at a low of 9 per cent of levels recorded the same last year and, as a result, the national air carrier is facing a 65–70 per cent loss in revenue. The large reduction in the number of international visitors is estimated to have resulted in income losses of approximately \$700 million to \$800 million with 30,000–40,000 staff

Figure 12
A comparison of export value of garment sector between 2019 and 2020



Source: Lao People's Democratic Republic, Ministry of Industry and Commerce.

Figure 13
Lao Airline's monthly passengers: Comparison of selected months, 2019 and 2020

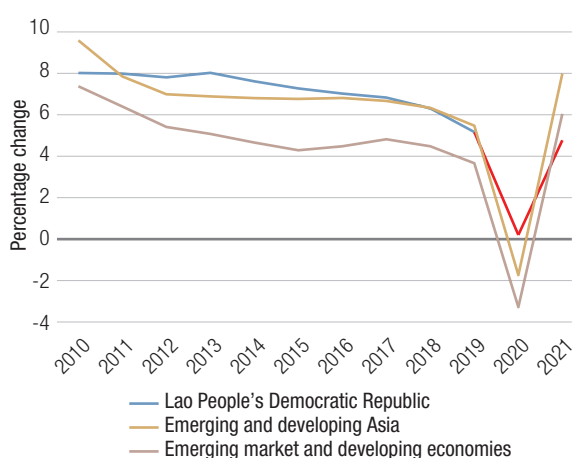


Source: Lao Airlines.

in the tourism sector made redundant or forced to take leave without pay. The Golden Triangle SEZ, a zone dedicated to gambling and tourism, laid off 34,365 workers (85 per cent of its staff) as its business operations ceased for 4–5 months as a result of border closures.

The agriculture, forestry and fishery sector had the highest share (20 per cent) of companies reporting no change in revenue in the first trimester year-on-year (Shah, 2020). Half the survey respondents reported being at high risk (80–100 per cent likelihood) of ending business operations, with women-led companies revealed as more at risk. Domestic and trading partner lockdown measures led to the decline in exports of perishable cash-crops, with farmers continuing to suffer losses from delays after border crossings resumed due to health-related

Figure 14
Real gross domestic product growth, Lao People's Democratic Republic and developing economies

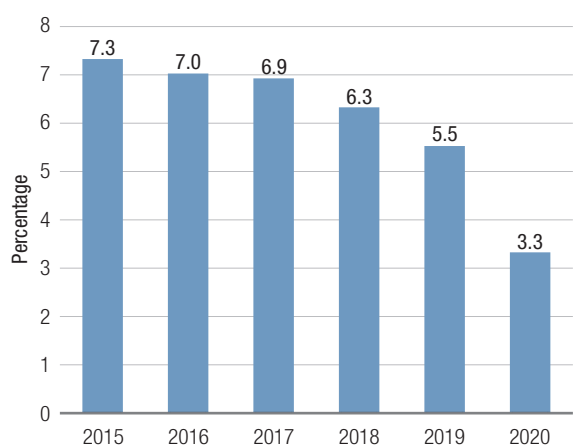


Source: UNCTAD, based on IMF World Economic Outlook (2020).
 * Projected values, in red, for 2020 and 2021.

measures. However, lockdown measure opened market opportunities for some domestic farmers. For example, rice growers were able to sell more produce in northern provinces as supplies of imported rice were exhausted.

Also, manufacturing sectors, especially export industries, faced disruptions in daily operations, and some lacked intermediate inputs due to the disruption of cross-border transport. Major investment projects, such as the Lao People's Democratic Republic–China railway construction project and hydropower construction projects, were consequently delayed.

Figure 15
Economic growth



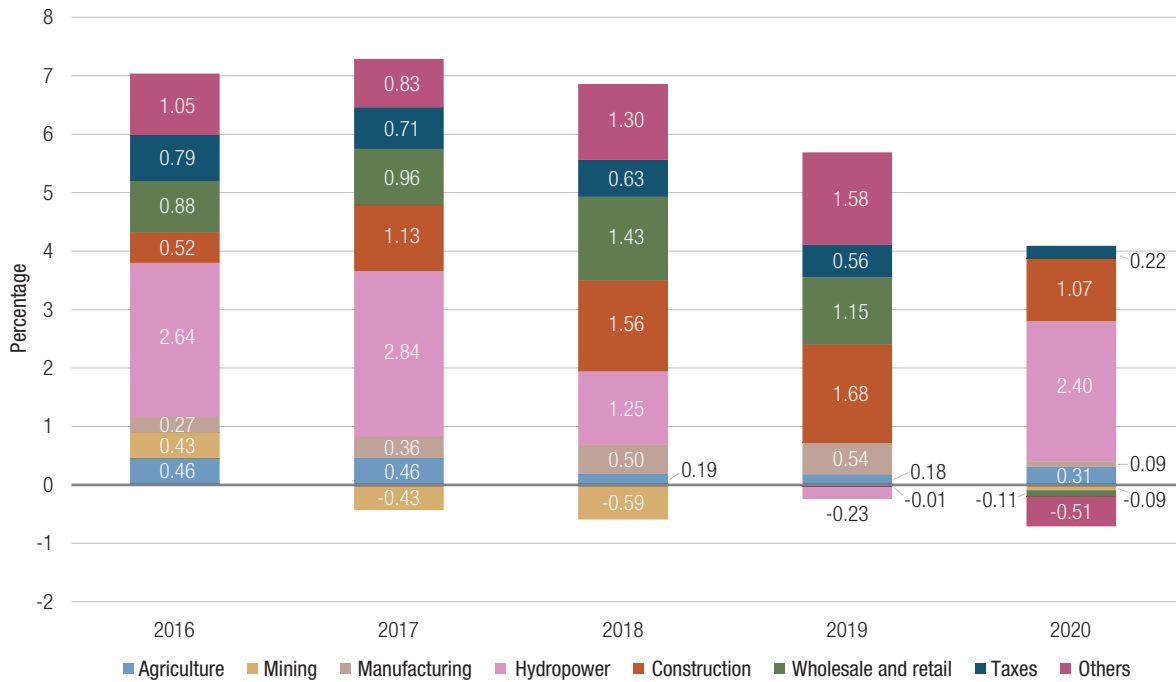
Source: Lao People's Democratic Republic, Statistics Bureau (LSB).
 Note: GDP growth forecast in 2020 incorporates predicted COVID impact.

COVID-19 mitigation measures also caused a decline in private consumption and consumer confidence with moderations in the wholesale and retail trade. Respondents to the survey initiated by the LNCCI reported “payment of salaries” as their biggest constraint, followed by “loan and interest payments”, with some 70 per cent needing to furlough some employees and more than 40 per cent having to let over 50 per cent of their workers go, confirming that the pandemic disrupted household income and lowered disposable income and consumption. In 2020, the Government estimated that the unemployment rate would be around 23.4 per cent (out of the estimated labour force of 2.16 million, inclusive of return migrants). The Ministry of Labour and Social Welfare estimated a \$250 million drop in remittance inflows. The World Bank estimated that the incidence of poverty would increase by about 2 percentage points or up to 214,000 people could fall into poverty because of COVID-19. In addition, in 2020 the pandemic was expected to contribute to increased household food insecurity because of job losses, constrained access to food and lower disposable income translating to reduced dietary intake, consumption of less nutritious foods, or reduced the frequency of meals. The combined effects of heightened food insecurity, especially in rural households due to successive natural disasters over the last 10 years, coupled with the increase in the price of rice, was already estimated to push 67,800 people into food insecurity by early 2020 (FAO/WFP, 2020).

Based on October 2020 IMF World Economic Outlook database projections, the real economic growth of the Lao People's Democratic Republic was expected to fall from 5.1 per cent to 0.2 per cent in 2020. In contrast, emerging and developing Asia, on average, have a forecast negative growth rate of 1.7 per cent. The reason the Lao People's Democratic Republic is able to maintain a positive growth rate, according to the outlook, is probably due to a relatively lower dependence on tourism receipts and remittances than the comparison group. Without COVID-19, the Lao People's Democratic Republic would have expected to sustain a GDP growth of 6.7 per cent for 2020.

On the other hand, the Ministry of Planning of the Lao People's Democratic Republic projected that COVID-19 would reduce the economic growth rate from 6 to 3.3 per cent in 2020 compounding the already subdued performance of the hydropower, construction, wholesale and retail sectors prior to the outbreak of COVID-19 pandemic (Figure 15). In addition, the impact of natural disasters and low productivity are a drag on agriculture sector growth.

Figure 16
Sectoral contribution to economic growth



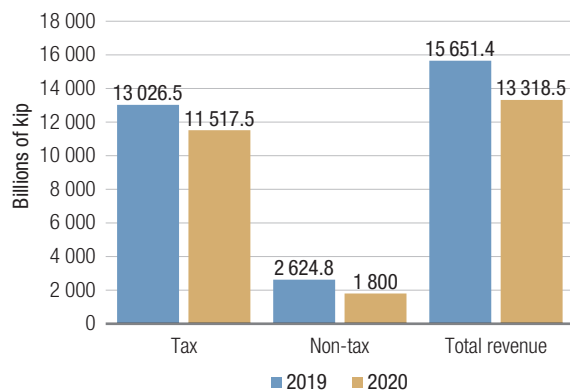
Source: Lao People's Democratic Republic, Statistics Bureau.

Export industries (Figure 16), including garment and manufacturing parts, were expected to register negative growth because of the decline in global demand. Similarly, negative growth was forecast for the services sector at -1.6 per cent, down from about 9 per cent compared to previous years because of COVID-related impacts on tourism and its related services. However, the growth of hydropower and construction sectors were expected to contribute approximately 3.5 per cent and significantly compensate for the slowdown in other sectors, especially the services sector.

The COVID-19 crisis has further worsened long-standing macroeconomic vulnerabilities. In recent years, the economy of the Lao People's Democratic Republic has grappled with the large fiscal and current account deficits and rising public foreign debt. In 2019, the fiscal deficit was a little over 5 per cent of GDP, with public debt at slightly over 60 per cent of GDP. As for 2020, the National Assembly has approved the adjustment of macroeconomic targets, including fiscal targets, to take into account the impact of COVID-19. Weak performance in the real sector will exacerbate the already weak fiscal position of the Lao People's Democratic Republic. Declining business income receipts, particularly in tourism and related service sectors and the manufacturing sector, caused the reduction of fiscal revenue

collection, especially during March–July 2020, when containment measures were strictly implemented. According to the Ministry of Finance, revenue collection for the first nine months of 2020 reached about 13.3 billion kip, which is about 2.3 billion kip lower than same period in 2019 (Figure 17). All the main types of tax collected, including profit tax, income tax, VAT and excise tax, suffered declines. It is expected that fiscal revenue will account for only about 12–13 per cent of GDP, a drop of from 15 to 16 per cent of GDP in previous years.

Figure 17
A comparison of fiscal revenue of nine selected months



Source: Lao People's Democratic Republic, Ministry of Finance.

Given lower fiscal revenue, the Government of the Lao People's Democratic Republic is facing a further erosion of its fiscal space. The Government was expected to cut spending by approximately 1.5-2 per cent of GDP in 2020, by reducing both non-wage and capital spending. As a result, fiscal spending was expected to decline to around 18 per cent in 2020 from 20.4 per cent in 2018 and 20.2 per cent in 2019. Despite lower public expenditure, weak revenue collection has resulted in an elevated fiscal deficit. The IMF estimated the fiscal deficit and public debt to rise to 7.5–8.8 per cent of GDP and 65–68 per cent of GDP in 2020, respectively, with heightened risk of debt distress.

The balance of payments outlook has also worsened with already growing instabilities prior to COVID-19 in the balance of payments and external sector. In 2019, the current account deficit stood at 8 per cent and was estimated to increase to 11–12 per cent in 2020.³¹ According to the Ministry of Industry and Commerce, the value of exports in the first nine months of 2020 was at \$3,88 billion, almost \$0.5 billion lower than the same period in 2019, representing a 12 per cent reduction. Similarly, the value of imports for the first nine months of 2020 declined by \$332 million or 9 per cent, compared to same period in 2019, mainly driven by the large drop in mineral and agricultural products exports values due to lower external demand, falling commodity price and the lockdown. Notable also are the income losses during first six months of 2020 from tourism, estimated at between 300 million and 400 million, which translate to a drop in foreign earnings and exacerbate the current account deficit. In addition, of the approximately 500,000 labourers from the Lao People's Democratic Republic reported to be working in Thailand, nearly 200,000 returned home following the implementation of lockdown measures by the Government of Thailand, causing a reduction in remittances inflows which put more pressure on the external account.

The level of international reserves is at a multi-year low, the gap between the official and parallel market exchange rates has increased and is higher than historical norms. Limited fiscal space and the mounting pressure of deficit financing and debt servicing will limit the ability of the Government of the Lao People's Democratic Republic to stimulate the

economy, thus exacerbating the downturn. Moreover, budget cuts will serve to further dampen domestic demand already weakened by COVID-19.

Limited fiscal space and higher debt service pressure in 2020 have constrained the Government's ability to announce an adequate fiscal relief package (World Bank, 2020b). The Government has established a dedicated committee to address economic difficulties arising from the COVID-19 crisis and approved tax exemptions for micro and small enterprises and personal incomes below 5 million kip during April–July 2020. The deadlines for the payment of tax was extended for another three months to assist alleviate the financial situation of business enterprises. The Bank of the Lao People's Democratic Republic (BOL) has directed commercial banks to adjust the interest rate and suspend interest payments for customers who are affected by the pandemic for a certain period (decision no.238/BOL), implemented a stimulus package of 200 billion kip for small and medium-sized enterprise and established a COVID-19 recovery fund of 1,800 billion kip after the lockdown period to support domestic production and boost the economy.

The Ministry of Industry and Commerce has worked closely with neighbouring countries to ensure the adequate supply of essential supplies such as food, household products, medical equipment during the lockdown period and sought to stabilize the price of goods and services in the domestic market through price controls and maintenance of domestic supply. The Government has been active in providing guidance on the implementation and enforcement of preventative health measures in factories and commercial sites. The Ministry of Labour and Social welfare has paid out compensation to workers adversely affected by COVID-19 and permitted the suspension by enterprises affected by COVID-19 of their contributions to worker social protection schemes for another six months.

The Government of the Lao People's Democratic Republic has also organized charity events to raise funding to support poor households, including returned migrant workers. The Government has also discounted the price for electricity, water and telecommunications between April and June 2020. International organizations and development partners have played a significant role in providing both financial and in-kind assistance to the Government of the Lao People's Democratic Republic to implement preventative health measures and measures aimed at maintaining people's livelihoods and laying the foundations for economic recovery.

³¹ Data based on estimation of World Bank. See <https://pubdocs.worldbank.org/en/306131610167443727/Lao-PDR-Economic-Monitor-January-2021-Supporting-Economic-Recovery-Thematic-section-Livelihoods-in-the-Time-of-COVID-19.pdf>

3. Identifying areas of vulnerability: Progress under graduation criteria

Sections 3.1, 3.2 and 3.3 of chapter 3 examine the situation of the Lao People's Democratic Republic under the graduation thresholds relevant to the three criteria for identifying LDCs, namely the per capita income criterion, the human assets criterion and the economic and environmental vulnerability criterion. The examination undertaken under each criterion casts light on various factors and determinants of the country's overall performance under the respective criterion. To be specific, per capita income serves as a measure of overall level of resources available to a country and how well off the citizens of a country have been on average, whereas the HAI (a composite index including health and education components) and EVI (a composite index measuring the structural vulnerability of countries to economic and environmental shocks) measure the main structural impediments to sustainable development. Each figure in the following sections indicates the evolving distance to or from the graduation threshold under the criterion reviewed.³²

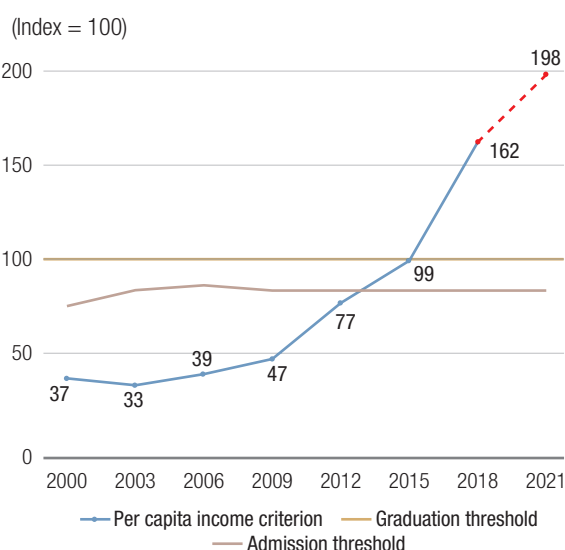
3.1. Gross national income per capita

With a remarkable rise from 33 per cent of the graduation threshold in 2003 to 99 per cent of the graduation threshold in 2015, and a provisionally estimated 198 per cent (red dotted line) in 2021, the Lao People's Democratic Republic already met the graduation criterion at the 2018 triennial review (figure 18). Sustained economic growth since 2003 (averaging above 7 per annum), driven in large part by investment in natural resources and major infrastructure projects explains the significant rise in the GNI per capita (from \$340 in 2003 to \$2570 in 2019)³³, and the country's success, in 2011 for the first time, to achieve a status update to lower middle income country³⁴ and in 2018 for the first time (with a performance of 162 per cent of the graduation threshold), pre-eligibility for graduation from LDC status.

The country's rapid economic growth has not been able to veil the unequal distribution of the national income among the Lao, with the inequity patterns emerging from urban–rural disparities and disparities

Figure 18

Lao People's Democratic Republic: distance from the graduation threshold under the per capita income criterion



Source: UNCTAD, calculations based on time series estimates of the LDC criteria (2020). The 2021 projection is provisional.

Notes: Based on GDP per capita, the rest are based on GNI per capita. The GNI per capita is expressed as a three-year average using the World Bank's Atlas method. Data available at the time of the triennial reviews are for the three-year period prior to the review year. The graduation threshold is set at 20 per cent above the three-year average level of GNI per capita used by the World Bank to designate low-income countries. All data have been standardized into indices, with the graduation threshold as the 100 basis. For example, the score of 162 observed in 2018 means that the country, at that time, was standing at 162 per cent of the graduation threshold.

between provinces. This, to some extent, reflects the structure and non-inclusivity of the economic growth, which was mainly driven by rapid expansion of capital-intensive sectors (with few jobs creation). According to the results of the latest Lao Expenditure and Consumption Surveys (LECS)³⁵, between 2012/13 and 2018/19, average consumption growth per capita (3.3 per cent), which can be considered as an indicator of overall household income, fell behind the rate of economic growth (above 7 per cent). World Bank estimates show that the increased inequality (measured by average consumption per capita) slowed down the pace of poverty reduction by about 4.2 per cent per year during this time frame.³⁶

³² Handbook on the Least Developed Country Category. CDP and DESA (2018).

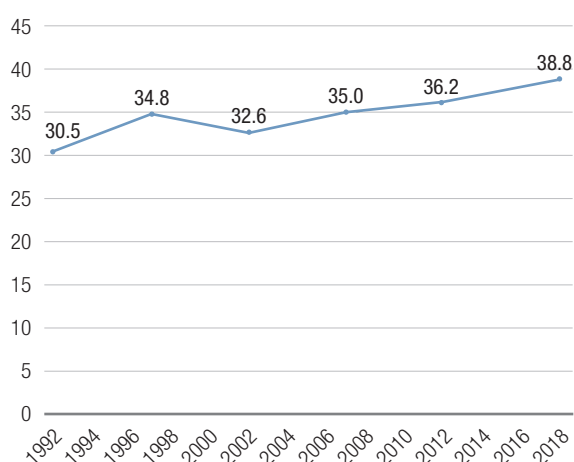
³³ World Bank Databank, accessed November 2020.

³⁴ See <https://www.worldbank.org/en/news/press-release/2011/08/17/lao-pdr-now-lower-middle-income-economy>.

³⁵ Since the early 1990s, five rounds of the Lao Expenditure and Consumption Surveys (LECS) have been conducted by the Government of the Lao Statistics Bureau, Ministry of Planning and Investment of the Lao People's Democratic Republic, with the technical assistance of Statistics Sweden and the World Bank.

³⁶ World Bank, 2019, Lao People's Democratic Republic Poverty Assessment 2020: Catching Up and Falling Behind, World Bank, Washington, D.C.

Figure 19
Trend in Gini index in the Lao People's Democratic Republic



Source: Lao People's Democratic Republic.

* Value derived using 2018/19 poverty methodology (World Bank, 2020c).

Inequality in the Lao People's Democratic Republic is increasingly being characterized by widening within area disparities with the urban–rural gaps being on the decline. The estimated Gini index has increased from 30.5 in 1992/93 to 38.8 in 2018/19 at the national level (Figure 19) even though poverty incidence has more than halved (from 46 to 23 per cent between 1992/93 and 2012/13, and further to 18 per cent in 2018/19) on the back of an increase in farm incomes and remittance flows. Between 2012/13 and 2018/19, remittance flows accounted for 3.7 percentage points in poverty reduction.

The distribution of average consumption per capita has continued to widen between 2012/13 and 2018/19, with the growth of average consumption per capita of the poorest 10 per cent (2 per cent per year) being consistently lower than that of the richest 10 per cent (4 per cent per year). In 2018/19, the average consumption of the richest 20 per cent was almost 7 times larger than that of the poorest 20 per cent, while in 1992/93, the ratio was 4.6.³⁷

From a regional perspective, LECS 2018/19 results show that the pattern of the distribution of consumption in the country (i.e. increasing concentration of consumption at the top end) shares common features with other countries in the region,

³⁷ Lao Expenditure and Consumption Surveys (LECS) 1992/93, 1997/98, 2002/03, 2007/08, 2012/13 and 2018/19.

namely Indonesia, Thailand and Viet Nam. However, the inequality which has been experiencing a decline in Thailand and Indonesia, has been increasing in the Lao People's Democratic Republic (with the Gini index for the Lao People's Democratic Republic reaching a higher level than that for Indonesia, Thailand and Viet Nam as of 2018).³⁸

3.2. People: Human Assets Index

Since 2000, the HAI showed a rising trend in absolute and relative value, reaching a level of 94 per cent of the threshold in 2009. Despite slight declines between 2009 and 2015, it maintained levels consistently above 90 per cent, crossing the threshold level in the 2018 review. After the CDP Plenary in 2020, the HAI was modified to take better account of gender inequalities. After the revision, the HAI score of the Lao People's Democratic Republic stood at 71 instead of 73, indicating that the country still passed the graduation threshold in 2018 (Figure 20).

The significant increase between 2000 and 2009 (see Figure 20) was largely driven by improvements in health-related indicators – mortality and nutrition – that, together, explained 93 per cent of the HAI increase in this period³⁹, with nutrition alone accounting for 60 per cent of the increase. Regarding the education-related indicators, the replacement in 2003 of the combined primary and secondary enrolment ratio with the gross secondary school enrolment ratio impacted negatively on the HAI, as the Lao People's Democratic Republic has a much higher primary than secondary enrolment ratio. This was compensated by the improvement of adult literacy, which resulted in a slight improvement in the overall score of education-related indicators between 2000 and 2009.

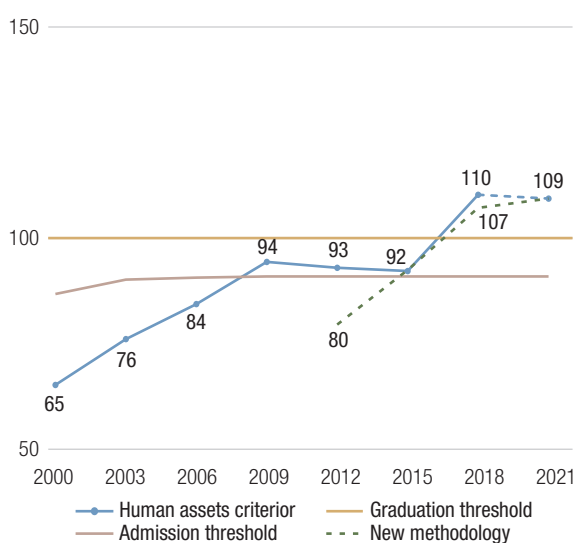
The decomposition of the HAI in Figure 21 shows that gender parity and a good performance in the health indicator maternal mortality ratio add the largest positive share to the HAI. The inclusion of the maternal mortality rate as a third health-related indicator since 2018 triennial review also contributed to the improvement, given that the country performs better in this indicator when compared to the two

³⁸ World Bank, 2019, Lao People's Democratic Republic Poverty Assessment 2020: Catching Up and Falling Behind, World Bank, Washington, D.C.

³⁹ When a higher value of raw data indicates a lower human asset level – as in the case of the health variable mortality – “a rank-reversing transformation is applied, so that a higher index number after conversion corresponds to a higher human asset level” (Kawamura, 2014, p.4).

Figure 20

Lao People's Democratic Republic: distance from the graduation threshold under the human assets criterion*



Source: UNCTAD calculations based on CDP time series estimates of the LDC criteria (2020). The 2021 projection is provisional.

Note: The green dotted line displays retrospective values for the distance from the relevant threshold under the new methodology adopted by CDP in 2020. A higher HAI represents a higher development of human capital.

* Based on the Human Assets Index.

other health-related indicators.⁴⁰ The maternal mortality ratio (per 100,000 live births) stood at 185 in 2017, coming down from 292 in 2010.

However, according to data from Ministry of Health (Table 5), as a result of COVID-19 restrictions and borders closures during the lockdowns, fewer pregnant women were able to access antenatal and postnatal care services during the first quarter of 2020 resulting in a 1 percentage point drop in coverage during January–April of 2020.

Despite improvements, the areas where the Lao People's Democratic Republic is the most vulnerable in terms of human assets are:

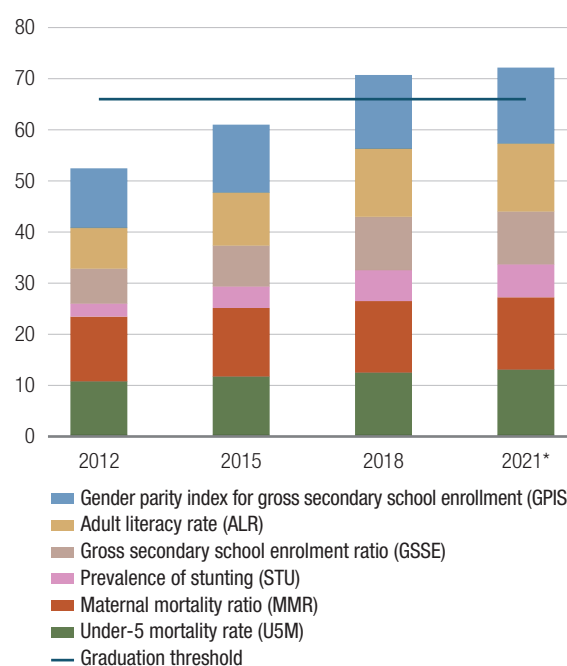
- The prevalence of stunting: In 2017, 16.5 per cent of the population was undernourished. Despite a reduction from 21.1 per cent in 2010, this is still higher than the average of South Asia of 14 per cent (2016–2018).⁴¹
- Gross enrolment ratio for secondary school (number of students enrolled in secondary education divided by population of the age group

⁴⁰ In the 2018 review, the index scores of the health-related indicators were: (a) prevalence of undernourishment in total population: 79.8; (b) under-5 mortality: 67.3; and (c) maternal mortality: 83.9.

⁴¹ World Development Indicators (2020).

Figure 21

Lao People's Democratic Republic: Composition of Human Assets Index, 2012–2020



Source: UNCTAD calculations based on CDP time series estimates of the LDC criteria (2020) and new methodology.

Note: As the inclusion and graduation thresholds for the HAI have been fixed at their 2012 review levels (with adjustments permitted for eventual changes in indicators, methodologies or data sources in future reviews), the decomposition analysis starts from 2012 for coherency purposes. Year refers to the year of an actual or a hypothetical review.

which corresponds to secondary education) of males rose from 51.5 per cent in 2010 to 67.9 per cent in 2019. The female gross secondary school enrolment ratio increased from 42.3 per cent (2010) to 63.6 per cent (2019). The low secondary enrolment ratio compared to primary enrolment is considered as a main hindrance to human capital development.

- The under-5 mortality ratio remains high at 45 per 1,000 live births in 2019, despite a reduction from 68 in 2010.

Table 5

Annual access rate to health-care facilities by pregnant women during January–April 2020

	ANC 1-time coverage	ANC 4 times coverage	PNC (3–42 days) coverage	Delivery at health facility
	Percentage			
2019	33.2	22.1	11.0	36 608
2020	31.7	21.1	9.4	34 832

Source: Lao People's Democratic Republic, Ministry of Health, DHIS2 database.

While the HAI score is sufficient to pre-qualify the Lao People's Democratic Republic for graduation and improvements in HAI indicators confirm positive socioeconomic development, the country still faces significant challenges in the area of health and education that continue to affect a large part of the population, as discussed in later sections. This poses a significant challenge for the development of human capital and economic prosperity generally, especially in terms of introducing disparities in employment and labour productivity, which have knock-on effects on the country's competitiveness and eventually structural transformation and sustainable development.

Income losses associated with the impacts of COVID-19 are expected to compound problems of access to health facilities, by constraining households' ability to spend on health care, and have wider impacts on health indicators such as child health, access to water and sanitation, and nutritional outcomes.

3.2.1. Human capital development

According to the National Population Census (2005 and 2015), the literacy rate improved from 73 per cent to 84.7 per cent in 2005–2015, while the Lao Social Indicators Survey (LSIS) provides data only for 2017 and evaluates the literacy rate at 70.5 per cent. GDP data mirror the former, showing a general improvement and situating the rate at 84.7 per cent in 2018. Nonetheless, gender disparities persist in access to education, which is also reflected in the literacy rate (Figure 22), again highlighting the importance of investment in human capital.

The poor human capital of the Lao People's Democratic Republic is a persistent and destabilizing factor, with the transition between upper secondary education and higher education or technical vocational education and training (TVET) posing the most significant challenge. Low enrolment rates in secondary and tertiary education and the inability of educational institutions to provide the quality of education needed mean that both academic education and TVET are missing the mark. The major reasons for this have been identified as low levels of enrolment in education, particularly beyond lower secondary level, and the quality of education at the upper secondary and tertiary levels.

Inequalities across wealth, gender, ethnicity and geographic dimensions persist and are interlinked with low learning outcomes. For instance, among 17- to 19-year-olds in households in the lowest wealth quintile, only 13 per cent of females and 16 per cent of men complete lower secondary education compared with 91 per cent of female and 89 per

cent of male counterparts in the richest quintile. According to UNDP, less than 60 per cent of women in poor households can read and write, compared with over 80 per cent of males in poor households (UNDP, 2017). While overall primary school dropout rates were reported to have decreased and enrolment increased at all levels in 2019, dropout rates increased in more than 70 mostly rural districts (Xinhua, 2020). Schooling disruptions due to the COVID-19 pandemic are expected to increase school dropouts, trigger poor performance and reduce the likelihood of many children returning to school or continuing education, especially among those from poor and vulnerable families. It is also expected that girls will remain at higher risk of dropping out of school as households struggle to manage finances eroded by the pandemic.

The shortage of skilled labour is a challenge common to many developing countries. However, studies of the Lao People's Democratic Republic point to a shortage of skilled and unskilled labour as among the biggest constraints facing the private sector. Weaknesses in the skills and capacity of the local labour force are reported to impose a drag on the productivity of SEZ firms and employment opportunities for local workers. According to the Human Capital Index 2020,⁴² a child born in the Lao People's Democratic Republic today would expect to achieve on average only 46 per cent of her or his full productivity as a future worker compared to the world average of 56 per cent.

The kind of skills that school graduates in the Lao People's Democratic Republic acquire and how they fare compared to graduates from other countries in the region remains unclear. Several studies suggest that education quality and efficiency remain critical concerns with poor learning outcomes and low skills acquisition of learners, especially among the most vulnerable groups, a persistent and critical weakness in skills development and the expansion of productive activities and employment opportunities (EMC, 2017, 2019; JICA, 2017; OECD, 2017; World Bank, 2020a, 2013). The World Bank estimates that 10.8 years of Lao education equals just 6.4 quality-adjusted years. In one study, almost one third of second-grade students scored zero in reading fluency, and 57 per cent scored zero in reading comprehension. Post-secondary graduates performed almost on par with Vietnamese children educated at the primary school level (World Bank, 2019b), underscoring the low level

⁴² See <https://www.worldbank.org/en/publication/human-capital>.

of learning outcomes that leave children without essential knowledge and skills. A lack of qualified teachers, high teacher absentee rates and a lack of both teaching materials and infrastructure are also among commonly cited problems.

The shortage of labour and skills are among the biggest constraints facing the private sector at a time when the economic growth of the Lao People's Democratic Republic has led to increased demand for workers at all skill levels. Worryingly, the threshold of skills sophistication is still low in the country, as most firms engage in labour intensive subsectors, such as wood processing and garment manufacturing, and the production of simple products that do not require highly skilled labour. For example, a World Bank survey in 2016 found that garment sector workers were only moderately more skilled than farmers (World Bank, 2017c). Few investments have been made in employment-rich sectors, which has resulted in stagnant productivity growth.

These outcomes belie the country's achievement of the Millennium Development Goals target of universal access to primary education with gender parity.⁴³ The national technical vocational education and training TVET system has provided only a limited number of graduates with relevant skills and competencies required by the Lao labour market.⁴⁴ Ongoing reforms of the academic and TVET systems must be accelerated and equip workers with competencies needed in key sectors. The Government has placed a strong focus on early childhood education and the new primary curriculum introduced in September 2019⁴⁵ represents a first step towards improving student learning outcomes and imparting functional literacy, numeracy and life skills to students, but this will take time to have an effect. Meanwhile, the gap between the demand and supply of skills will continue to widen unless the coverage and quality of secondary education are improved.

The country urgently needs to upgrade the education and skills of post-primary education, but the percentage of the budget spent on education in 2017 was the lowest since 2010/11 and before the global financial crisis (17.4 per cent in 2007). Owing to fiscal challenges, the education budget of the Lao People's Democratic Republic grew by only 9 per cent during 2013 to 2018. This is low compared to peer countries and other countries

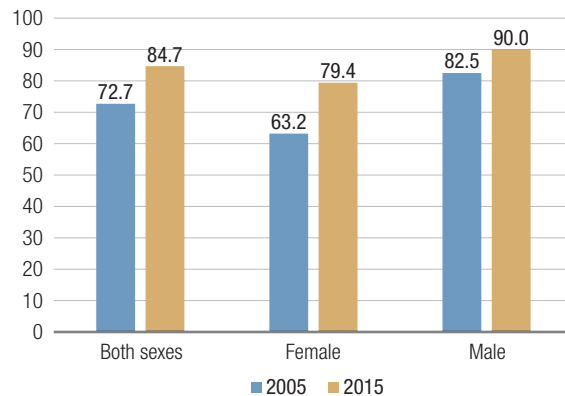
⁴³ See <https://www.unicef.org/laos/education>.

⁴⁴ See <https://www.giz.de/en/worldwide/26261.html>.

⁴⁵ See <https://laotiantimes.com/2018/05/30/laos-will-rollout-new-and-improved-primary-school-curriculum-in-2019/>.

Figure 22
Literacy rate, by gender

(Percentage)



Source: Government of Lao, 2018.

in the region (OHCHR, 2019). It also underscores the need for more effective domestic resource mobilization. Sectoral development is heavily reliant on significant funds from multiple foreign donors that invest at different levels of the education system according to their priorities. At the governance level, post primary education continues to be supply driven and fragmented across separate departments of the Ministry of Education and Sports, with no unifying strategic framework to ensure that departments collectively prepare the youth for the labour market (ADB, 2019). The combined effect of fragmented interventions and the lack of a unifying framework undermine progress toward creating the human capital needed by the Lao People's Democratic Republic to effectively address increasingly complex productive capacities issues related to regionalism and sustainable development.

3.2.2. Social vulnerabilities

The main drivers of economic growth, mining and hydropower industries, are capital-intensive with very low capacity to create employment such that employment barely adjusts with the change of economic structure, which explains the slow pace of poverty reduction despite high GDP growth rates. Between 2012/13 and 2018/19, each percentage increase in GDP per capita contributed to a 0.67 per cent reduction in poverty in the country. Indeed, the Lao People's Democratic Republic achieved a slower pace of poverty reduction from its economic growth than other countries in the region. For example, the country would have eliminated the extreme incidence of poverty, if the impact of growth on poverty reduction had been similar to that of

Indonesia.⁴⁶ Poverty rates decreased from 46 per cent in 1992–1993 to 18 per cent in 2017–2018, but rural poverty stood at 23.8 per cent which is quite high.^{47,48} There is also significant disparity among regions and ethnic groups. As a result, inequality is high and widening, with the Gini coefficient increasing from 32.5 in 2002/3 to 36.2 in 2012/13 and then to 38.8 in 2018/19.⁴⁹

In chapter 2, Figure 3, Figure 5 and Figure 7 show the economic, employment and export structures of the Lao People's Democratic Republic from 2000 to 2018. Approximately 64 per cent of the labour force was engaged in agriculture in 2018, although this sector represented less than one quarter of GDP (Figure 5 and Figure 7). This is in sharp contrast to mining and electricity that are the fastest growing sectors since the early 2000s. They grew to 11.2 per cent of GDP and 30 per cent of exports in 2015, but absorbed less than 1 per cent of the total labour force (Rasphone, unpublished). However, mining and hydropower projects not only have very low capacity to absorb labour but they also have the potential to put at risk the livelihoods of the rural communities that account for the highest share of employment.

Between 2008 and 2018, the share of agriculture in GDP lost 8 percentage points (Figure 5). During 2010 to 2018, the agriculture share of total employment only declined 8 percentage points, reflecting the difficulty for agriculture workers to move to other sectors (Figure 7). During the same period, mining and electricity increased both their share in total exports and GDP, but with weak labour effects (Lao Statistics Bureau, 2020; Rasphone, unpublished). Manufacturing increased its share in employment and, while the service and construction sectors were the only ones that absorbed the labour surplus from agriculture, their contribution remained relatively low (Figure 7). With only limited jobs created by the industry and services sectors, the low-productivity agriculture sector is left to absorb most of the labour force.

Overall, there has been little movement from low-productivity to high-productivity sectors and, consequently, most of the labour force is employed in low-productivity and informal sectors, and underemployment is high. Another channel for labour distribution is through migration to neighbouring

countries, such as Thailand. South-East Asia stands out globally on the movement of people across national borders. Among the countries of the Association of Southeast Asian Nations (ASEAN), migration has continued to grow while the share of intraregional movements in most other regions has declined.

Cross-border migration is both rising and typically associated with rural communities, as workers – especially the young – leave agricultural communities in Cambodia, the Lao People's Democratic Republic and Myanmar in search of employment, most commonly in Thailand. These movements reflect the inability of rural areas to provide adequate opportunities for the young. In 2016, it was estimated that around 300,000 Lao individuals were working in Thailand, most of whom (71 per cent) were from rural areas (IOM, 2016). Business leaders in the Lao People's Democratic Republic estimate that there is only one position open for every 12 returned migrant jobseeker as a result of the COVID-19 pandemic.⁵⁰ The World Bank's office in the Lao People's Democratic Republic stated that the unavoidable drop in remittances to families at home from the country's laid-off workers is projected to increase the ranks of the poor by as much as 3 per cent, or 200,000 people in a country of 7 million people.

The problem of high poverty has negative implications for health and education, more severe in remote, rural and ethnic areas. About one third of children under 5 years of age suffer from malnutrition, and there are eight provinces which still have malnutrition and stunting rates over 40 per cent (Lao Social Indicator Survey, 2017). The percentage of children with low height-for-age (stunting) is 21.5 in urban areas and 36 in rural areas, while that of children with low weight-for-age (underweight) is 13.9 and 23.8, respectively (Lao Statistics Bureau). While under-5 mortality rates declined significantly between 2010 as mentioned earlier, the gap among regions and ethnic groups is still wide. In 2017, the under-5 mortality rate in rural areas was more than twice that in urban areas, with Chinese–Tibetan communities having the highest rate and Lao-tai communities the lowest, at approximately half the level of the former (Rasphone, unpublished).

Some progress has also been achieved in education. Primary enrolment reached a universal rate of 98.7 per cent in 2017.⁵¹ The gross enrolment ratio (GER) for secondary education increased from 53 per cent in 2012 to 70 per cent in 2018, with upper secondary GER increasing from below 20 per

⁴⁶ World Bank, 2020, Lao People's Democratic Republic Poverty Assessment 2020: Catching Up and Falling Behind, World Bank, Washington, D.C.

⁴⁷ Ibid.

⁴⁸ The revised poverty methodology suggests that the incidence of poverty declined to 18.3 per cent in 2018/19 (World Bank, 2020c).

⁴⁹ Ibid.

⁵⁰ See <http://www.mekongmigration.org/?p=9155>.

⁵¹ See UNICEF, <https://www.unicef.org/laos/education>.

cent per cent in the early 1990s to 45.8 per cent in 2014–2015 and 53.3 per cent in 2017–2018. However, enrolment at pre-school level, although increasing, is still not high. Only 56 per cent of children aged 3–5 years enrolled at the pre-school level in 2017–2018 (up from 43.2 per cent in 2014–2015), with most enrolments taking place in urban areas and rural areas with road access, which affects the level of school readiness and increases failures and drop out (Rasphone, unpublished).

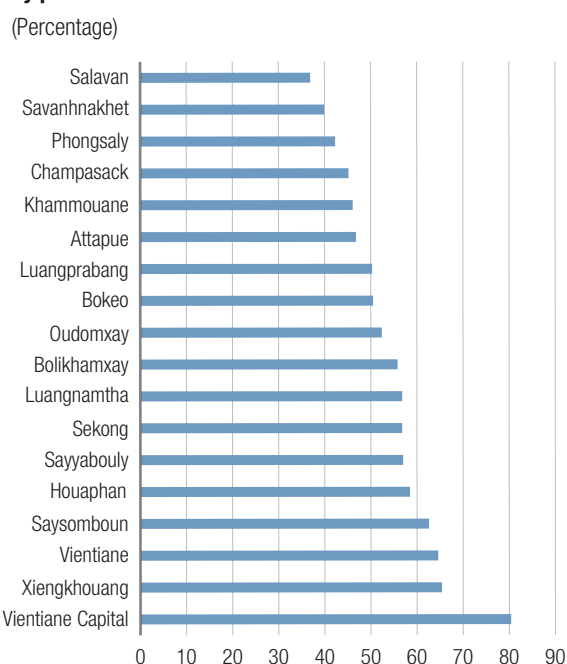
Many children still drop out of school, usually in the early grades. Around 30,000 primary school students drop out from primary education every year, and therefore the survival rate to grade 5 was only around 79.6 per cent in 2016. Survival rates vary by province, from 59.7 per cent in Saravane to 95.5 per cent in Vientiane capital (Government of Lao People's Democratic Republic, 2018). The relatively low level of upper secondary GER affects the quality of the workforce. In 2017, only 24 per cent of the workforce completed secondary education, a proportion that shrinks to 15 per cent in rural areas (Rasphone, unpublished). The regional variation in this indicator is clear from Figure 23, which again highlights the importance of investment in human capital given the clear inequalities in education when it comes to upper-secondary education, but also with respect to gender inequalities.

Pervasive informality generates low returns to schooling. According to the ILO,⁵² as a region, Asia is characterized by high levels of informality. The share of informal employment ranges from the highest level of over 90 per cent (94.3 per cent in Nepal, 93.6 per cent in the Lao People's Democratic Republic and 93.1 per cent in Cambodia) to the lowest, with proportions below 20 per cent in Japan. Figure 24 shows that self-employment dominates employment in the Lao People's Democratic Republic. The labour market orientation of the TVET Development Plan 2016–2020 (see section 3.2) is likely to have been hampered by the high degree of informality in the economy and the dominance of SMEs.

Development partners have made substantial contributions to education and health development in the Lao People's Democratic Republic, and budget allocations to these sectors still rely largely on external funds from development partners. Of note is the shift of ODA from grants to loans accompanied by an increasing importance of neighbouring countries such as China, Thailand and Viet Nam as source of official inflows. Since 2013/14, total ODA directed

⁵² See https://www.ilo.org/asia/media-centre/news/WCMS_627585/lang--en/index.htm.

Figure 23
Gross enrolment ratio, upper-secondary school, 2018, by province

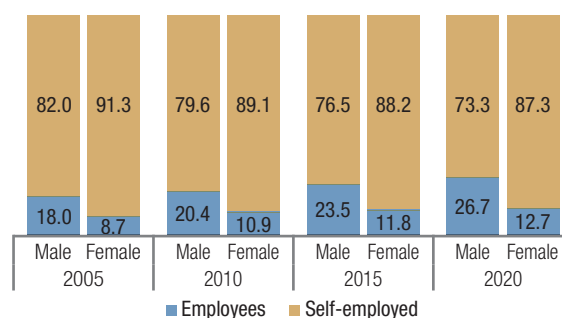


Source: Government of Lao, 2018.

to the social sectors has registered uninterrupted and significant declines, falling from \$426 million in 2012/13 to \$160 million in 2017. This is due to the fall in grants, which are mainly used for poverty reduction and social development projects and could jeopardize the progress achieved in human capital development. The country urgently needs to upgrade the education and skills of post-primary education, but the share of the budget spent on education in 2017 was the lowest since 2010/11 and before the global financial crisis (17.4 per cent in 2007).

Since 2012, the Government has been faced with growing fiscal deficits. Successive and high fiscal

Figure 24
Structure of employment



Source: Lao Statistics Bureau.

deficits led to the accumulation of increasing public debt. In sum, although significant progress has been achieved in health and education, important shortcomings remain in a context of waning internal and external funding for social programmes. This poses significant challenges for the development of human capital and labour force whose low skills contribute to low worker productivity and to substantial mismatches between the available workforce skills and the needs of the economy, hindering the country's competitiveness and economic development.

3.3. Prosperity: Economic and Environmental Vulnerability Index

After the CDP Plenary in 2020, the EVI has been simplified and consists of two subindices, one on economic vulnerability and one on environmental vulnerability, with each subindex containing four indicators and having an equal weight of 1/8. The indicator on “population size” was removed from the EVI. The economic vulnerability indicator “remoteness” has been renamed “remoteness and landlockedness” to better reflect the fact that the indicator accounts for specific challenges of LLDCs. The environmental vulnerability indicator “victims of natural disasters” has been renamed “victims of disasters” to better align it with common United Nations terminology and to highlight that disasters

are not natural. The indicator “share of population living in drylands” has been added to the EVI.⁵³

From a long-term perspective, the situation of the Lao People's Democratic Republic with respect to the graduation threshold relevant to the EVI has improved consistently since the 2009 triennial review, where the score in 2018 (95 per cent of the graduation threshold) was significantly better than the counterpart figure nearly 20 years earlier (68 per cent of the graduation threshold in 2000). The provisional value relevant to this criterion (see Figure 25 in red dotted line) for 2021 triennial review is estimated to meet the graduation threshold, at 119 per cent.

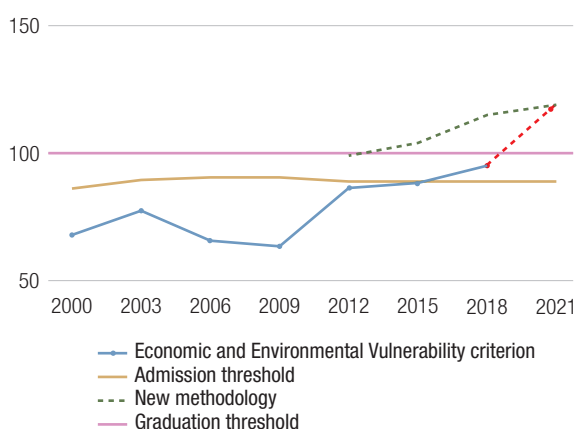
A retrospective review of EVI criterion under the new methodology shows that the Lao People's Democratic Republic would have met the threshold, for the first time, in the 2015 triennial review, had the new methodology been used for the evaluation of respective vulnerability criterion.⁵⁴ The change in the methodology, namely the removal of the indicator “population size” and the addition of the indicator “share of population living in drylands” – which does not apply to the Lao People's Democratic Republic given its geographic characteristics, with a contribution of 0 to the overall EVI score – could explain, by and large, the statistical improvement in EVI retrospectively (Figure 25). Nearly all components under EVI (except for those ratios concerning inherent topological characteristics such as the share of population living in drylands or low elevated coastal zones, to which the Lao People's Democratic Republic is a statistically zero vulnerable country) contributed to the improvement in the country's score after the 2012 triennial review, although varying in size, with the highest contributions by three indicators, namely “share of agriculture, forestry and fishing in GDP”, “instability of exports” and “remoteness” (Figure 26).

Despite the improvements in nearly all indicators entering the EVI, a detailed examination of the country's score reveals that five of the eight components weigh heavily in explaining the country's measurable vulnerability; in that the Lao People's Democratic Republic still remains vulnerable predominantly to extreme weather events, such as droughts and floods, which have increased in frequency and severity (reflected, to a large extent, in the significant contribution of “victims of natural disasters”, “share of agriculture” and “agricultural

Figure 25

Lao People's Democratic Republic: economic and environmental vulnerability criterion

(Distance from the graduation threshold)



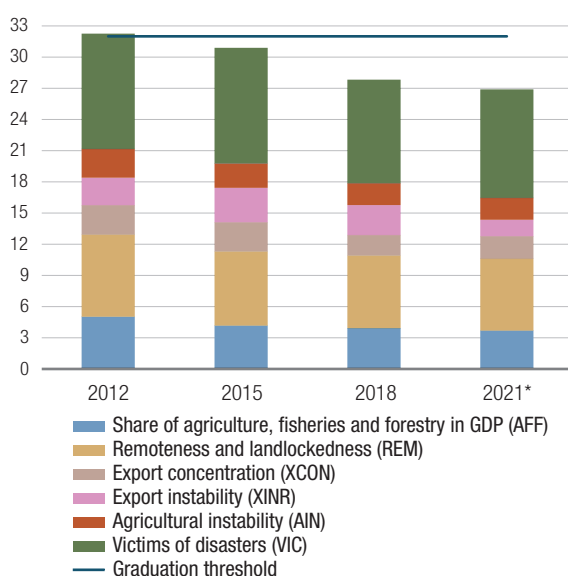
Source: UNCTAD calculations based on CDP time series estimates of the LDC criteria (2020).

Note: The 2021 projection is provisional. The green dotted line displays retrospective values for the distance from the relevant threshold under the new methodology adopted by CDP in 2020.

⁵³ Outcome of the comprehensive review of the LDC criteria, CDP (2020).

⁵⁴ Data differ from official triennial review data due to data revisions, changes in data sources, methodological changes and most notable, changes in composition of the composite indices HAI and EVI.

Figure 26

Lao People's Democratic Republic: Composition of Economic and Environmental Vulnerability Index, 2012–2020


Source: UNCTAD calculations based on CDP time series estimates of the LDC criteria (2020) and new methodology.

Note: As the inclusion and graduation thresholds for the EVI have been fixed at their 2012 review levels (with adjustments permitted for eventual changes in indicators, methodologies or data sources in future reviews), the decomposition analysis starts from 2012 for coherency purposes. Year refers to the year of an actual or a hypothetical review.

instability” to the overall EVI score – about 39 per cent, 14 per cent and 8 per cent in provisional 2021 estimates, respectively); volatile commodity prices (reflected in the contributions of export concentration – about an 8 per cent contribution to the overall EVI score in provisional estimates for 2021); and weak transit–transport infrastructure borne out of landlockedness (reflected in the contribution of remoteness, by about 26 per cent, to the EVI provisional figure for 2021) (Figure 26). The following sections present the situation of the country on each of the relevant components of the EVI.

3.3.1. Victims of natural disasters

The Lao People's Democratic Republic is experiencing an increased frequency and intensity of extreme weather events and their consequences such as flooding, landslides and drought increasingly hit by natural disasters.⁵⁵ Severe

⁵⁵ It should be noted that the “victims of disasters” indicator is based on 20-year averages, e.g. the value for 2020 refers to the 1999–2018 average. Due to increased frequency of disasters over the past 10 years, it can be expected that the indicator increases towards 2024.

Table 6

Severe natural disasters between 2011 and 2020

Year	Damage (Percentage of GDP)	Total affected people (Percentage of population)	Type
2011	0	7.35715	Flood
2013	1.013211	9.328049	Flood, epidemic
2014	0	0.0112956	Flood
2015	0.0694906	0.7104856	Flood
2016	0.0003163	0.3845836	Flood
2017	0	0	Storm
2018	1.253218	10.59611	Flood, storm
2019	0	4.4	Drought, flood
2020	-	-	Storm, flood

Source: UNCTAD, based on EM-DAT (<https://www.emdat.be/>).

storms, monsoons and drought are prevalent and, in 2018, three natural disasters occurred in succession, with 10.5 per cent of the population affected by tropical storm Son-Tinh which brought heavy rains and flooding in 55 districts, causing damage totalling \$225 million (equivalent to 1.25 per cent of GDP). Around 100,000 hectares of paddy fields were damaged, leading to a fall in rice output to 3.6 million tons in 2018 from 4 million tons in 2017, as well as a large number of livestock were lost including about 17,000 large animals and 79,000 poultry. Approximately 150 km of national and provincial roads, 133 km of district and 350 km of rural roads were damaged.⁵⁶ The flash flood due to the collapse of a hydro-dam resulted in 136 fatalities and affected about 13,100 people in Attapeu province. Around 17,000 people were evacuated and 1,770 washed away by the flash flood. This disaster is one of most severe natural tragedies in Lao history.

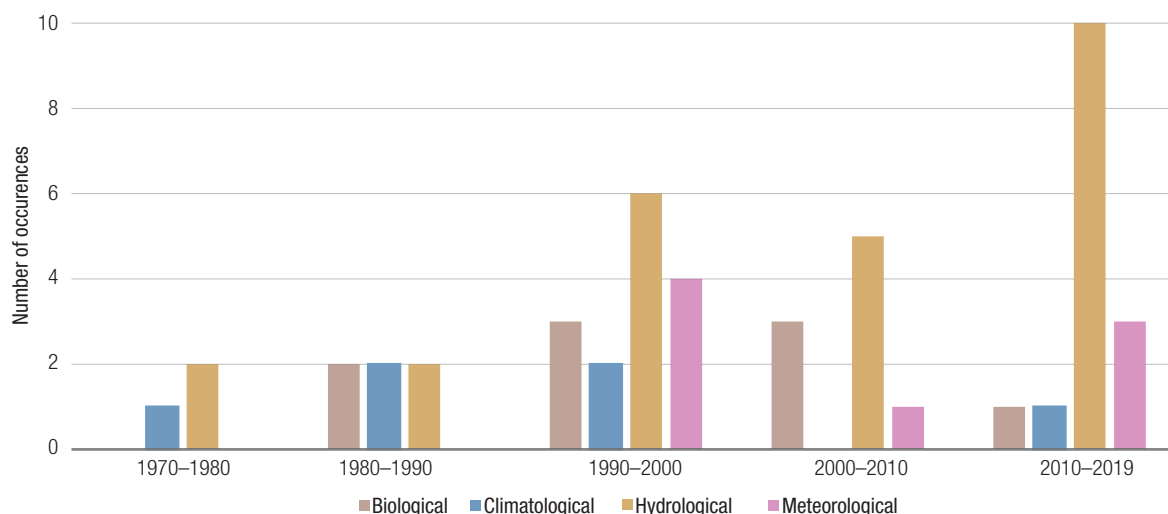
Further flooding occurred in 2019, affecting 30,999 people and in October 2020, with over 10,000 people affected and hundreds of homes, roads and bridges damaged, and causing losses in crops and livestock.⁵⁷ Table 6 lists the economic damage caused by natural disasters, as a share of GDP and the size of the affected population over the past decade. The latest storms and heavy rains caused floods in October 2020 with an estimated 69,764 people affected.

⁵⁶ Lao People's Democratic Republic, Ministry of Planning and Investment, 2018, “Midterm review of Eighth National Socioeconomic Development Plan (2016–2020)”, and United Nation, 2018, Lao People's Democratic Republic: Flood. Humanitarian Country Team Information Bulletin No. 2 (as at 21 September 2018).

⁵⁷ See http://floodlist.com/asia/Lao_PDR-cambodia-and-vietnam-floods-october-2020.

Figure 27

Number of natural disasters, by type and period



Source: UNCTAD, based on EM-DAT (<https://www.emdat.be/>).

3.3.2. Remoteness

The relatively limited availability and quality of the existing infrastructure network has important consequences for trade and investment connectivity. For example, in a few ASEAN countries, transport-related costs are among the main factors contributing to higher trade costs. The Lao People's Democratic Republic is a landlocked country, and having long international borders, the country is dependent on the access and quality of international gateways of its neighbouring countries. Roads are the dominant mode of cross border transport, and weak road infrastructure constitutes a bottleneck for trade in the country. The shortcomings in the quality of the connectivity infrastructure of the Lao People's Democratic

Republic are also reflected in the country's relatively weak performance under the "infrastructure" score (i.e. quality of infrastructure in ports, roads, airports and information technology) in the World Bank's 2018 Logistics Performance Index (LPI) compared to regional peers except for Myanmar, despite the progress achieved since the first LPI survey of the Lao People's Democratic Republic in 2007⁵⁸ (see Table 7). Compared to peer ASEAN countries, the Lao People's Democratic Republic lacks behind in logistics performance indicators, including postal services.⁵⁹

Geographically, the country is well-positioned to create linkages between China and ASEAN countries and transition to a well-integrated partner in the region. This transition requires strategic investments in upgrading transport networks to diversify sustainably, namely to help the country reshape its economy away from resource dependency and capital intensive industries, expand the export-base in the manufacturing industry, integrate domestic firms into GVCs and keep pace with climate change and natural disasters.

Table 7

Logistics Performance Index in the ASEAN region in 2018

Country	LPI Rank	LPI Score	Infrastructure Score*
Singapore	5	4.05	4.14
Thailand	34	3.36	3.17
Malaysia	35	3.34	3.3
Viet Nam	45	3.16	2.92
Indonesia	51	3.08	2.81
Philippines	64	2.91	2.67
Brunei	73	2.78	2.59
Cambodia	89	2.66	2.26
Lao PDR	120	2.48	2.23
Myanmar	139	2.34	2.11

* The quality of trade and transport infrastructure is rated from "very low" (1) to "very high" (5) in the survey.

⁵⁸ The Lao People's Democratic Republic has enhanced connectivity with its main trading partners through both transport and trade facilitation improvements and remains relatively more competitive when compared to other landlocked countries (OECD, 2017).

⁵⁹ In 2016, less than 70 per cent of the population had their mail delivered at home (WITS E-Commerce indicators, <https://wits.worldbank.org/analyticaldata/e-trade/country/LAO>).

The Lao People's Democratic Republic has invested heavily in the construction of infrastructure to better connect to its neighbours, including the \$5.9 billion investment in the construction of the Lao People's Democratic Republic–China railway under the Belt and Road Initiative. The Lao People's Democratic Republic–China railway is expected to lower trade costs and accelerate economic growth and poverty reduction in the region.⁶⁰

3.3.3. *Instability of exports from market concentration*

The emergence of mining and electricity generation as the main drivers of economic and export growth had a positive effect on three EVI indicators that reacted favourably to the surge of exports and relatively higher economic and export diversification. However, this resulted in a growing dependence of the economy on natural resources, which entails new vulnerabilities not fully captured by the EVI, including risks from export concentration and export instability in the future. So far, the electricity generation sector of the Lao People's Democratic Republic has not experienced external shocks and has rather offset output stagnation and/or price decreases in the mining sector.

The Lao People's Democratic Republic is susceptible to exports instability rooted in the concentration of its trade in a few markets. This makes export performance highly vulnerable to shifts in demand or policy in these key external markets, including fluctuations in commodity prices in international and regional markets. While the Lao People's Democratic Republic has achieved insignificant progress on product diversification, trade remains concentrated in three regional markets, namely China, Viet Nam and Thailand.

The natural-resource-based development path renders the economy vulnerable to external shocks that introduce instability to economic growth and government tax collection. For example, mining output growth stagnated after 2011 and government mining revenues declined in absolute value from \$290 million in FY12/13 to an estimated \$195 million in FY14/15 (World Bank, 2017a). Copper output is expected to decline by about 37 per cent in 2020, exacerbated by lower copper prices and the suspension of production activities during the COVID-19 lockdown, but due mainly to lower grade and availability.

Sources of fluctuation in neighbouring countries' demand for electricity include shifts in their consumption needs and the evolution of their power mix. Thailand absorbed 96 per cent of the electricity exports of the Lao People's Democratic Republic in 2015–2017 (UNCTADstat database), with electricity prices established under long-term power purchase agreements (ADB, 2010). Hydropower development plans target other neighbouring countries for additional exports but a shift in the energy mix policy of the country's neighbours may have negative implications for the Lao People's Democratic Republic. Decreases in the price of wind and solar energy (DBS, 2018; Bogmans, 2019) and dam collapses are making these alternative sources of renewable energy more attractive, raising questions about the long-term competitiveness of planned hydropower projects in a changing regional energy market. In March 2018, the Electricity Generating Authority of Thailand (EGAT) suspended the power purchase agreement for the 912 MW Pak Beng dam in the Lao People's Democratic Republic, one of the 12 planned mainstream dams destined to sell 90 per cent of electricity generated to Thailand (IUCN, 2018; Weatherby, 2018). The decision seems to be linked to the revision of that country's national power development plan (PDP). The revision is expected to determine the national energy mix, whether it will incorporate significantly more domestically produced solar and wind electricity, the cost of which is falling. A lower-than-projected electricity consumption rate also contributed to the decision.

3.3.4. *Additional economic vulnerabilities*

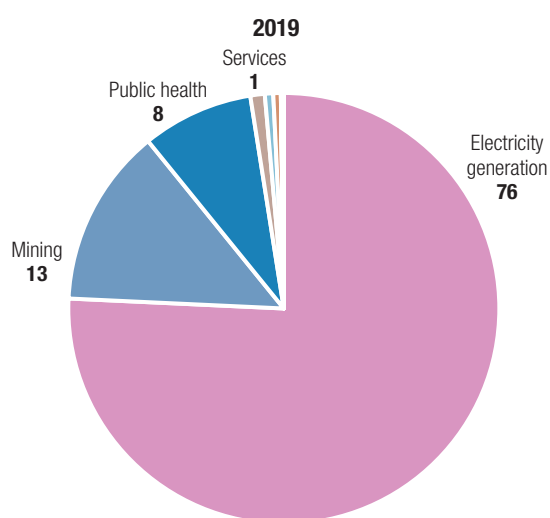
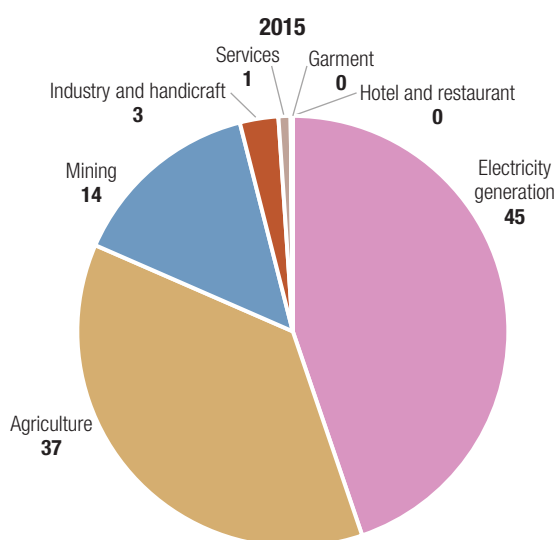
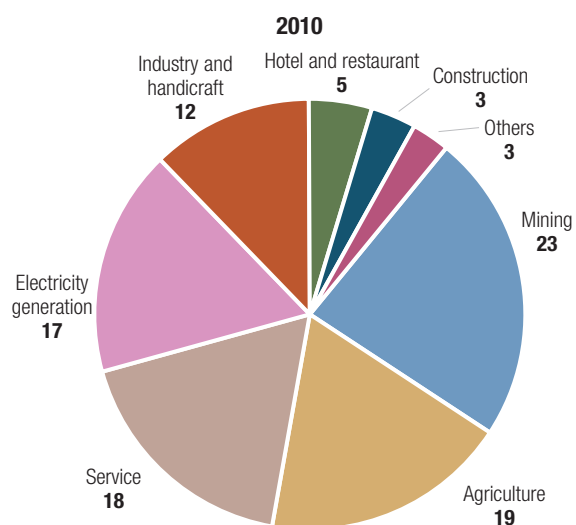
The concentration of investments over time has caused a widening of the labour productivity gap as shown in section 2 (see Figure 8). The sectoral inequality of value-added growth means the Lao People's Democratic Republic is vulnerable to missed opportunities in the future from misallocations of labour between productive and less productive sectors. A potential loss of dynamism in manufacturing could expose the economy to external shocks as, when the manufacturing sector is underperforming, the lack of domestic supply is supplemented by imports.

Trade and investment concentration and widening labour productivity gaps

Large investments in mining and hydropower projects since the 2000s have triggered a concentration of these sectors in the total portfolio (Figure 28).

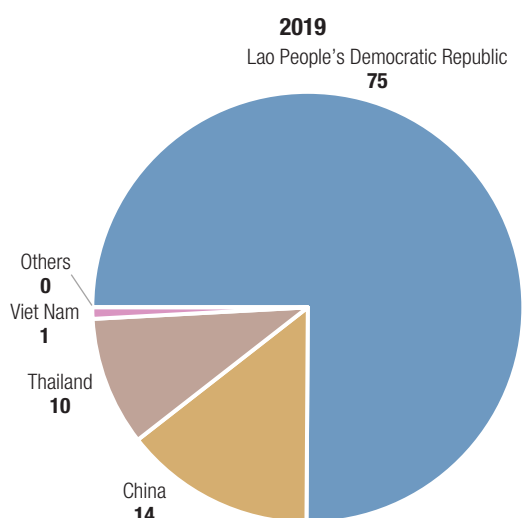
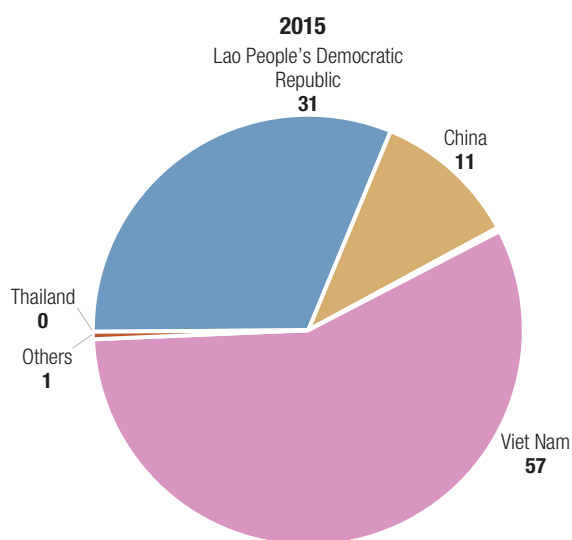
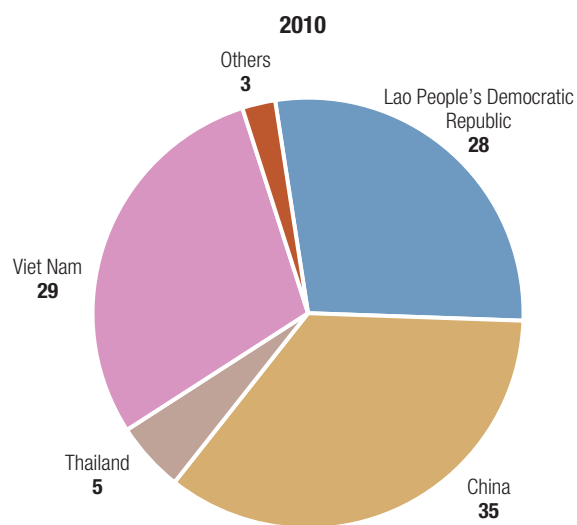
⁶⁰ World Bank, 2020, From Landlocked to Land-Linked: Unlocking the Potential of Lao-China Rail Connectivity.

Figure 28
Total investments, by sector
 (Percentage)



Source: Lao People's Democratic Republic, available at <http://investLaoPDR.gov.la/resources/statistics/> (accessed 11 November 2020).

Figure 29
Domestic and foreign direct investments, by source country
 (Percentage)



Source: Lao People's Democratic Republic, available at <http://investLaoPDR.gov.la/resources/statistics/> (accessed 11 November 2020).

In 2019, \$4.3 billion of total investment came from the local private sector, \$1.2 billion from foreign investors. In the mining sectors, \$60 million were invested by private actors in the Lao People's Democratic Republic and \$1 billion came in the form of FDI.

The sectoral investment portfolio seemed to be more diversified in 2010 but has shifted strongly towards electricity generation and the mining sector accounting for 76 per cent and 13 per cent, respectively, of all investments (domestic and foreign) in 2019 (Figure 28). Over the period 1989 and 2019, 54 per cent of all private investments were made in electricity generation and 16 per cent in mining. The Government also invested in these two sectors through infrastructure projects and with foreign investments often undertaken jointly with local partners in large infrastructure projects, concentration of investment in electricity generation and mining has a self-reinforcing effect depriving other sectors of investment. Only 6 and 3 per cent of investments were realized in services⁶¹ and agriculture, respectively, and the share of investments in industry and handicrafts also decreased from 12 per cent in 2010 to less than 1 per cent in 2019.

The investor profile for the years 2010, 2015 and 2019 (Figure 29) shows that China, Thailand and Viet Nam have been the main investors in the country. Only in 2019, 75 per cent of total investments originate domestically, followed by 14 per cent from China and 10 per cent from Thailand. FDI inflows from China, Thailand and Viet Nam amounted to \$2.75 billion from 2000 to 2014, \$1 billion and \$358 million, respectively. Attracting FDI has been successful for sectoral development but it has been at the cost of a concentration in investment portfolios and low returns due to bottlenecks⁶² in concession fees collection. Two countries, China and Viet Nam, dominate the sector in terms of capital inflow and land concessions with Chinese and Vietnamese investors granted 71 per cent of the mining areas in the Lao People's Democratic Republic.

Fiscal incentives – mostly tax holidays and lower profit tax rates – have been largely used to stimulate investment in general and FDI in particular. Most of FDI has been received under the terms of concessions agreements that are subject to specific incentives

packages negotiated on a case-by-case basis, and mostly in the high capital-intensive projects driving GDP growth. Investments under this category are typically in natural-resource-based sectors such as mining and hydropower. Companies investing in special economic zones (SEZs) and Industrial Parks have also been granted fiscal incentives negotiated on a case-by-case basis with the SEZ management (OECD, 2017; Kim, 2017; KPMG, 2018). This FDI-friendly environment favoured the attraction of export-oriented FDI, first to the garment industry and then to the mining and hydropower industries. Since the early 1990s, the Lao People's Democratic Republic has enjoyed high and rising economic growth, increasingly driven since the 2000s by resource-based sectors (mining and electricity) that have also been at the root of an export boom that started in 2005.

3.3.5. Investments have been inefficient at boosting economic growth

Natural resource exploitation is an important source of government revenue, but financial leakages make the country vulnerable. Increases in investments as a share of GDP have been higher than real GDP growth over the last 10 years (see Figure 30 (a)), signifying weak interlinkages within the economy that have contributed to an inefficient use of investments. A reduction of the return-to-investments over time is confirmed by an increase in the incremental capital-output ratio, illustrated in Figure 30 (b). As an indicator of productivity of capital an increase indicates that investment inefficiencies have increased. First, investment projects must be more diversified to benefit growth and reduce poverty. Second, the returns to investment in mining and electricity generation must be improved by strengthening forward and backward linkages to the domestic market, reaping higher tax revenues, and by addressing cross-cutting issues such as human capital, physical and ICT infrastructure.

Moreover, the COVID-19 pandemic has introduced an additional layer of external uncertainty on investment which could lead existing firms to delay investments and discourage potential new investments. However, the newly concluded RCEP is expected to increase investment interest from industrialized countries in lower-cost production sectors in Cambodia, the Lao People's Democratic Republic and Myanmar.⁶³ The RCEP has the

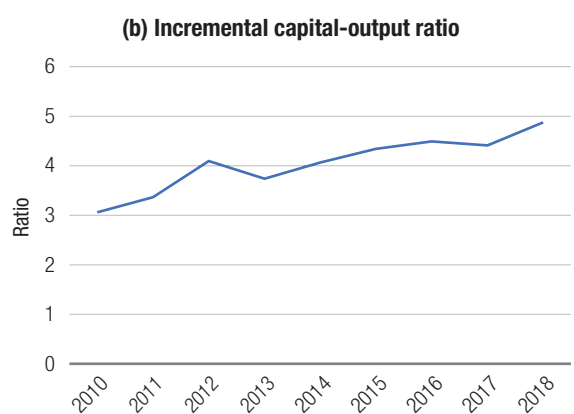
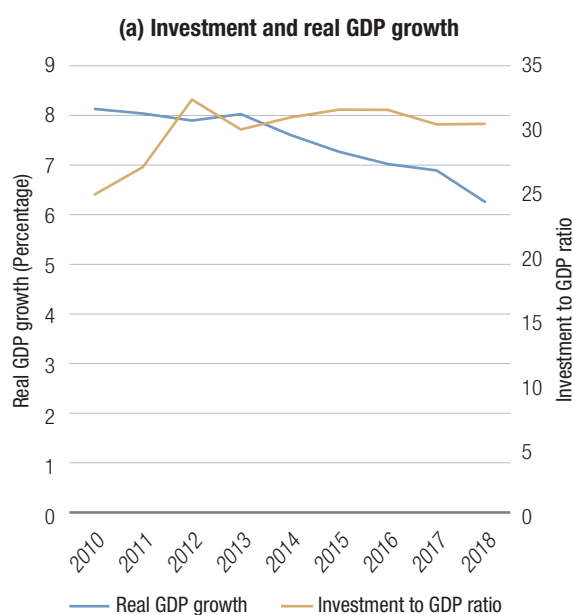
⁶¹ Source does not specify in which type of "services" investments were realized.

⁶² Phonvisay and Manolom, 2020, The influence of Chinese investments in the mining sector in Lao People's Democratic Republic: Land concession and concession fees.

⁶³ See <https://www.aseanbriefing.com/news/new-rcep-free-trade-agreement-rules-of-origin-to-boost-finishing-of-products-investment-into-cambodia-laos-myanmar/>.

Figure 30

Investment and real GDP growth gap and incremental capital-output ratio, 2010–2018



Source: UNCTAD calculations, based on UNCTADstat database.
 Note: The incremental capital-output ratio is defined as investment to GDP ratio divided by real GDP growth.

potential to boost the exchange of knowledge and to reduce manufacturing costs as member countries also agreed on mutual recognition of professional qualifications.

The Ministry of Industry and Commerce is currently conducting a third Diagnostic Trade Integration Study (after 2006 and 2012). The Government of the Lao People’s Democratic Republic aims to diversify the economy away from a dependence on mining and hydropower towards agri-processing and industry.⁶⁴

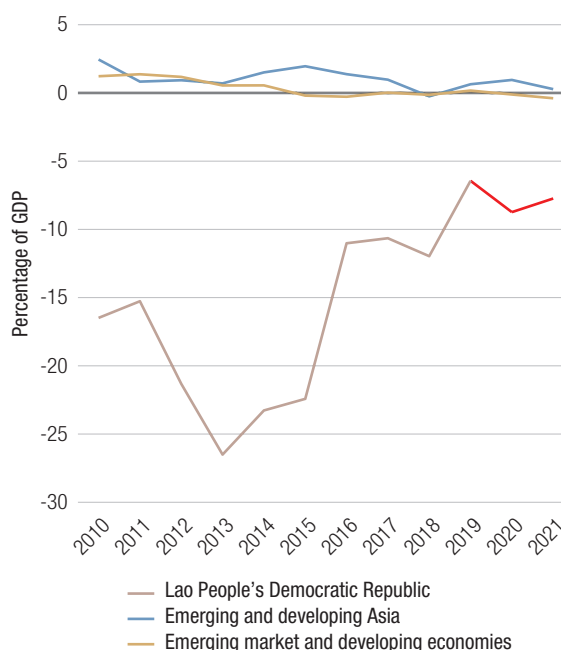
⁶⁴ See <https://trade4devnews.enhancedif.org/en/qa/phouvieng-phongsa-examining-lao-pdrs-trade-journey>.

Current account deficit

The poor linkages of these growth sectors to the broader economy are reflected in a strongly negative current account balance. The Lao People’s Democratic Republic’s current account deficit is historically high; it was equivalent to 12.1 per cent of GDP in 2017, down from 17 per cent in 2015. It is estimated that about half the 2017 deficit reflected imports related to large foreign direct investment projects, including the Kunming–Vientiane railway project, which is part of the Belt and Road Initiative of China. Gross international reserves remain low at about 1 month of prospective imports (World Bank, 2019b; World Bank, 2019c).⁶⁵ Authorities of the Lao People’s Democratic Republic exclude FDI-related imports in their calculation of import cover, which results in about 4 months of non-FDI-related imports. The current account deficit is expected to remain high in the coming years due to a projected rise in oil prices and in imports to support investments in infrastructure projects. Authorities rely to a large extent on exports from upcoming power projects to partly offset this deficit.

Figure 31

Current account balance, the Lao People’s Democratic Republic and developing economies



Note: UNCTAD, based on IMF World Economic Outlook; 2020 and 2021, projected values, in red.

⁶⁵ A common rule of thumb is that reserves should cover three months’ worth of imports to be adequate.

The latest estimates on current account deficit suggest that it has further improved to 6.4 per cent in 2019. However, due to the global economic crisis a widening of the deficit up to -8.7 per cent must be expected in 2020 and an only slight recovery in 2021 to -7.7 per cent. Figure 31 highlights that the current account deficit is much larger than of emerging and developing Asia (0.6 per cent of GDP in 2019).

3.4. Planet and environment

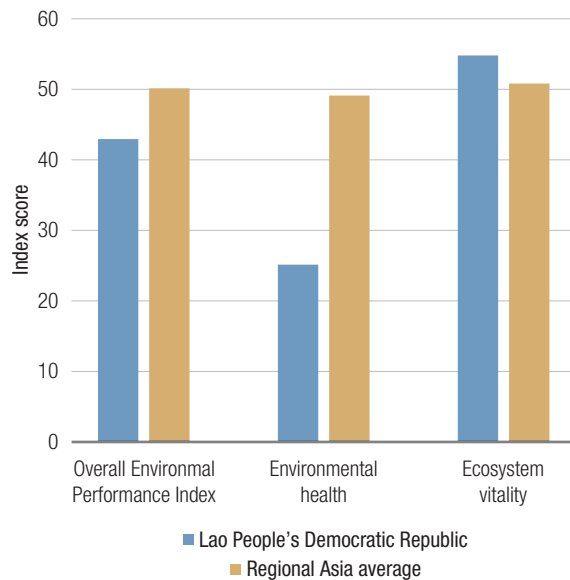
The Environmental Performance Index of the Lao People's Democratic Republic is lower than the regional average, and the cost of environment degradation exceeded 7 per cent of GDP in 2013 (World Bank, 2017b). The country ranks 153rd out of 180 countries, indicative of a poor performance in environmental sustainability. A comparison with the regional average reveals that the main source of vulnerability is environmental health, which includes indicators on air quality, water and sanitation and lead exposure, rather than biodiversity. The Lao People's Democratic Republic performs better on the vitality of the ecosystem (Figure 32). This vulnerability is due to the high concentration of mining and construction projects.

Economic growth has come with a large environmental footprint. There is rising concern that natural-resource-based activities will aggravate deforestation, exacerbate the vulnerability to storms and flooding and affect the ecosystem in general, threatening the livelihoods and well-being of the population, 80 per cent of which lives in rural areas (section 3.3.1). The country's rate of natural resource depletion increased sharply since the mid-2000s, peaking in 2011 much higher than in neighbouring countries (figure 9). Forest cover declined to around 40 per cent in 2010 (from 47 per cent in 1995) but is still among the highest in the region (World Bank, 2017a).

The accelerated construction of hydropower plants poses security risks to the local population and exacerbates the vulnerability to storms and flooding. This was evidenced by the collapse of two dams under construction following heavy rains in 2017 and 2018, respectively. The first happened in the northeastern Xieng Khouang province, sending 500,000 cubic meters of water downstream and inundating eight villages with no injuries or deaths reported. The second took place in the Attapeu province and caused flash flooding, inundating 12 villages, washing away roads, bridges and homes, and inundating crops and irrigation systems.

Figure 32

Lao People's Democratic Republic, environmental performance index



Source: UNCTAD, based on Environmental Performance Index (EPI) (<https://epi.yale.edu/>).

Note: The Asia average includes Afghanistan, Bangladesh, Bhutan, Brunei, Cambodia, China, Taiwan Province of China, India, Indonesia, Japan, the Lao People's Democratic Republic, Malaysia, Maldives, the Federated States of Micronesia, Mongolia, Myanmar, Nepal, Pakistan, Papua New Guinea, the Philippines, Singapore, the Republic of Korea, Sri Lanka, Thailand, Timor-Leste and Viet Nam.

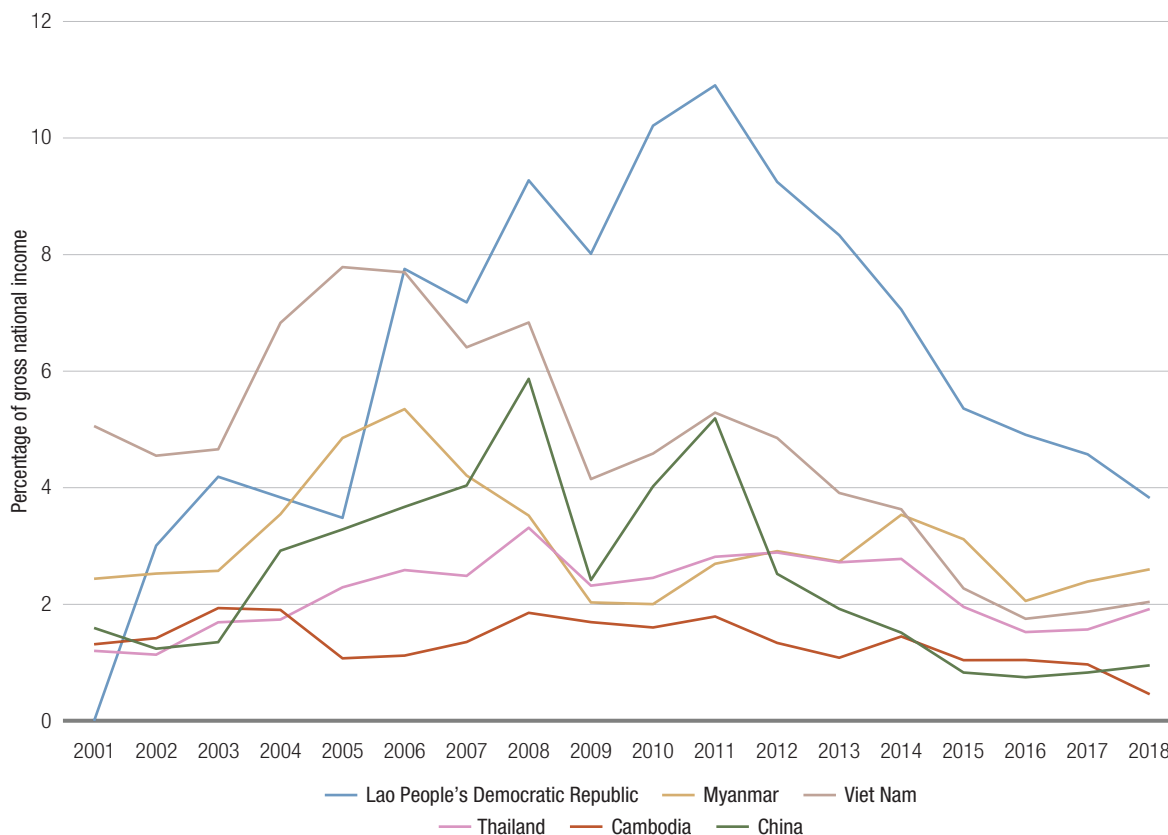
As many as 16,000 people were affected, more than 6,000 people were made homeless and 136 people lost their lives.⁶⁶

These events highlight the inherent risks in dam construction; a priority for the national economic development plan of the Lao People's Democratic Republic which envisages developing up to a projected 28,000 megawatts of capacity. Between 2010 and 2016, the total installed generation capacity more than doubled reaching 6,290 MW at the end of 2016, with 40 hydropower plants operating in the country. In 2016, 50 plants with a total capacity of 5,820 MW were under construction and scheduled to be completed by 2020, and many more are in the pipeline (Ministry of Energy and Mines, 2016).

⁶⁶ See European Commission, 2018; World Bank News, 2019, Recovery and resilience in Lao People's Democratic Republic, 9 April; Rasphone, unpublished, <https://www.abc.net.au/news/2018-08-03/dam-collapse-highlights-risks-to-communities-in-laos/10071836>; <https://www.rfa.org/english/news/laos/faulty-construction-heavy-rain-cause-dam-to-flood-lao-villages-09202017151556.html>.

Figure 33

Lao People's Democratic Republic and neighbouring countries: natural resource depletion*



Source: World Bank, World Development Indicators.

* Natural resources depletion measures the aggregate forest, mineral and fossil fuel depletion as a percentage of gross national income (GNI). Net forest depletion is resource rents times the excess of round wood harvest over natural growth. Fossil fuel depletion is the ratio of the value of the stock of fossil fuel resources (coal, crude oil and natural gas) to the remaining reserve lifetime (capped at 25 years). Mineral depletion is the ratio of the value of the stock of mineral resources to the remaining reserve lifetime (capped at 25 years). It covers tin, gold, lead, zinc, iron, copper, nickel, silver, bauxite and phosphate.

A study published in 2010 under the auspices of the Mekong River Commission (MRC) to assess – at the request of the Lower Mekong Basin (LMB) countries⁶⁷ the long-term implications of 12 hydropower projects⁶⁸ concluded that, “while it is clear that the mainstream projects would bring significant additional power and investment/revenue benefits to the region, they would also bring many serious risks and uncertainties to issues of strategic economic, social and environmental concern to the Mekong countries and communities and for the sustainable development of the River”. The study suggested a 10-year moratorium on the construction of the 12 dams (ICEM, 2010; ADB, 2016).

⁶⁷ Cambodia, Lao People's Democratic Republic, Thailand and Viet Nam.

⁶⁸ Those hydropower projects are among the largest and most significant developments ever considered by the LMB countries.

Unexploded ordnance

Reducing the impact of unexploded ordnance (UXO) on communities is an important development issue in the Lao People's Democratic Republic. More than 2 million tons of explosive ordnance were dropped on the Lao People's Democratic Republic during the Second Indochina War, making it the most heavily bombed country in the world, in per capita terms. Some 270 million cluster submunitions were dropped, of which 30 per cent are estimated to have failed to explode. The first phase of a nationwide casualty survey recording retrospective data was completed in 2008, which identified 50,136 casualties between 1964 and 2008, 23 per cent of which are children, and 20,000 survivors, of which an estimated 12,000 were still alive in 2008. The widespread presence of unexploded ordnance is an ongoing driver of poverty, as rightly recognized by the adoption by the Lao People's Democratic Republic of its own national sustainable

development goal on reducing the impact of unexploded ordnance.

However, the most daunting challenge is the magnitude of the remaining UXO that poses a significant obstacle to the development of the country, because it regularly causes accidents and reduces the access to agricultural land and hinders transport networks, which increases the costs of all development projects. Less than 2 per cent of contaminated areas have been cleared in the past 40 years, and the clearance target of 20,000 hectares a year set by the Government largely exceeds the resource and capacities available and is still far from being met. Meeting it will require more support from development partners for a significant scaling up of resources and capacities.⁶⁹

Given the results of the VP assessment of key indicators, namely GNP per capita, Human Asset Index and Economic and Environmental Vulnerability Index, the Lao People's Democratic Republic would have already passed all of the three graduation criteria if the newly adopted methodology had been applied in 2018. However, from the perspective of the country's performance in the EVI, the relatively slow progress in the diversification of export products, as well as the high budget deficit, economic contraction and rising unemployment, caused by COVID-19, graduation of the Lao People's Democratic Republic from the LDC category should be accompanied by a longer transition period. The duration of the transition period will aid the country's potential for graduation with momentum.

4. Evaluation of the consequences of identified vulnerabilities

Most vulnerabilities to sustainable development relate to the economic structure and concentration of economic activity in sectors with a relatively low employment share, associated with rising inequality and fewer opportunities for the expansion of productive activities, the rising incidence of natural disasters associated with a loss of agriculture and industrial output, and increasing debt encumbered to finance post-disaster reconstruction.

The consequences of the concentration of trade and investments, and how this may be a constraint for

sustainable development, largely depend on value chain linkages of these sectors and the efficiency with which revenues from natural resource extraction are transformed into growth.

4.1. Harnessing the nexus between structural transformation and export diversification

It will be difficult for the Lao People's Democratic Republic to sustain a high level of economic growth in the long run due to an overreliance on a natural resources-based and FDI-driven development path. This pattern is consistent with the recent findings of UNCTAD (2019a) and Giri, Quayyum and Yin (2019), which show that natural resource abundance predisposes countries towards lower export diversification, resulting in an even less diversified export base.

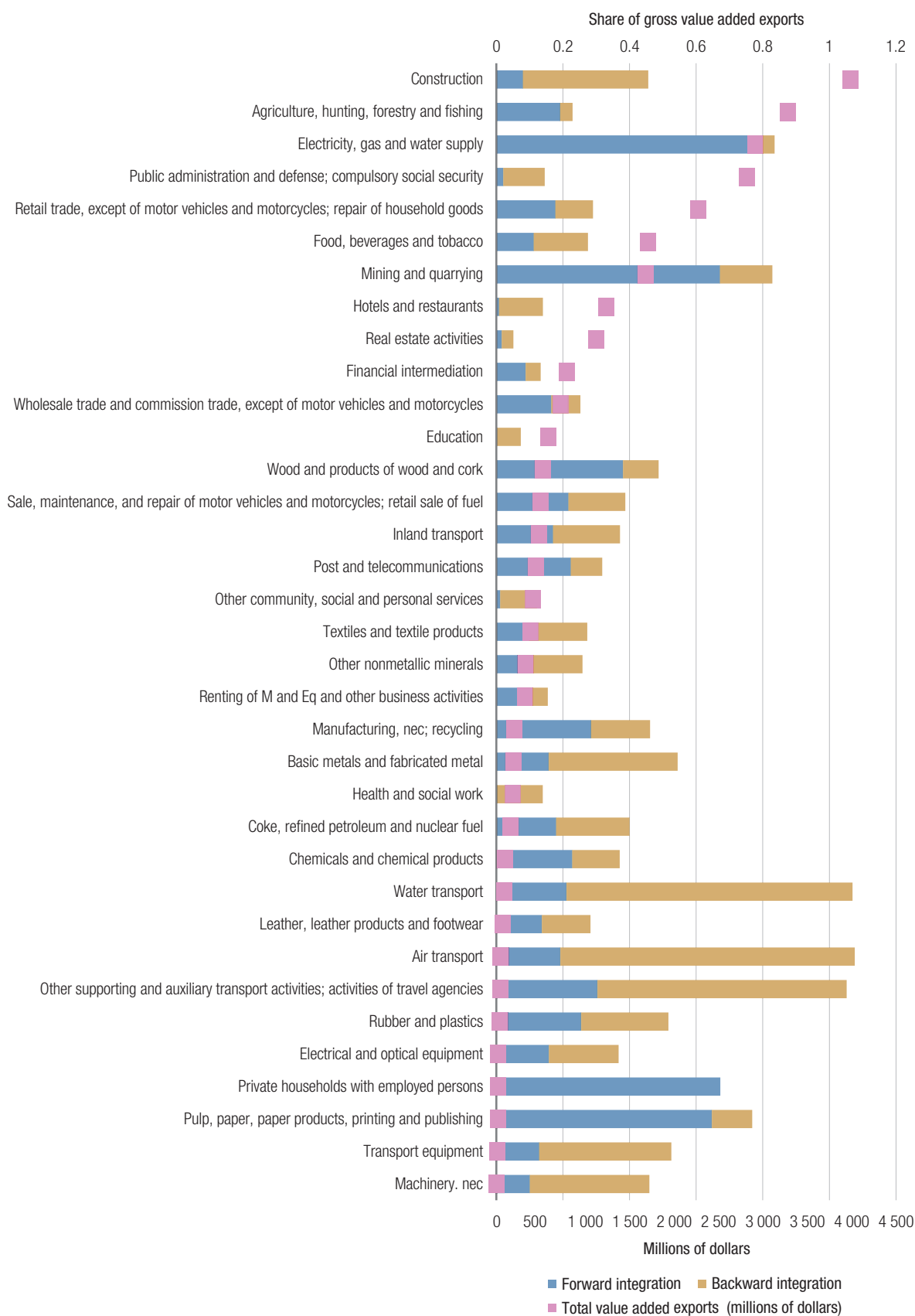
4.1.1. Poor economic linkages and limited global value chain participation

The Lao People's Democratic Republic is moderately integrated in GVCs, with a share of foreign value added in gross exports of 21 per cent, and domestic value added that is further exported by third countries of 20.6 per cent. Since 2010, overall integration has not increased but there has been a shift away from backward integration (25 per cent in 2010) towards stronger forward integration (13 per cent in 2010) that is underlined by the growing dependence of the economy on exports of natural resources. GVC participation strongly varies by sector. Figure 34 shows forward and backward integration by sector, and total value added exports in 2019. While the construction sector shows higher value added content in exports, indicated by high foreign value added imports, the resource-based industries electricity and mining and quarrying contain very little domestic value addition. Value chain diagnostics allow for an identification of the drivers of economic activities and production processes. With increasing export of electricity, the construction sector has expanded thanks to investments in hydropower infrastructure and road transport.

To maintain growth and reap greater benefits from resource-based development, and in light of the importance of achieving progress on structural transformation as a primary source of economic resilience and pathway to sustainable development, it is worth highlighting sector-specific fault lines in priority sectors, which may become a source of negative spillovers to the whole economy.

⁶⁹ See (NRA, undated) and United Nations in the Lao People's Democratic Republic, Reduce the Impact of UXO, <https://laos.opendevlopmentmekong.net/topics/sdg-18-lives-safe-from-uxo>.

Figure 34
Value chains participation and total exports in 2019, by sector



Source: UNCTAD calculations, based on ADB MRIO GVC data.

4.1.2. Mining and quarrying sector

The mining sector can be expected to be a priority sector for natural resources exploitation in the Lao People's Democratic Republic for the foreseeable future. The geology and true coverage of natural resources in the Lao People's Democratic Republic may still be underestimated, though this may make the country vulnerable to speculation and planning uncertainties. Over 500 mineral deposits have been identified, where copper, gold, zinc and lead comprise 47 per cent of all deposits.

With weak domestic capacity to drive natural resources exploitation, the Lao People's Democratic Republic relies on FDI. As a sector, mining and quarrying in developing countries has a high forward integration rate to GVCs, meaning that exports are more likely to be exported as raw commodities, with value added abroad. Figure 35 shows that the sector in the Lao People's Democratic Republic is integrated into GVCs mainly through forward linkages with 67 per cent of exports (denoting a low level of domestic value addition) undergoing further processing abroad. With respect to backward linkages, 47 per cent of inputs to the sector are

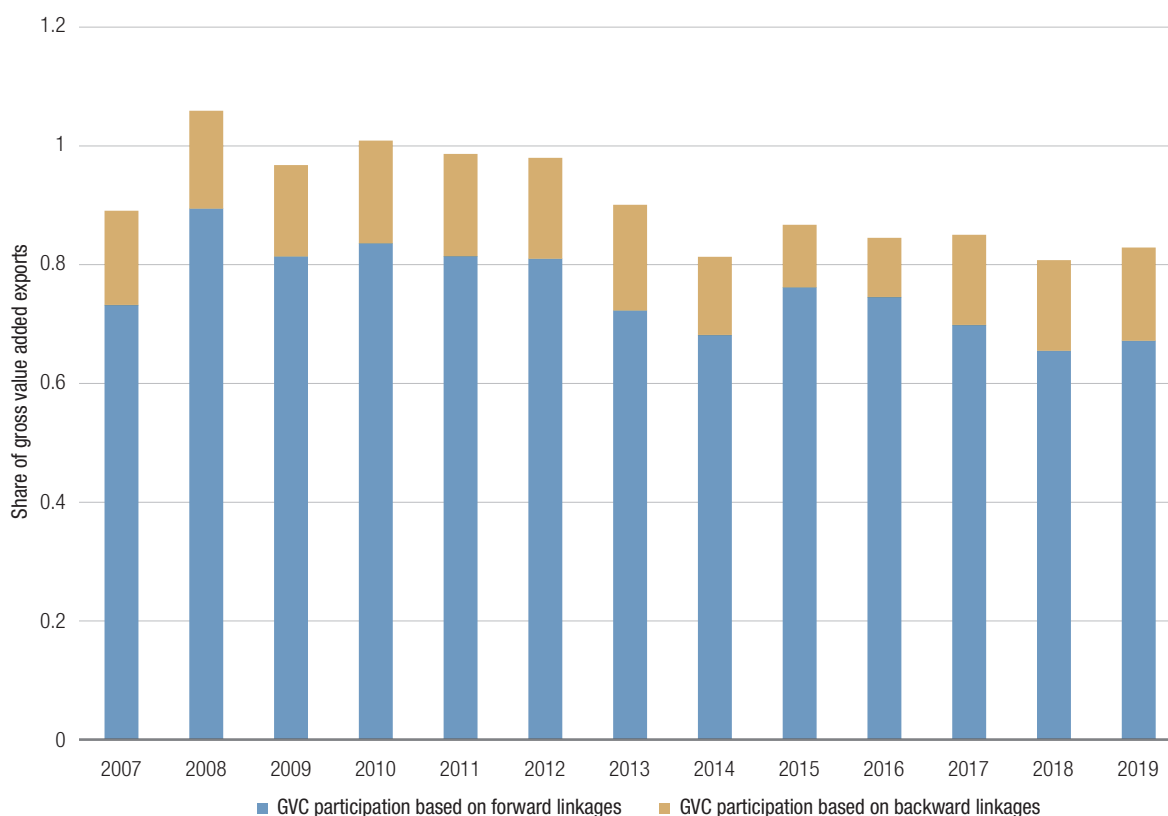
imported from China, Thailand, Viet Nam and other sources. The main input is coke and refined petroleum, but there is little value creation in-country. Backward integration has remained relatively stable, registering 15.9 per cent in 2007 and 15.6 per cent in 2019, meaning that the Lao People's Democratic Republic has not moved up the value chain despite the massive investments in the sector. Without measure to increase value addition and strengthen linkages to the local economy, inequalities will be exacerbated.

The problem of an overreliance on forward linkages was demonstrated during the COVID-19 pandemic when copper prices declined, exacerbating the sector's vulnerability. While a positive performance by other sectors or products, such as electricity generation can compensate for poor performance in the minerals sector, it might not be sufficient to overcome this vulnerability (World Bank, 2020b).

Consequently, the promise of the country's natural resources-based development strategy is undermined by weak local participation and the widening productivity gap between the mining sector and the wider economy. With fiscal revenues

Figure 35

Mining and quarrying sector, global value chain participation



Source: UNCTAD calculations, based on ADB MRIO GVC data.

from this sector also lower than they could be, the Government is left with fewer resources to devote to stimulating the development of other sectors. The concentration of investments in one or two sectors can exacerbate inequalities, posing a much higher risk in the long-term than it does now.

4.1.3. Energy generation/electricity, gas and water supply

The strength of the electricity (and energy) sector of the Lao People's Democratic Republic is that its exports are more diversified by product and by export destination country, compared to the mining industry. However, only 8.5 per cent of the overall output generated serves as an input for domestic production activities. This strong export orientation of energy generation signals the likely lack of a critical input factor to production and potentially undermines dynamism in domestic productive activity. According to the World Bank Enterprise Survey 2018 still 12 per cent of all firms' report "getting electricity" as a main constraint to do business. The backward linkages from electricity are strongest in mining and quarrying (30 per cent of exported value added is sourced from mining and quarrying), in the sector itself (17 per cent) and in retail trade (7 per cent).

4.1.4. Construction sector

The construction sector as a key input to exports of electric current shows the highest value-added exports in 2019 and strongest backward linkages in GVCs (see Figure 34). The sector sources 37 per cent of its value addition from outside the country. Its main inputs are raw materials and other construction products with few positive spillover effects to the wider economy or labour-intensive sectors. Infrastructure projects, and especially hydropower infrastructure, remain an important source of growth in value added. However, the reliance of hydropower development and other infrastructure projects on external debt is a source of general macroeconomic instability and weakness for the growth of the sector.

4.1.5. Agricultural sector

The agriculture sector remains an important income source for the country's population.⁷⁰ However, the sector is poorly integrated in global value chains

with little value addition. The share of foreign value added is low, at 3.7 per cent, while 19 per cent of agriculture exports are further processed in third countries. Total output in agriculture has experienced a steady annual increase of value added over the past 10 years, with 4.1 per cent per year, with the largest increase in 2014. Figure 36 indicates that this growth has mostly translated into stronger growth of forward linkages.

Moreover, the relatively lower productivity gains in this sector over the past decades can be addressed through investments in this sector that give incentives for product diversification. The value chain is mostly concentrated within the country with 63 per cent of domestic use of output and 74 per cent of domestic inputs to agricultural production (19 per cent of input come from coke and refined petroleum, and 15 per cent from retail trade, electricity only contributes 1 per cent of input⁷¹). Nine per cent of input is imported from China. Agriculture is also an important sector to provide inputs to other sectors within the country, especially "Food and beverages".⁷² According to the ADB GVC database, 46 per cent of agriculture output serves as input to "Food, beverages and tobacco", followed by 20 per cent "Wood and wood products", and 5 per cent "Hotels and restaurants".

Most of food processing is done at the household level with limited skills and equipment. The formal food processing sector is still at an infancy stage with a low level of investment and high concentration of sugar milling, cassava processing and maize drying (GIZ, 2017). UNCTAD recently provides support to the Lao People's Democratic Republic in capacity-building to identify strengths and vulnerabilities in the maize value chain (see box 2).

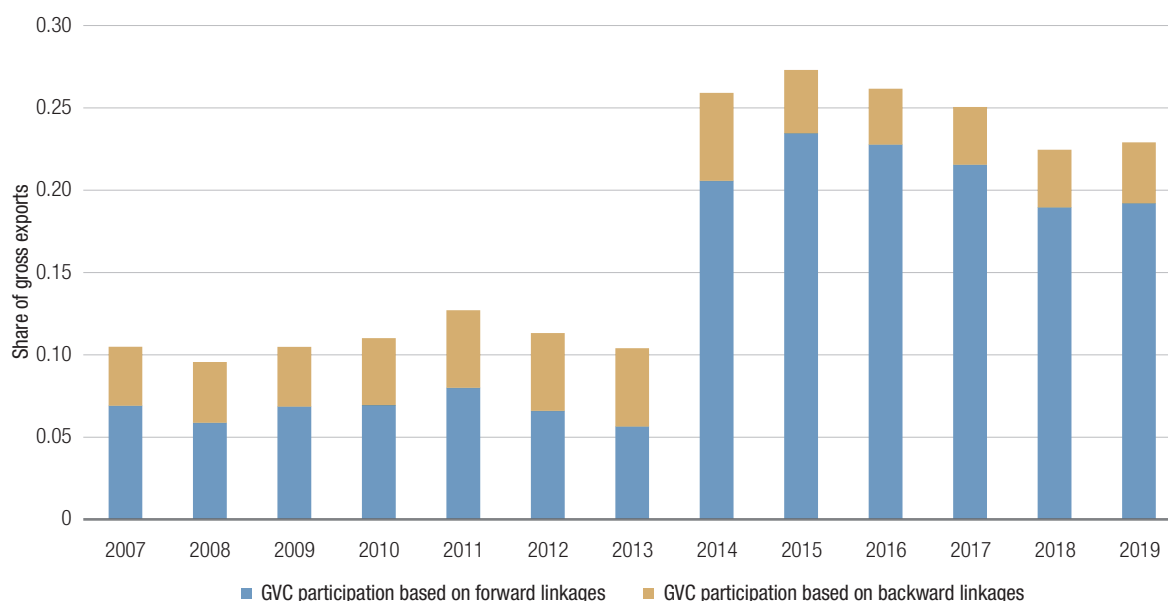
According to a survey, conducted by GIZ (2017), most firms in the sectors are concentrated in relatively low-skilled and technology sectors. The only exception is rice milling, which, as can be expected, is a widespread processing activity that is still carried out on a small scale and for local markets. In addition, food-processing firms seem to be concentrated in specific provinces, but without the creation of clusters and knowledge sharing.

⁷⁰ Chapter 2 has shown that the agriculture sector is the largest contributor to overall productivity increases due to the dominant employment share.

⁷¹ This low contribution could partly relate to the fact that, in rural areas, only 80.6 per cent of the population have electrification (2016).

⁷² These findings are based on the ADB MRIO GVC database.

Figure 36

Agriculture, hunting, forestry and fishing, global value chain participation

Source: UNCTAD calculations, based on ADB MRIO GVC data.

Box 2 Vulnerable agriculture production: The maize value chain

As part of the project “Integrating landlocked commodity dependent developing countries into regional and global value chains” (start date in 2018), UNCTAD currently assesses the maize value chain in the Lao People’s Democratic Republic on export structure and vulnerabilities. The project has carried out a field survey working with local teams to strengthen their data collection skills.

The increases in maize yields in the Lao People’s Democratic Republic have been attributed to the increase in commercial farming, which in turn benefited from increased use of hybrid seeds, notably imported from Thailand and Viet Nam. Commercial farming using hybrid seeds, tillage, herbicides, pesticides and fertilizer is attractive to farmers as it increases yields in the short term and may also reduce labour requirements, although it exposes farmers to land degradation (Castella et al., 2012). Regarding sustainable farming practices, the study by Castella et al. (2012) finds that the main cropping practice that had been operating in 2012 was soil tillage, using herbicides, pesticides and hybrid seeds. The authors conclude that this led farmers to become more vulnerable to land degradation, agrobiodiversity loss and vulnerability to price fluctuations emanating from monoculture of maize. Viau, Keophosay and Castella (2009) analyse how the expansion of commercial maize production affected livelihoods and upland rice production in Xiengkhor district of Huaphanh province. Using detailed survey data from 100 households in four villages of the Natong village cluster, obtained in 2008, the authors explore the influence on livelihoods of changes in land use, including increased commercial production of maize in upland areas. In a similar vein, Boundeth et al. (2013) present a cross-section study of maize production in Bokeo province, reporting positive associations between maize production and different variables, including membership of farmer producer groups (“cooperatives”), credit access and input provision such as seeds.

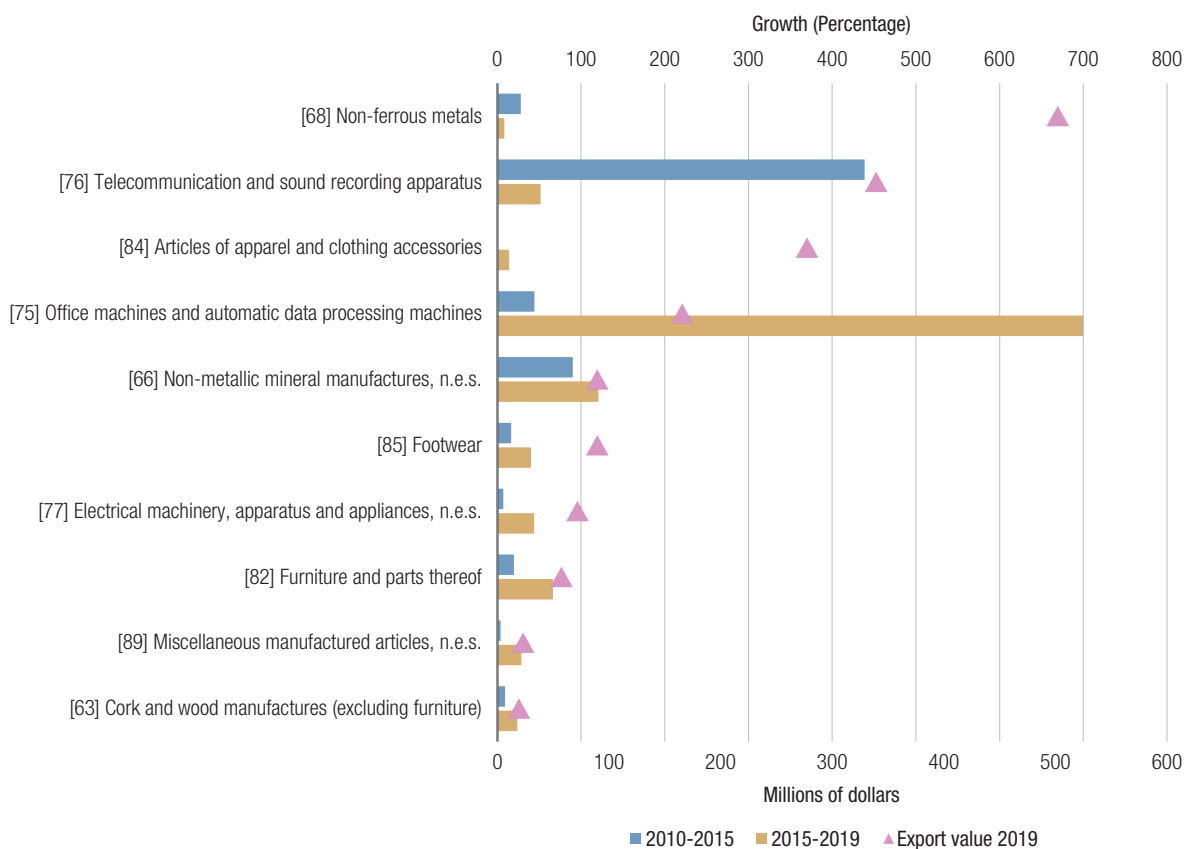
Source: UNCTAD (2020b).

4.1.6. Manufacturing sector

Developing the manufacturing sector is central to inclusive growth. The manufacturing sector has experienced remarkable growth over the past five years, especially through the expansion of high-skill and technology-intensive manufactured goods. Such high growth in high technology manufactures

has mainly been driven by “Parts and components for electrical and electronic goods”. Between 2010 and 2015, exports in this industry increased from \$1.6 million to \$215 million, and further to \$438 million in 2019. This growth has mainly happened at the extensive margin through the addition of new products and product diversification.

Figure 37

Decomposition of the manufacturing sector, top 10 export products and annual growth, by product group


Source: UNCTAD, based on UNCTADstat database.

Note: Manufacturing sector decomposition based on SITC at 2-digit level: 6 (Manufactured goods), 7 (Machinery and transport equipment) and 8 (Miscellaneous manufactured articles).

Between 2015 and 2019, manufacturing exports have increased by 80 per cent, whereas total exports grew by 59 per cent. In 2019, manufacturing exports contributed 25 per cent to total exports, although it only contributed 7.5 per cent value added to GDP. This stresses the importance of export earnings from this sector and the potential for future growth. Indeed, the share of manufacturing value added, as a percentage of GDP, has declined from 11.1 per cent in 2010 to 7.5 per cent in 2019.

The non-ferrous metals industry contributes the largest absolute amount to manufacturing exports (Figure 37). However, as already indicated in Figure 35, the value addition in processing of raw materials has remained low. The second largest industry is telecommunication and sound recording apparatus, of which telecommunication equipment contributes the bulk, followed by the third, articles of apparel and clothing. Between 2015 and 2019, the strongest growth was recorded in the industry office machines which is the fourth biggest contributor to the manufacturing sector. Remarkable growth

can also be observed in non-metallic mineral manufactures, where lime and cement construction material has been the key driver, accelerated by an expansion of the construction sector.⁷³

The labour-intensive manufactures “apparel and clothing, footwear” and “furniture and parts thereof” have experienced comparably lower growth rates than the more technology intensive industries. To achieve sustained and inclusive employment-rich growth, it is however crucial to support growth and increase productivity in labour-intensive sectors through strengthening of the human capital base (see section 3.2).

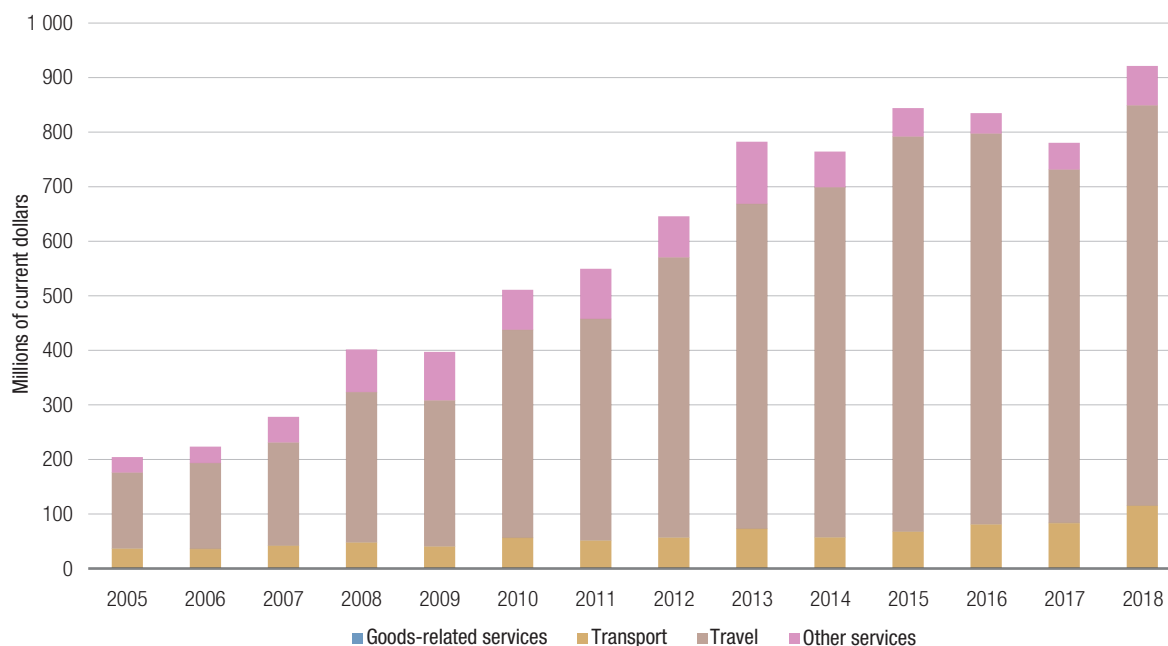
4.1.7. Services sector

Services exports are driven by travel services (see Figure 38), while goods-related services are mainly used within the economy as crucial inputs to other sectors.

⁷³ UNCTADstat database.

Figure 38

Exports of services to the world, by category



Source: UNCTAD, based on UNCTADstat database.

Note: Goods-related services include manufacturing services on physical inputs owned by others and maintenance and repair services; transport includes all transport services (also postal and courier services).

Between 2010 and 2018, investments in services have increased from \$3.38 billion to \$67.6 billion in 2018 (Sayavong, 2019). Among services, the financial sector has experienced the strongest growth, at more than 10 per cent annually between 2013 and 2018, which has triggered an increase in credit and deposit in the banking system. Despite a liberalization of financial regulation in 2007, State-owned banks are dominant in the financial sector. The tourism industry has grown to one of the most important sectors for the Lao People's Democratic Republic. In 2018, tourism contributed 5 per cent to GDP, with most tourists coming from China, Thailand and Viet Nam (Sayavong, 2019).

The prospects of future growth of services are largely backed up by the large inflow of foreign direct investment (FDI) in resource sectors, such as energy, agriculture and mega infrastructure development projects in previous years. According to Sayavong (2019), Chinese investments have mainly been in wholesale and retail; professional, scientific and technology; accommodation and real estate.

4.1.8. Product space and potential for diversification

The approach used builds on the idea that the economy faces a set of upgrading possibilities

based on current productive capabilities. The data and information used were obtained from the Atlas of Economic Complexity, complemented by the export potential assessment of the International Trade Centre (ITC). According to ITC (2020), total export potential of the Lao People's Democratic Republic is about \$9 billion with the largest potential in the ASEAN region (\$6 billion), almost exclusively in Thailand and Viet Nam. Exports to China also have a strong potential, with \$2 billion.

In order to actively promote export diversification there will need to be some sort of product selection. Products or industries are identified based on the feasibility of producing them and their expected profitability or economic gain.⁷⁴ The Economic Complexity Index (the methodology is explained in appendix 1), which is an indicator of knowledge available and a measure of productive capabilities,

⁷⁴ Countries grow by diversifying into new products of increasing complexity. Strategic new products aim to balance: (a) distance to existing capabilities: lower distance (close to 0) signifies a product is "nearby" to existing knowhow; (b) complexity: more complex products tend to support higher wages; and (c) Opportunity gain for future diversification: higher values hold stronger linkages to other high-complexity products, opening more opportunities for continued diversification.

shows that the largest export markets (mining products) of the Lao People's Democratic Republic are of relatively low complexity and score -0.63 in overall complexity, which is lower than that of Thailand (1.17), but higher than that of Myanmar (-0.97) and Bangladesh (-0.88). Higher economic complexity, as compared to a country's income level, drives economic development.

The economic gain in terms of the contribution to economic growth depends on the level of product sophistication. According to Hidalgo et al. (2007), economic growth is driven by products that are more complex as they provide higher income opportunities. However, this usually occurs in small steps, unless significant investments are mobilized to foster technological progress and build knowledge. Therefore, it might be worthwhile putting more effort in diversifying into products that might have a larger distance in the product space (higher investments required) but promises strong economic gains.

While the dominance of mining products in economic activity naturally narrows the product space, a combination of key markets creates potential for economic gains from diversification

The product space⁷⁵ of the Lao People's Democratic Republic shows that the potential for diversification from mining products is low as it requires specialized knowledge and technology. Many of the recent export products, especially of minerals, lay at the outer edge with little direct linkages (see Figure 39, brown-coloured dots for minerals).

This is confirmed by an UNCTAD study of 173 countries (UNCTAD, 2019a) that shows that concentrated minerals and oil exports have limited economic diversification potential. The ability to diversify and move into more complex products is crucially dependent on a country's initial location in the product space (see appendix for definitions). Hausmann et al. (2014) show that low-income countries tend to export products on the periphery of the network and have fewer opportunities for diversification.

The product space illustrated in Figure 39 shows that agriculture products (in yellow) are more diversified and distributed with stronger potential linkages into the dense areas or product similarities. Similarly, textile products (in green) show a greater variety of products which makes it easier and less investment-intensive to add new products. However, as shown in Figure 40, both products groups are of relatively lower economic complexity with smaller potential income gains. Nevertheless, both sectors remain crucial for job creation.

According to the Atlas of Economic Complexity, 33 new products were added to the export mix since 2003 and these products contributed \$450 in income per capita (current per capita GDP, \$2,542 in 2018). Recent growth in the past 5 years was mainly realized by new products of "electrical machinery and equipment", which saw an increase of 100 per cent. This product group is of high economic complexity, indicating potential for future growth. The market "electrical machinery and equipment" also has a small distance to a range of products and provides a favourable base for further product diversification. In addition to "electrical machinery and equipment", the sector "pulp of woods" strongly increased while wood exports itself experienced a declining export trend. The production of "pulp of woods" has a complexity of above 1, which promises benefits for growth when the sector expands and moves to nearby product markets with similar production technologies. The somewhat special case of wood processing products is described in box 3.

Based on the current export product space analysis, potential for diversification towards more sophisticated products is greatest in "electronics", "machinery" and "agriculture" due to knowledge and production process similarities. According to the assessment of the Atlas of Economic Complexity, a strategic approach would focus on exploiting a "few nearby opportunities that call for coordinated long jumps into strategic areas with future diversification potential".⁷⁶ These strategic areas include new potential products of "electrical and optical equipment"⁷⁷

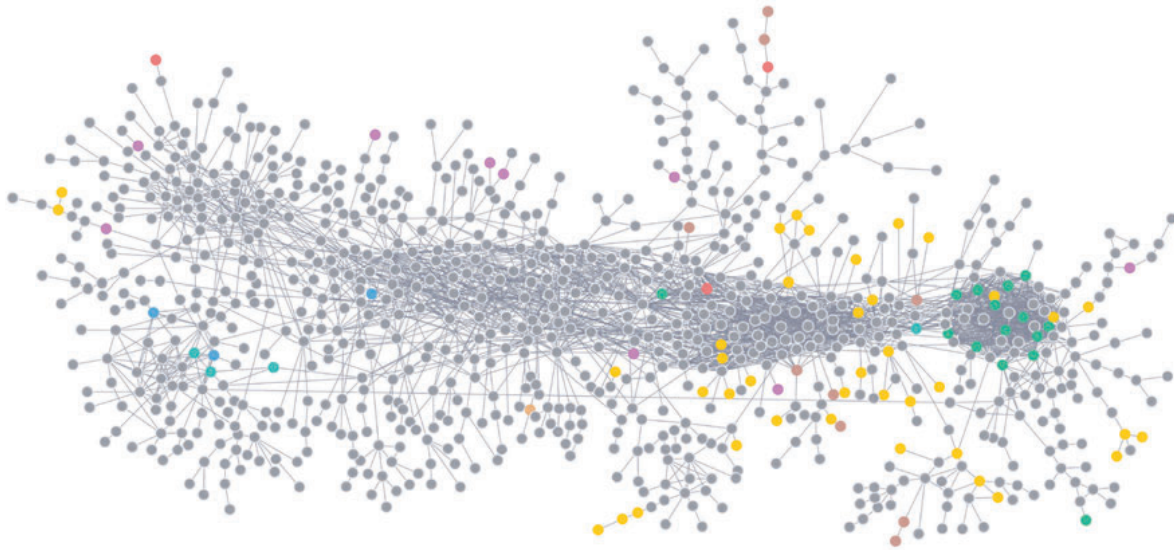
⁷⁵ Product space is a geometrical representation of products illustrating the proximity of products based on their input factors to production, level of technological sophistication and role of institutions. In other words, two products are related and can be produced in tandem if they require similar institutions, infrastructure, physical factors and technologies.

⁷⁶ See <https://atlas.cid.harvard.edu/countries/123/strategic-approach>.

⁷⁷ Within this group, products of high opportunity gain and future global market growth are "Electrical transformers", "Electronic printed circuits" and "Electrical apparatus for <1k volts". These products are identified to have a feasible likelihood of success based on the capability to produce existing products.

Figure 39

Lao People's Democratic Republic product space, 2019

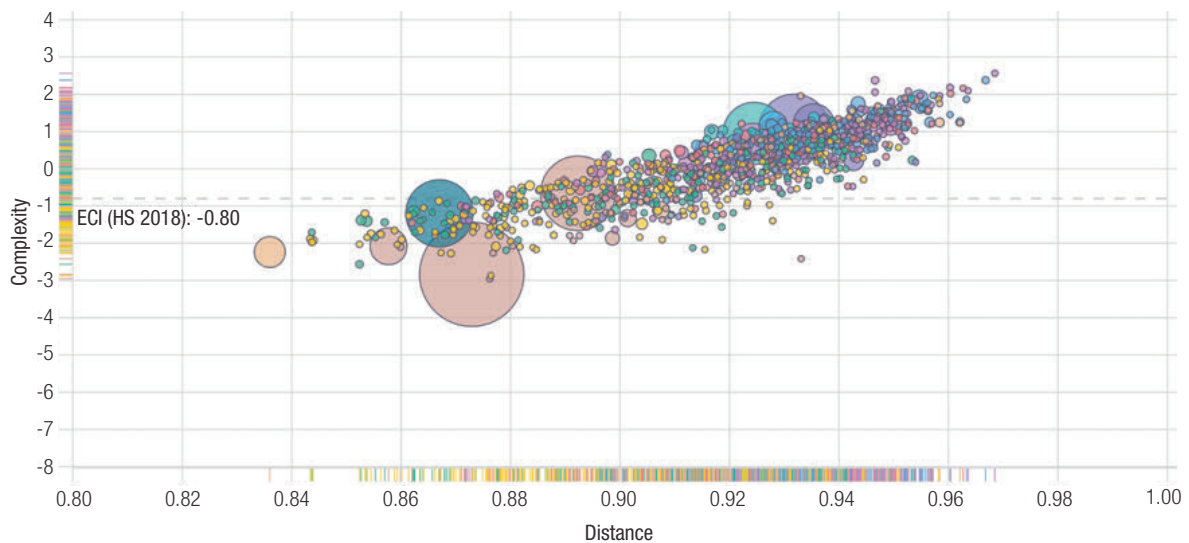


Source: Atlas of Economic Complexity (<https://atlas.cid.harvard.edu/>).

Notes: Each node corresponds to a product (at HS 4 level) and its size is proportional to world's trade; grey nodes correspond to products that are not exported by the Lao People's Democratic Republic; other nodes are colour-coded according to the sector: green for textiles; yellow for agriculture, beige for stone; brown for minerals; red for metals; purple for chemicals; violet for vehicles; blue for machinery; and light blue for electronics.

Figure 40

Distance and product complexity for Lao People's Democratic Republic exports and feasible products, 2018



Source: Atlas of Economic Complexity (<https://atlas.cid.harvard.edu/>).

Notes: Each point corresponds to a product (at HS 4 level), colour-codes follow the same pattern as in figure 39.

and “machinery”⁷⁸. While this is not an exclusive selection, and more in-depth analysis must be

conducted to identify risks and opportunities, the finding is that both sectors are characterized by high backward integration with 20 per cent imported value added in “electrical and optical equipment”⁷⁹

⁷⁸ Cash registers and calculators show the largest potential with very close production knowledge to existing products and a potential market growth of 19.2 per cent. Import demand is also highly diversified across the world. In addition, refrigerators and freezers show a high potential of diversification success.

⁷⁹ Main input sources into “electrical and optical equipment” are basic and fabricated metals, 13 per cent retail trade and 15 per cent wholesale trade, mainly coming from China, Thailand and Viet Nam.

Box 3 Wood processing sector of the Lao People's Democratic Republic

Wood and wood product exports from the Lao People's Democratic Republic have been characterized by their low value added, being mostly unprocessed agriculture raw material and semi-processed products. Yet, wood products make a considerable contribution to trade. In 2018, the \$300.4 million exported by the Lao People's Democratic Republic represented 5 per cent of total exports.

To date, minimal investment has been allocated to advanced technology that could add more value in the sector. This can be explained partially by the small-scale production and long-term focus of firms on exports of unprocessed wood products, among others. The Government of the Lao People's Democratic Republic has taken proactive measures to stimulate the local industry towards added value wood products. Considering recent policy measures, such as the Prime Minister's Order 15 on timber harvest management and inspection regulation, it is imperative that the sector enters into a transformation phase to upgrade its operations. Adding value in the wood processing sector will require increased sectoral coordination in particular between the public and private sectors, accompanied by a combination of measures and programmes to assist firms in upgrading and diversifying their products offering, including access to finance, research and development, skills development and technological innovation.

The Lao People's Democratic Republic is currently enforcing a strict logging ban on natural wood to curb illegal logging activities and allow natural forests to recover. Sustainability thus emerges as a key challenge for the sector, with a need for moving towards larger domestic value added, given limited wood supply.

ITC found that most wood processing firms in the Lao People's Democratic Republic indicated that they had not envisaged a business closure due to COVID-19 and the majority reported that restoring their operations to full capacity would take them over six months. The main challenges to increasing production vary based on the size of the company. While among small firms, the chief challenge was related to transport and logistical problems, most medium-sized firms indicating slow recovery or decline in demand, followed by cashflow problems as the main difficulties to raise production. A few firms highlighted difficulties existing before COVID-19, such as complex government regulations to export and help needed in finding markets. Furthermore, market diversification to supply more to the domestic market, increasing or entering online sales and product diversification were the most common strategies being assessed as a direct result of the COVID-19 crisis. Specific assistance sought included analysing market opportunities and trends, training on marketing and business management as well as gap analyses to improve sustainable production.

Source: ITC (2019), ITC (forthcoming).

and 35 per cent in “machinery”,⁸⁰ pointing to a higher, more income-generating stage of the value chain. Moreover, both sectors seem to have strong linkages to domestic services and fabricated metals.

⁸⁰ In the “machinery” sector, 53 per cent of the value added in this sector comes from basis metal and fabricated metals. There is an important value chain linkage which needs to be improved. A large share of extracted metals is exported but they also find high demand within the country when the country diversifies into new markets. In this “machinery” sector, the country faces a current account balance deficit of \$730 million which has been increasing due to the high demand in the construction sector. According to the calculated Export Potential at ITC, the highest potential for the exports of machinery of the Lao People's Democratic Republic are China, Thailand and Japan. China shows the largest absolute difference between potential and actual exports in value terms, leaving room to realize additional exports worth \$11.7 million (this potential export value in 2024 is based on projections of supply, demand, market access conditions and bilateral ease of trade, expressed in dollars; <https://exportpotential.intracen.org/en/markets/geo-map?fromMarker=i&exporter=418&whatMarker=s&what=62&toMarker=j>).

In addition, the Atlas of Economic Complexity identifies a range of agriculture products that promise income gain and are projected to experience high global growth in the next five years. These products include food preparations (26.2 per cent growth expectation), packing boxes (26.6 per cent), animal feed (17.4 per cent) and bakery products (17.7 per cent expected growth). There are strong linkages from agriculture products to manufacturing of food and beverages. Table A.2 (Annex II) provides an overview of the products/markets with the closest “nearby” distance to existing products (i.e. most feasible products) and with the highest expected global growth. Looking at the backward integration composition of the identified value chains, there is one important input to all sectors, and this is “retail trade, repair of household goods” (19 per cent in “machinery”, 6 per cent in “construction”, 13 per cent in “electrical and optical equipment”, 7 per cent in “mining and quarrying”, 15 per cent in “agriculture”, 7 per cent in “electricity, gas and water supply”). There is a need for investments to connect value chains and make them more resilient. For instance,

with respect to facilitating trade the functioning of associations such as the Garment Skills Development Centre and coordination of local businesses is important to drive structural transformation. In order to increase economic complexity, it requires knowledge accumulation through human capital development and learning spillovers. The low level of secondary and tertiary education and the regional gaps and diversity in education are expected to remain a major hindrance to structural transformation in the near future.

4.1.9. Potential trade losses from graduation

Regarding vulnerabilities stemming from tariff changes due to graduation it is likely that these will be small, since potential losses in most important export markets (China, Thailand and Viet Nam) for the Lao Democratic People's Republic will be insignificant or zero (ITC, 2020). For the European Union (from which Germany is the most important trade partner) market, a trade loss based on the current export basket is estimated at \$73 million. The affected products mainly concern the garment industry (\$56 million), followed by sugar, footwear and rice. This loss could be compensated by product diversification and increasing export markets. For example, ITC (2020) estimates that an untapped export potential to China of \$16.7 million could compensate the potential trade loss from apparel exports to the European Union.

To compensate potential losses from the graduation, aiming to improved market access under the GSP+ would help to lower expected losses. According to WTO (2020) estimates, the estimated tariff loss from graduation, obtained from multiplying exports with the percentage point increase in tariffs due to the loss of preferences, is \$97 million, which is equivalent to 2.1 per cent of exports. The projected export losses amount to \$66 million, equivalent to 1.45 per cent of current exports, mostly in exports to the Canada, European Union, Japan, and the Republic of Korea. Among the currently top 12 products, tariff costs will increase most for gold and men suits. However, this projected loss can be potentially compensated by the newly agreed RCEP after it enters into force.

4.2. Consequences for social development and environmental sustainability

4.2.1. Impact of foreign direct investment on growth and poverty

As previously noted, FDI has been largely concentrated in the mining and electricity sectors. The literature on the impact of FDI on growth in

the Lao People's Democratic Republic is scarce. A study by Kyophilavong and Toyoda (2012) found that while FDI in mining and hydropower sectors had positive impacts on economic growth, exports and budget revenue, the country suffered a negative long-run impact from real exchange rate appreciation. Warr (2006) found that the country might be affected by the Dutch disease, but the effect was small. Based on a CGE model, Kyophilavong et al. (2017) simulated that FDI from China to the Lao People's Democratic Republic increased output in the sectors of engagement without negative output effects in other sectors. On income gaps and poverty, the authors found higher returns to unskilled labour than skilled labour from their research focused on FDI from China.

The rise of MNEs in the Mekong region has raised questions about their role in boosting sustainable development in the Lao People's Democratic Republic. There seems to be little understanding on how MNE engage with other stakeholders to ensure sustainable management. The potential contribution of MNE to poverty reduction and social development requires regulatory oversight and community support (Pimpa, 2017). Pimpa (2017) looked at how gender equality has been promoted among social responsibility by mining companies in the Lao People's Democratic Republic, based on interviews conducted in seven villages in the southern part of the Lao People's Democratic Republic, in a major gold and copper mining community. From the interviews, the mining industry created tremendous economic opportunities for women. However, the authors found that sociolinguistic issues may limit employment opportunities.

In artisanal and small-scale mining (ASM) the key topics of vulnerability are "illegality" and "formalization". The parallel outcome of informal small-scale mining raises concerns for sustainable development. The main channels for mining companies to deliver greater, more inclusive impact on local communities are through: (a) the direct enterprise channel (job creation and salaries); (b) the distribution channel, a mechanism where the mining industry engages with various stakeholders on education, health and social schemes; and (c) government revenues.

4.2.2. Impact of mining and electricity generation on environmental sustainability and agriculture

Key vulnerabilities that had been identified include export concentration and environmental sustainability from mining and hydropower and

potential negative impacts on development. A CGE model study by Kyophilavong (2016) on the impact of mining booms on the macroeconomic development in the Lao People's Democratic Republic found that higher capital stock and capital productivity lead to increased value added, exports and investment in the mining sectors which caused higher GDP growth. However, the authors found a negative impact on agriculture and industry value added.

The concentration of investments in hydropower may exacerbate the environmental and social risks attributed to hydropower development. According to Yoshida et al. (2020), dam construction has caused a loss of biodiversity and fisheries in the Lower Mekong Basin, even more than climate change. The poor performance in the Environmental Performance Index and risks stemming from accelerated construction of hydropower, has already been highlighted in section 3.4.

The overloading of the river system with dams, transforming it into a series of reservoirs, is raising also concerns about the risk of alteration of the ecosystem that can affect fisheries, fish migrations, livelihoods and economies of communities who depend on natural resources provided by the Mekong basin, including beyond the border of the Lao People's Democratic Republic as the Mekong river also flows through other countries in the Greater Mekong Subregion.

A stepwise reduction of the dependency of hydropower could make energy generation and biodiversity more sustainable in the future. For instance, the options to move away from big dams towards instream turbines could be assessed. With regards to large investment projects, the environmental and social impact should be

incorporated in business modelling and profit analysis. The Government can make sure to raise higher taxes from profits made in this sector.

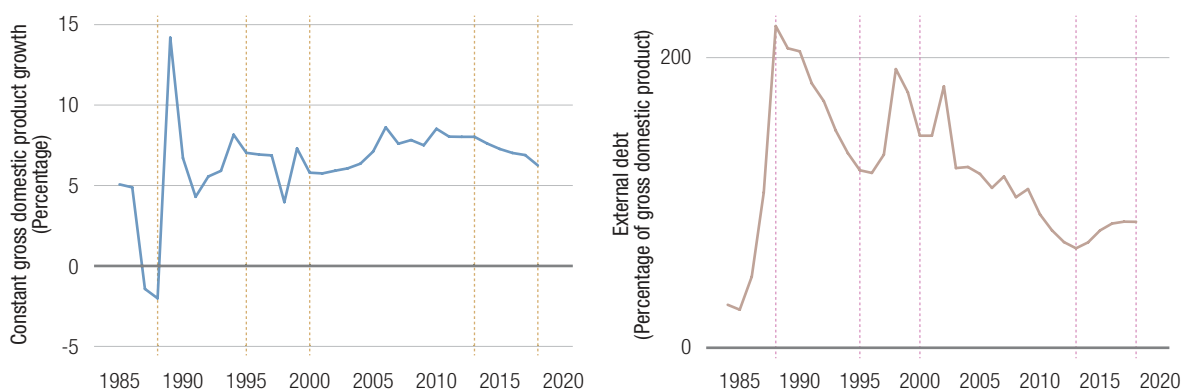
Overall, while the concentration of exports and investments in these sectors has been a medium risk/constraint to graduation today, the trend of increasing concentration in the medium term is projected to pose a strong constraint in the future, especially in combination with the increasing vulnerability to climate change.

4.3. The consequences of climate change and natural disasters

As noted in section 3.3, the Lao People's Democratic Republic has been increasingly hit by natural disasters, especially floods. This section discusses the potential consequences of this vulnerability on GDP and public finance, and how it can potentially endanger a smooth transition.

Figure 41 combines the trend of GDP (left) and external debt (right) with the five most severe natural disasters since 1980: 1988 (18.1 per cent affected population), 1995 (12.2 per cent), 2000 (8.6 per cent), 2013 (9.3 per cent) and 2018 (10.6 per cent). After each severe natural disaster, external debt as a share of GDP seemed to slightly increase in the respective year or the year after. Although no causal link can be established, it gives an indication of the vulnerability of the Lao People's Democratic Republic to natural disasters. In 2018, a total damage of \$371.5 million was caused, equivalent to 1.25-2 per cent of GDP and representing 9.6 per cent of the annual budget. There seems to be a negative association of the natural disasters and the current account balance (in Figure 31). Due

Figure 41
Constant GDP growth, external debt and severe natural disasters



Note: The vertical lines present the worst natural disasters in terms of affected population: 1988 (18.1 per cent), 1995 (12.2 per cent), 2000 (8.6 per cent), 2013 (9.3 per cent) and 2018 (10.6 per cent).

to the necessary increase in imports and investment projects, the deficit increased from 10.6 per cent in 2017 to 12 per cent in 2018. The sectors with the largest damage are the transport sector with 50 per cent. Among the productive sector, floods mostly affect agricultural output. The damage in the agriculture sector represents 39 per cent of total damage.⁸¹

Such external vulnerability must be considered for its access to concessional funding. The high interest rate and the current debt will constrain the country's ability to access the necessary financial resources to recover from natural disasters and to build resilience.

4.3.1. Disaster response

The financing needs to recovery from the disasters in 2018 were estimated at \$520 million in order to be able to “build back better” (GFDRR, 2019). The post-disaster needs assessment (PDNA) by the Government valued the total overall effects (losses and damage) on the economy at an estimated 3,166.99 billion Lao kip, or approximately \$371.5 million, of which losses totalled 1,914.02 billion kip (Government of Lao People's Democratic Republic, 2018). The Government reallocated some public spending in 2018 and in 2019 for the reconstruction of infrastructure and recovery of agricultural production. Despite these challenges, harvests of some crops remained resilient (World Bank, 2020b).

In September 2018, the Government asked the international community to assist with a post-disaster needs analysis. The disaster risk management (DRM) cuts through the entire recovery process. A review of the performance of the DRM identifies risks stemming from a lack of capacity to deal with such large natural disasters. The effectiveness depends on the capability to understand the disaster risk and manage it, enhancing the preparedness and ability to coordinate recovery and reconstruction.

The Government has put effort in the DRM and demonstrated strong commitment through the Hyogo Framework for Action and the successor Sendai Framework for Disaster Risk Reduction. Some key areas of improvement have been identified in UNDRR (2019), for instance, the current lack of comprehensive data to quantify risk information for sector-specific risk assessments reduced the effectiveness of recovery. To give a specific example, although the country was hit by severe storms in 2017, causing damage to properties

and life of people, especially in the agriculture and transportation sectors, there is no estimated damage or number of affected people reported in EM-DAT. Local capacities must be enhanced to guarantee that even the smaller and recurrent disasters are measured and considered as a part of risk assessments (UNDRR, 2019). As local communities are at the forefront of disaster response, it is crucial to strengthen institutional capacity and resources at the village and district level.

Various initiatives to institutionalize disaster data and information management systems have been carried out to improve quality, quantity and accessibility of datasets applicable for risk assessment and other DRM purposes. Current initiatives include the GeoNode Risk Atlas web platform (UNDRR, 2019).

In addition, to address gaps in technical knowhow and human resources to strengthen early warning capacity, the Department of Meteorological and Hydrology (DMH) has undergone institutional capacity strengthening with support by the World Bank and World Meteorological Organization (WMO) to meet growing demands of required quantity, quality and variety of weather and environmental services now that the country is facing more adverse impacts of changing climate (UNDRR, 2019).

Strengthening fiscal governance is underway (Medium-Term Revenue Strategy 2021–2025). Implementing these plans, supported with data gathering, risk-based administration practices and training can help to improve revenue administration efficiency.

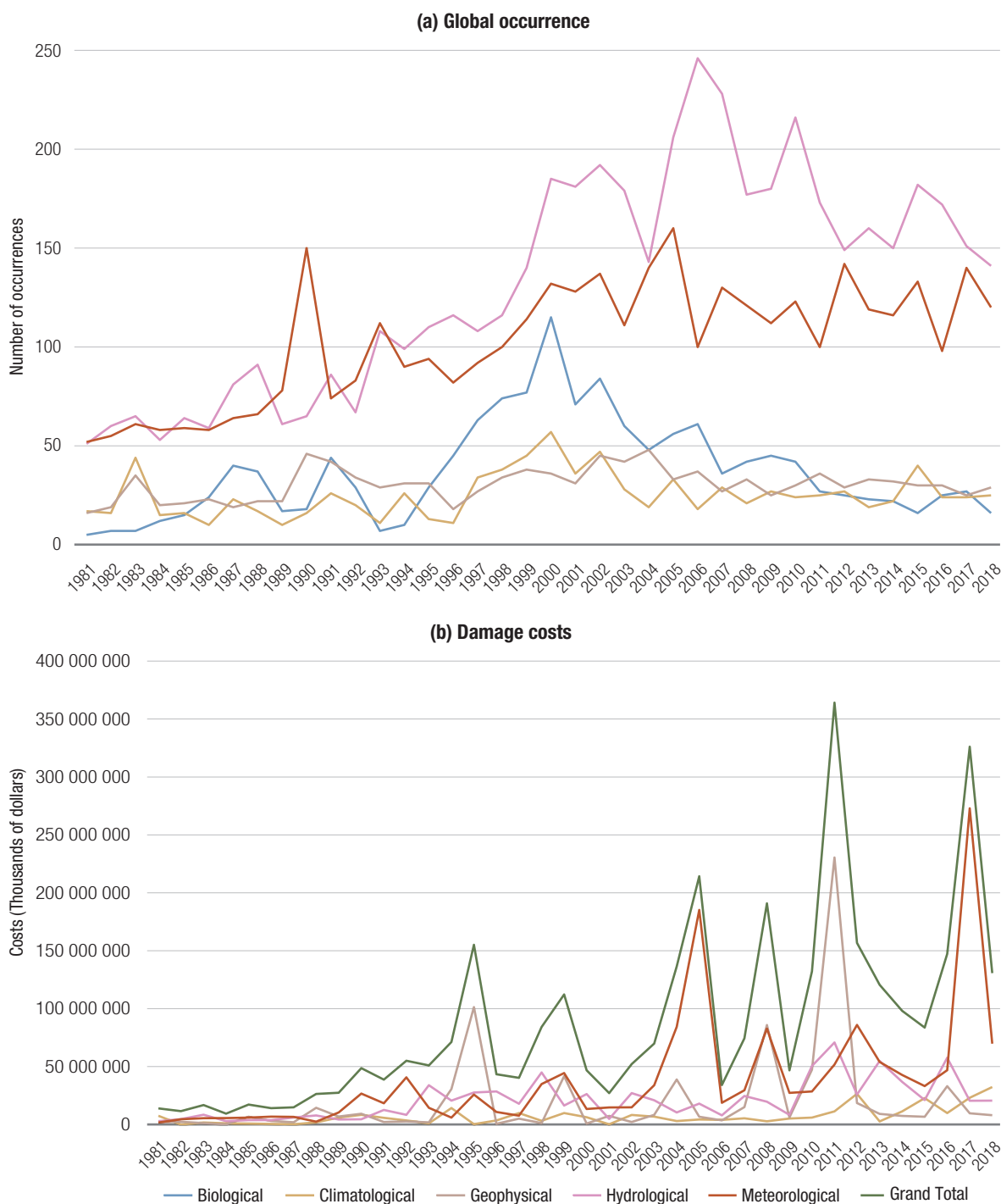
4.3.2. Midterm projections

Despite the improvements in building resilience, vulnerability will remain in the future and represents a high risk to sustainable development and a smooth transition. Climate change is associated with an increase in the number and the severity of natural disasters. Across the world, climatological and hydrological disasters are on the rise (Figure 42), and the Lao People's Democratic Republic is highly vulnerable to natural disasters due to the high share of people living in rural areas. According to the trend in the past of global natural disasters and rising temperatures, the Lao People's Democratic Republic must be prepared for a rising number of disasters.

Between the decades 2001–2010 and 2011–2018, the average annual costs have increased from \$98 billion globally to \$178 billion. If that trend continues and without appropriate action, the world may have to bear an annual damage of \$325 billion

⁸¹ PDNA, 2018, Lao People's Democratic Republic Report.

Figure 42
Global occurrence and damage costs of natural disasters, by disaster type



Source: UNCTAD, based on EMDAT data.

in the next decade. In the Lao People's Democratic Republic, annual damage increased over the same period from \$10 million (average 2001–2010)⁸² to \$44 million over 2011–2018. Although the physical

damage increases with rising income (current GDP increased from \$7 billion in 2010 to \$17.9 billion in 2018), the expected escalating costs in the future will likely undermine economic growth efforts.

⁸² The \$10 million damage is reported exclusively in 2009 (damage equivalent to 1.7 per cent of GDP).

The vulnerability may pose a risk towards a smooth transition due to decreased access to concessional

financing and ODA. The response to climate change is limited due to serious budget deficits. The Lao People's Democratic Republic will be unlikely to stem these costs and build resilience without external financial support. A range of stakeholder are included in emergency response management and resilience building. Currently, two projects (total of \$27.8 million) are financed by Green Climate Fund, the largest climate fund. According to the OECD Development Assistance Committee (DAC) finance statistics 2018, \$106 million is committed for adaptation-related financing, 57 per cent of which come from the Asian Development Bank and the International Development Association, and 28 per cent from OECD member countries. Mitigation-related development finance amounted to \$34 million in 2018.

4.3.3. Multi-faceted vulnerabilities

Regarding the vulnerability of agriculture production and infrastructure to natural disasters, and low agriculture productivity, sectoral development programmes have the potential to enhance productivity and minimize the disaster effects on sectoral investments. Moreover, an inclusion of the private sector in responding to natural disasters and in financing climate change mitigation and adaptation could benefit sectoral development. Of all climate-related financial support in 2018, according to the OECD DAC finance statistics, 27 per cent went into transport and storage, 17 per cent into agriculture, 14 per cent into water supply and sanitation and 10 per cent in general environment protection.

4.4. Financial consequences of vulnerabilities: Domestic resource mobilization and debt sustainability

4.4.1. Constraints to domestic resource mobilization

The ratio of government revenues to GDP fell sharply from 30.5 per cent in 2012–2013 to 15.7 per cent in 2018. This resulted from a decline of each of its three main components: tax revenues (78 per cent of total government revenues) fell from 15.8 per cent of GDP to 11.2 per cent of GDP, non-tax revenues other than grants from 8.5 per cent to 3.1 per cent and grants from 6.4 per cent to 1.4 per cent of GDP.⁸³

Value added tax contributes the largest share (22 per cent) to government revenues, followed by excise taxes (20 per cent), profit tax (8.6 per cent) and income tax (6.8 per cent). There has also been a decline in absolute terms of tax receipts from natural resources-based activities; between 2012/13 and 2018, natural-resources-specific taxes declined in current kips at an annual average rate of 1.3 per cent; profit tax – which is largely paid by large mineral concession projects (Rasphone, unpublished) – declined by 1.6 per cent; and exports duties declined by 28 per cent. The share in total government revenues (excluding grants) of these taxes taken together declined from the already modest level of 16.9 per cent to 14.7 per cent in the same period (Lao People's Democratic Republic, Ministry of Finance). Less mineral investment approvals, government restrictions on timber exports, and fluctuations in metal prices explain this decline. In particular, natural resource taxes contribute only 2.7 per cent and hydropower royalties 1.75 per cent to total revenues.

The Lao People's Democratic Republic granted generous fiscal incentives to investors in capital-intensive natural-resource-based projects and concession agreements – where FDI is predominant. Most incentives were in the form of tax holidays, with the exemption period set to run from the first profit-making year, which can lead to excessively long periods of activity without the payment of corporate taxes and create opportunities for tax avoidance and thus significantly reduce revenue collection. There is a need for cost-benefit analysis of tax incentives for investment in natural resources to ensure that they are necessary to attract investments and to evaluate whether the potential revenue forgone is not excessively high in the light of Government's needs to invest in areas such as health, education and skills development, which are critical for the country's sustainable development (OECD, 2017). This underscores the need for more effective domestic resource mobilization. With social sector development heavily reliant on significant funds from multiple foreign donors that invest according to their priorities, the Lao People's Democratic Republic needs to give greater attention to internal coordination and provide the necessary leadership on development priorities.

As a percentage of GNI, total net ODA decreased from 14.1 per cent in 2000 to 5.8 per cent of GDP in 2010, to 3.3 per cent in 2018 (World Development Indicators, 2020). Grants declined not only in relation to GDP but also in absolute

⁸³ Lao People's Democratic Republic, Ministry of Finance.

terms (both in current dollars and local currency (kip)) as a consequence of ODA shift from grants to loans (see section 3.4.1). While in 2010, only 22 per cent of ODA was distributed as loans, the share of loans continuously increased to 72 per cent of total ODA, which contributed to the increase in public debt.

In 2015–2016, China, Thailand and Viet Nam provided 76 per cent of official development finance flows to the Lao People's Democratic Republic, against 43 per cent in 2012–2013. While most of the official flows from Viet Nam are geared towards grants, the grant element of official flows from China and Thailand is very low. In terms of sectoral distribution, 44 per cent of total ODA went into economic sectors and 16.5 per cent into social sectors.⁸⁴ The social sector attracted a higher share of grants, contributing 42 per cent to all grants received.

Remittances, as a percentage of GDP, have increased from 0.6 per cent in 2010 to 1.6 per cent in 2019. Due to the pandemic, the World Bank expects a decline in remittances to 0.7 per cent of GDP in 2020.⁸⁵

Government expenditures consist of 60 per cent current expenditures of which wages and salaries make up 32 per cent of all expenditures, 9 per cent are transfers (including per cent subsidies) and 8 per cent of expenditures go into interest payments (of which 6.8 per cent are external interest payments). Forty per cent relate to capital expenditures, while 27 per cent of government expenditures are financed externally to invest in capital accumulation, and 13 per cent of public investments are financed locally.⁸⁶

To reduce the gap between revenues and expenditures, the Government severely limited the growth of current expenditure (from 19.8 per cent of GDP to 12 per cent between 2012/2013 and 2018) by reducing the recruitment of new civil servants and eliminating non-wage recurrent spending and transfers. The Government lowered the fiscal deficit to 4.4 per cent of GDP in 2018 from 5.5 per cent in 2017. Limits on the expansion of public investment have direct impact on State budget allocations to the top four priority sectors: agriculture, education, health and public works (Rasphone, unpublished).

⁸⁴ Lao People's Democratic Republic, Ministry of Planning and Investment.

⁸⁵ See http://www.xinhuanet.com/english/2020-08/18/c_139298873.htm.

⁸⁶ Data obtained from the Ministry of Finance of the Lao People's Democratic Republic, Fiscal Policy Department.

Capital expenditure was also affected; its ratio to GDP declined from 10.9 per cent to 8.2 per cent in the same period.

4.4.2. *The natural resource-based economy of the Lao People's Democratic Republic is prone to illicit financial flows*

Concentration on the export of raw mining products poses risks of illicit financial flows. As one of the main export commodities, the copper industry is an important source of government revenue dominated by a few large-scale mining firms. Mehrotra et al. (2019) find evidence of likely significant magnitudes of trade mispricing in the exports of the Lao People's Democratic Republic of copper concentrate and coffee beans for the period 2012–2017, with 6.8 per cent of copper concentrate exports found likely undervalued.⁸⁷ The authors are cautious in interpreting direct tax revenue losses, since transaction-level information on each mining company's adjustments between export invoice prices and final sales prices is not publicly available. Their analysis finds that transactions with affiliated firms are a major source of trade mispricing risk. The sizeable cross-border intra-firms or related parties' transactions generates a significant undervaluation of exports.⁸⁸ In the case of the mining sector, financial transactions including payments and price negotiations between affiliated firms are mostly conducted offshore. This makes it challenging for the tax and customs authorities of the Lao People's Democratic Republic to monitor and govern these transactions. A policy paper by Norasingh, Musselli and Bürgi Bonanomi (2020) provides a discussion on the regulation of commodity trade mispricing rendering the basic legal framework in place ineffectual without effective enforcement.⁸⁹

4.4.3. *Debt vulnerability*

Despite the effort of the Government of the Lao People's Democratic Republic to lower the fiscal deficit to 4.4 per cent of GDP in 2018 increasing debt remains an area of vulnerability stemming from the constraints to domestic resource mobilization.

⁸⁷ Over the period 2012–2017, the authors find an amount of undervalued exports of \$125 million.

⁸⁸ The estimation of undervaluation and overvaluation due to trade mispricing is based on the method of price filter analysis (Mehrotra et al., 2020).

⁸⁹ The regulation of commodity trade mispricing: The case of the Lao People's Democratic Republic, Working Paper No. R4D-IFF-WP06-2019.

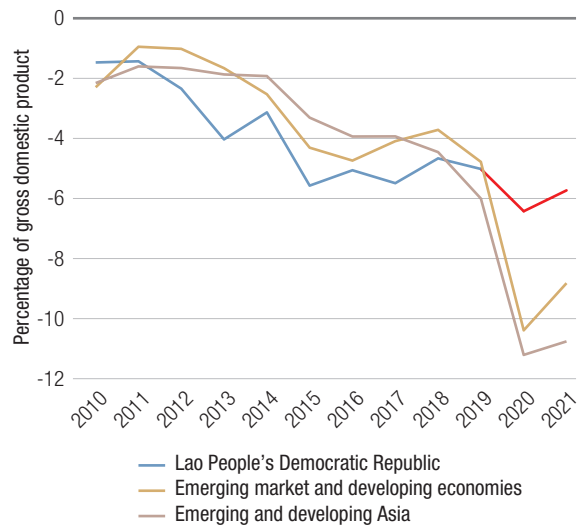
The response to COVID-19 forces Governments around the world to increase their spending, while facing a reduction in revenues. The expected increase in fiscal deficit and reliance on borrowing can put many developing countries at high risk of debt distress. Prior to COVID-19, the Lao People's Democratic Republic had already increasingly relied on government borrowing. Between 2010 and 2019, general government net borrowing, as a percentage of GDP, has increased from 1.5 per cent to 5.0 per cent. The pandemic is expected to cause a further widening to 6.4 per cent of GDP (see Figure 43).

Public debt

In 2018, total external debt stood at 86.8 per cent of GDP. Over the past 20 years, public external debt owed to private creditors has risen sharply from zero in 2001 to 39 per cent of GDP. The share of multilateral debt fell from 55 per cent of long-run external public debt in 2010 to only 17 per cent (Figure 44). Bilateral creditors, mainly China, Japan, the Republic of Korea, the Russian Federation and Thailand, have been an increasingly important source of loans. Since the first issuance of a sovereign bond by the Lao People's Democratic Republic in 2013, the share of private creditors in external debt has increased from 3 per cent in 2013 to 20 per cent in 2020 and the interest rate paid on new debt increased to 2.3 per cent

Figure 43

General government net lending/borrowing: Lao People's Democratic Republic and developing economies

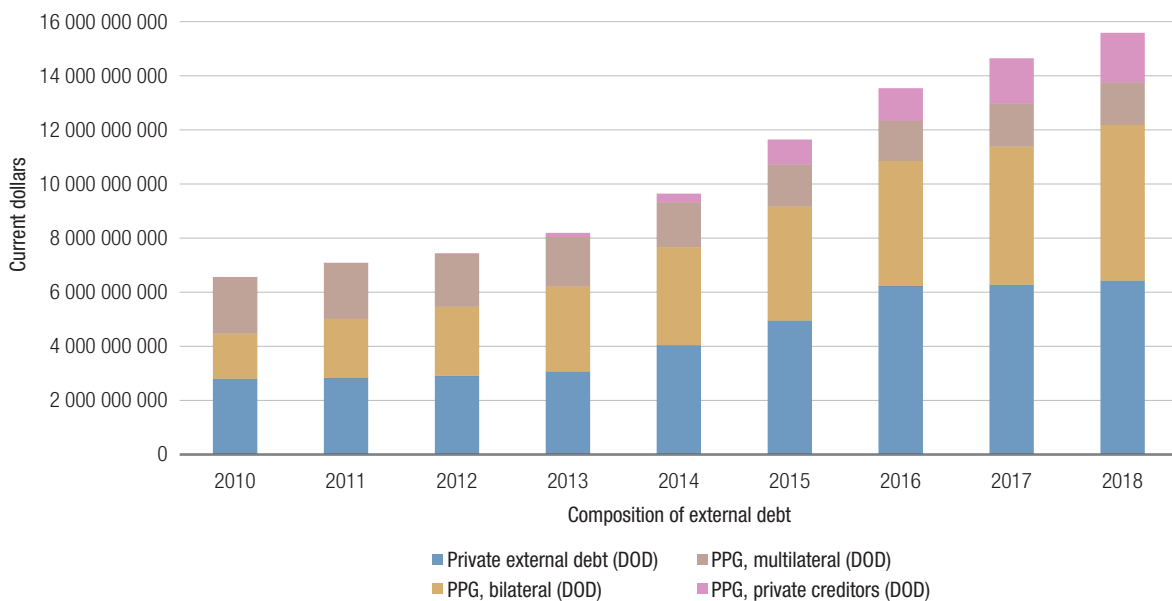


Source: UNCTAD, based on IMF World Economic Outlook; 2020 and 2021, projected values, in red.

in 2018. Concessional debt as a share of total external debt has continuously decreased from 99 per cent in 1990 to 15 per cent in 2018. In 2018, 14.6 per cent of export earnings were spent on debt servicing. In 2000, the country's public and publicly guaranteed long-term (PPG) outstanding and disbursed external debt was only 18 per cent

Figure 44

Composition of external debt of the Lao People's Democratic Republic



Source: UNCTAD, based on World Bank International Debt Statistics.
 Note: PPG refers to public and publicly guaranteed long-term debt.

of export earnings but by 2018 had ballooned to 65 per cent, up from 54 per cent in 2010. The Lao People's Democratic Republic is highly vulnerable to debt distress.

The credit rating of the Lao People's Democratic Republic was downgraded by Fitch Ratings to CCC in September 2020 because of liquidity problems that could not be compensated for by inflows of FDI.⁹⁰ The Lao People's Democratic Republic has not applied for the Debt Service Suspension Initiative (DSSI) debt relief. Multilateral financing however remains a potential option.

Private debt

Private debt has increased tremendously since 2001 taking-off especially after 2014 (Figure 44). This can provide serious challenges in the future, given the fact that most of this debt is accumulated in the export sectors due to foreign loans investments. The debt owed by the private sector (households, businesses and banks) to lenders outside the country amounted to, as a percentage of the national GDP, 31.4 in 2019,⁹¹ a large portion of which is from public-private partnership (PPP) investments in the hydropower sector.⁹²

5. Building resilience and policy recommendations

5.1. Promoting enterprise development and strengthening business linkages

An enabling business environment is a prerequisite for robust private sector growth and job creation (UNCTAD, 2018). Transparent and simple regulatory and legal framework, efficient public administration, availability of financial services, skilled and educated workforce, and good infrastructure are crucial for reducing the obstacles to economic activities and improving the efficiency and competitiveness of enterprises. It is thus important to look at the state of enterprises and private sector and understand what obstacles limit their growth.

The number of enterprises registered in the Lao People's Democratic Republic varies between 100,000 and 179,000 depending on the source

of information.⁹³ All the different sources, however, concur that the overwhelming majority of enterprises (around 98–99 per cent) in the Lao People's Democratic Republic are SMEs. The OECD/ERIA study estimates that the large majority of SMEs are micro enterprises of less than 5 employees that represent 86 per cent of all registered enterprises. Over two thirds (69.4 per cent) of all microenterprises are in the field of wholesale or retail trade, 11.2 per cent in manufacturing activities, and 11.2 per cent in accommodation and food services (OECD/ERIA, 2018). The high prevalence of micro-firms in the Lao People's Democratic Republic suggests that these firms may face significant barriers to expansion. SMEs in the Lao People's Democratic Republic are expected to enjoy enhanced technical cooperation with the industrialized countries following the conclusion of the RCEP.

The growth of the private sector has been largely limited to the mining and hydropower industries, in which large and mostly foreign-owned companies operate with few linkages with the local SMEs. There are also large private enterprises in the garment industry owned by foreign investors. Apart from these industries, the private sector consists mostly of micro and small firms in manufacture, construction and services, and smallholders in agriculture. Many of these smaller enterprises operate in the informal economy, and their number was estimated at more than 100,000 (EMC, 2017 and Sayavong, unpublished).

Small firms in the Lao People's Democratic Republic are not reaping the rewards of strong economic growth. The World Bank's Enterprise Surveys for the Lao People's Democratic Republic 2018⁹⁴ show that annual sales of the surveyed small firms declined

⁹⁰ See <https://www.fitchratings.com/research/sovereigns/fitch-downgrades-laos-to-ccc-23-09-2020>.

⁹¹ See <https://data.jubileedebt.org.uk/>.

⁹² See <https://www.fitchratings.com/research/sovereigns/fitch-assigns-laos-first-time-b-rating-outlook-stable-12-02-2020>.

⁹³ According to an OECD/ERIA study, a total of 178,557 enterprises were registered in 2013, of which around 75 per cent participated in the country's 2013 Economic Census (OECD/ERIA, 2018). A World Bank study refers to a report on SMEs prepared at the end of 2010 by the Department for Small and Medium Enterprise Promotion (DOSMEP) of the Lao People's Democratic Republic that gave the figure of 126,913 registered firms (World Bank, 2014a; World Bank, 2014b). The Lao National Chamber of Commerce and Industry provides the data of about 100,000 firms reported at the enterprise registry of the Ministry of Industry and Commerce (Lao National Chamber of Commerce and Industry, 2018).

⁹⁴ The surveys were conducted from May to November 2018 and administered to a representative sample of firms of five employees or more in the non-agricultural, formal and private economy. A total of 332 formal private firms participated in the surveys, of which 238 were small firms (5–19 employees), 72 medium firms (20–99 employees) and 22 large firms (100 employees or more).

by 4.4 per cent between 2015 and 2017, while medium and large firms increased their annual sales by 6.9 per cent and 5.7 per cent, respectively. This had an impact on employment that decreased by 1.2 per cent in small firms in the same period but increased in medium and large firms by 7.3 per cent and 4.3 per cent respectively (World Bank, 2018a).

The health of small business in the Lao People's Democratic Republic has a significant impact on women's economic empowerment – which is recognized as one means for reducing poverty and increasing economic growth, as this sector has a significantly higher female participation in ownership, management and workforce than medium and large enterprises. The World Bank Enterprise Survey for the Lao People's Democratic Republic 2018, found that the share of enterprises with female participation in ownership is 45.5 per cent for small enterprises, but only 8 per cent and 9 per cent for medium and large enterprises respectively, while the per cent of firms with a female top manager is 53.2 per cent for small firms, 12.2 per cent for medium firms and 5.9 per cent for large firms, and the proportion of permanent full-time workers that are female is 50.6 per cent, 33.8 per cent and 20.4 per cent, respectively.

The most frequently cited constraints to private sector development include poor access to credit, lack of skilled labour due to relatively low education levels, practices of the informal sector⁹⁵ and limited infrastructure. However, they are perceived differently according to the size of the enterprise. According to the World Bank enterprise surveys for the Lao People's Democratic Republic 2018, access to credit is the most cited top business environment constraint for both the small and medium-sized enterprises, while large enterprises cite the practices of the informal sector.

Weak access to finance has its corollary in high reliance of enterprises on self-funding to finance investment. According to World Bank enterprise survey, in 2016, 96 per cent of loans issued by a financial institution require collateral which is highest compared to ASEAN countries (ranging from 51 per cent in Singapore to 95 per cent in Myanmar),

⁹⁵ The World Bank does not have a clear definition of what these practices are. In its enterprise survey of the Lao People's Democratic Republic 2018 it refers to these practices as the one that “can give an unfair advantage over formal firms that must comply with the prevailing rules and regulations” (World Bank, 2018b, p. 8). In its *Doing Business in the Lao People's Democratic Republic 2018*, it indicates that “additional analysis to better understand what companies refer to when complaining about the ‘practices of firms in the informal sector’ is currently under way” (World Bank, 2018c, page 8).

and only 3.7 per cent of working capital is financed by banks. The proportion of investment financed internally for all the surveyed firms is 88.7 per cent, which is higher than East Asia and the Pacific (EAP) (78.4 per cent) and the Lower Medium Income (LMI) (70.5 per cent). It is even high in the case of large firms where 79.5 per cent of investment is financed by self-funding, which reflects the weakness of the financial system. The proportion of investment financed by banks is only 6.4 per cent for all the surveyed enterprises (15.6 per cent in the case of large firms). It is also lower than the average for the EAP (10.1 per cent) and the LMI (13.4 per cent) economies (World Bank, 2018a).

The business environment of the Lao People's Democratic Republic is weak and lacks incentives for firms to grow and become formal. In particular small and micro firms – that represent most of the business and where female participation is the highest – are not reaping the rewards of the strong economic growth, which reduces the scope for inclusive growth (World Bank, 2019b; World Bank, 2019c; World Bank, 2017b). Indeed, considering that 10 per cent of all firms and 15 per cent of microenterprises report “access to electricity” as a top business constraint (Figure 45 and Figure 46) the poor linkages within the domestic economy become evident.

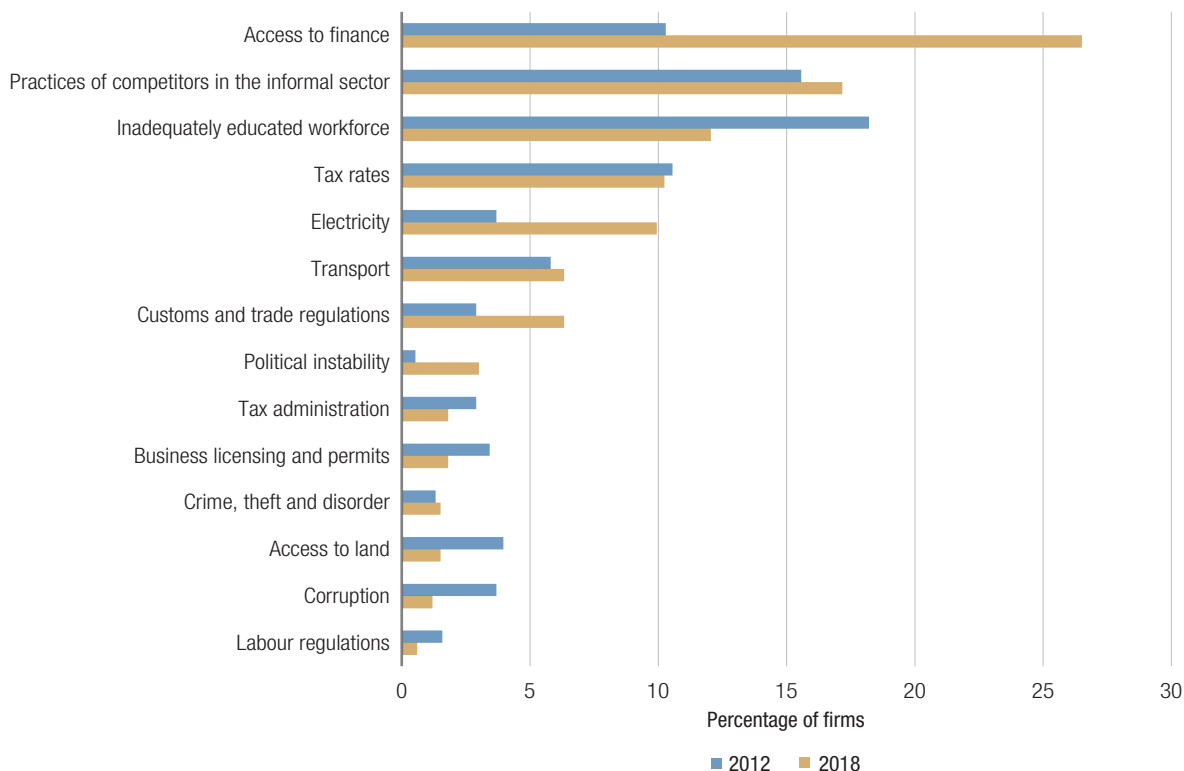
Differentiated by firm size, 31 per cent of small enterprises, which account for 64 per cent of sampled firms in the 2018 enterprise survey⁹⁶, report access to finance as the main obstacle, followed by informal practices (18 per cent) and access to electricity (10 per cent) (Figure 46). Lack of electricity is larger constraint for some sectors than for others. For instance, while 17 per cent in 65 sampled firms in the food industry and 18 per cent in the hotel and restaurants sectors report it as the major obstacle, however, it is not reported as a constraint in the construction sector and in manufacture of wood and related products. Addressing these sector-specific input requirements and associated constraints are key to boost productivity.

Regarding the business linkages between multinational companies, foreign joint venture companies and SMEs, little research is available. One study by Vidavong et al. (2017) found through interviews that the linkages to SMEs are strong for supply but that the SME only contributed 20 per cent

⁹⁶ By industry, 65 firms in the food industry, 52 firms in retail trade, and 45 firms in hotels and restaurants account for half of sampled firms. Microenterprises are mainly found in the retail trade sector.

Figure 45

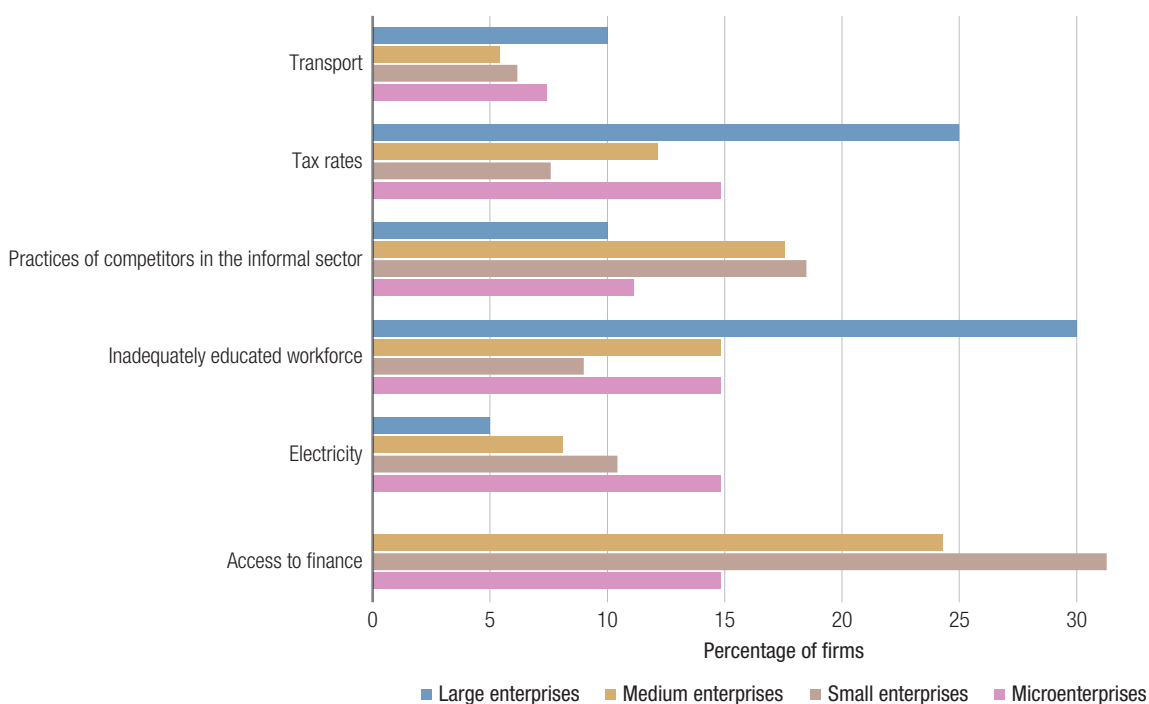
Business environment constraints identified by firms as greatest



Source: UNCTAD, based on World Bank (2018a).

Figure 46

Top business constraints identified by firms, by firm size



Source: UNCTAD based on World Bank (2018a).

Note: Number of firms: microenterprises (27), small enterprises (211), medium enterprises (74) and large enterprises (20).

of final value added, as most SMEs only supply raw materials or primary services. In addition, the authors identified a lack of information on business demands of large firms to fully engage in supply chains. Here, the Government could be more engaged to facilitate better linkages between SMEs and large firms. For instance, the Lao Trade Portal is an important source of market intelligence and information for importers and exporters. Enhancing business partnerships in the form of joint ventures and business affiliation can promote technological process and skills transfer.

Based on the strategic sectors, it is impossible to directly support all SMEs. The approach could be a “picking winners” based policy targeting of specific groups of SMEs that have strong intra-production and inter-production linkages. The value chain and product space diagnostic provided in section 4.1.8, provides a first hint on potential markets with strong linkages (Vidavong et al., 2017). However, some business constraints that are faced by firms across sectors, i.e. access to finance and inadequately educated workforce should be a priority area for increasing competitiveness.

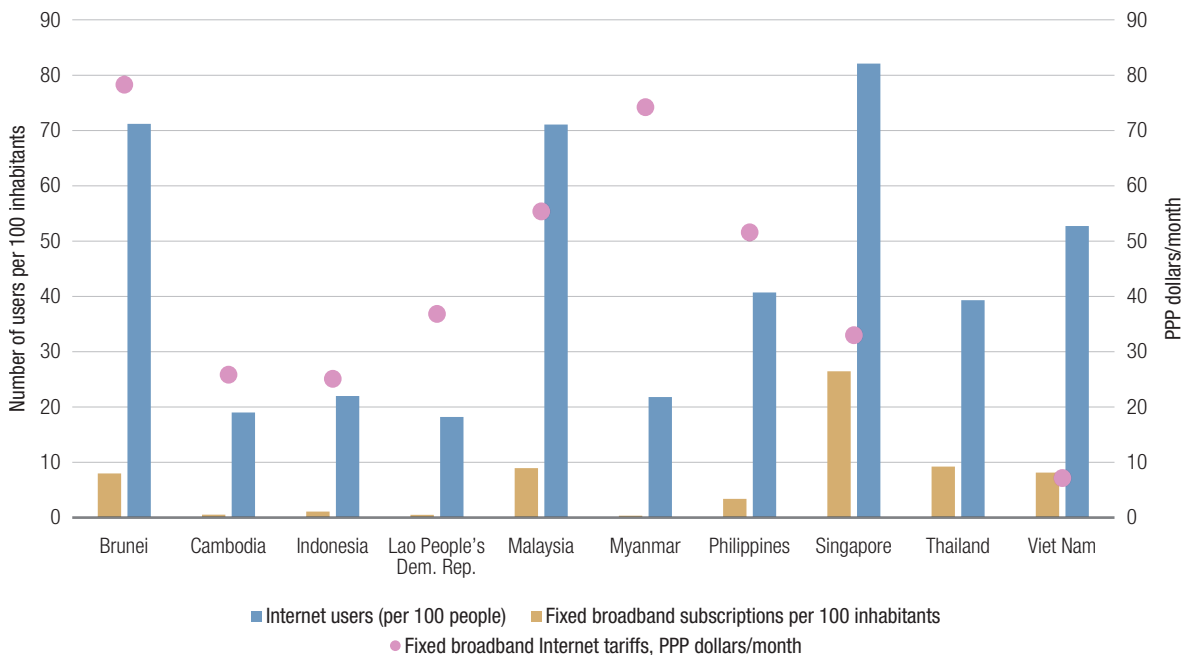
5.1.1. Servicification and the digital economy

Although services have been growing in the past, the sector’s contribution is still insufficient to support export diversification.

ICTs remain underdeveloped: the ICT Development Index stood at 139th of 176 countries in 2017 which is the poorest value compared to ASEAN countries. The development of broadband Internet network is still low as only few large State-owned enterprises dominate the domestic market. Due to reduced competition, Internet service charges in the Lao People’s Democratic Republic are more costly than in other developing countries such as Cambodia, Indonesia and Viet Nam (see Figure 47; Sayavong, 2019). The penetration of broadband and Internet users is lowest in the Lao People’s Democratic Republic compared to the peer group. As shown in Figure 47, only 18 per cent of inhabitants used Internet in 2016, based on WITS e-commerce indicators. In contrast, as the ICT industry (computers and equipment) has grown, the percentage of households possessing a computer has jumped from 10 per cent in 2015 to 25 per cent in 2018.

Digital technologies can play a key role in increasing productivity by providing necessary and potentially lucrative digital services (e.g. financial services), knowledge, skills and ICTs. Research (e.g. UNCTAD’s LDC Report 2020) has found that greater access to digital services is even more beneficial to females due to their role as child caretakers in the household. Digital technologies utilized especially in agriculture production

Figure 47
Fixed broadband and Internet users and Internet tariffs, 2016



Source: UNCTAD, based on WITS e-commerce indicators.

potentially reduce transaction costs and close the information gap that female farmers face.

While ICT services are considered as an important tool to compensate the gender gap in access to information, women also have lower access to ICT infrastructure in the first place what prevents them from benefiting equally. According to the *Mobile Gender Gap Report 2020* (GSMA, 2020), only 54 per cent (2019) of women in low- and middle-income countries use mobile Internet. Compared to men, women are 8 per cent less likely to own a mobile phone, and 20 per cent less likely to use Internet on a mobile. Driven mainly by improvements in South Asia the gap went down from 27 per cent in 2017. However, the gap is still largest in South Asia, where females are 51 per cent less likely to use mobile Internet (GSMA, 2020). The GSMA (2020) report finds that closing the gap in mobile Internet could deliver an additional \$700 billion GDP growth globally, primarily through benefits from providing necessary information and support in work and study. The main barriers to use mobile Internet are lack of literacy, digital skills and affordability, and for the ownership of a mobile, the constraints are affordability, literacy and skills, safety and security concerns, and non-approval by family, according to the GSMA Intelligence Consumer Service.

The FAO in cooperation with the ITU have developed an E-Agriculture Strategy Guide, piloted in Asia and the Pacific countries, to assist countries in developing ICTs to improve productivity and food security. The agriculture sector is increasingly knowledge intensive including the availability of information (prices, weather forecasts and supply chain networks) at the right time and in the right format (FAO and ITU, 2016). The role of ICTs in agriculture has multiple dimensions including regulatory policies, environmentally sustainable farming practices, financial inclusion, and gender equality. Last but not least, data and information on the current level of literacy, access and usage of ICTs by farmers based on gender are crucial in order to widen the reach of ICTs to youth and gender and to improve the infrastructure of digital services.

5.1.2. Resource governance management to boost domestic resource mobilization

Resource governance management

While the development/investment in the hydropower and mining sectors is growing fast, one of the key challenges is that the Government's capacity to manage these two sectors are not developing at the

same pace; there is a real need for stronger sector governance.⁹⁷

In 2016, the mining sector generated \$16 million including concession fees, royalties, taxes and dividends. According to the Resource Governance Index on the mining sector, the Lao People's Democratic Republic scores 38 of 100 points, where a high score indicates a good performance in resource governance. It ranks sixty-fourth out of 89 countries of poor resource management.⁹⁸ Regarding the different categories the best scores indicating relatively better performance are achieved in local impact, political stability and government effectiveness. Weaknesses are largest in revenue management (NGRI, 2017). Moreover, there is a large gap between law and practice. Despite a relatively strong legal framework (good rules for environmental impact assessments, environmental mitigation plans and compliance), the implementation of these rules falls behind.⁹⁹

It comes down to managing resources effectively so as to protect local livelihoods. In a case study of gold mining in Phu-Hae, Keovilignavong (2019)¹⁰⁰ finds that local agencies do not have the capacity to exercise legal power partly as a result of weak governance mechanisms. It is necessary to conduct a sensitive evaluation of the legal framework to identify both possibilities and limitations of natural resource exploitation. Some regional studies have noted that sustainable resource management is often challenged by large-scale mining projects, land concessions and multinational firm investments (UNDP and United Nations Environment Programme, 2018).

Policy framework to address financial leakages

To date, the lack of specific legal and regulatory framework for trade mispricing or transfer pricing makes the Lao People's Democratic Republic highly prone to illicit outflow of capital through trade mispricing. Tax laws should include this and exploring the United Nations or OECD transfer pricing guidelines

⁹⁷ See <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/590081554270965788/lao-peoples-democratic-republic-technical-assistance-for-capacity-building-in-the-hydropower-and-mining-sectors-project>.

⁹⁸ The last (eighty-ninth) rank is Eritrea and the first rank is Norway.

⁹⁹ See <https://resourcegovernanceindex.org/country-profiles/LAO/mining>.

¹⁰⁰ Mining governance dilemma and impacts: A case of gold mining in Phu-Hae, Lao People's Democratic Republic.

could be a starting point. Customs authorities must also be strengthened to understanding commodity trading practices and to access required information to obtain pricing transparency. As stated in chapter 4, Norasingh, Musselli and Bürgi Bonanomi (2020)¹⁰¹ discuss various policy recommendations, including improving global AML/CFT compliance.

5.2. Addressing external vulnerabilities

Recognizing the importance of mitigating and adapting to environmental risks, the Government has made significant progress in drawing basic legislation and developing a policy framework that favours sustainable development and environmental protection. However, the lack of human resources, skilled personnel, and funding makes environment management and the enforcement of regulation extremely challenging. The Government currently relies entirely on international funding and donor contributions to improve environmental protection (OECD, 2017). As outlined in section 4.2, the Lao People's Democratic Republic received considerable assistance from development partners. Given that ODA has declined over the preceding decade to only 3.3 per cent of GDP in 2018 (see section 4.4), there could be room to engage more resolutely with bilateral development partners on financing climate change mitigation and adaptation, and to access more grants and investment financing on more concessional terms. In 2018, more than 50 per cent of all climate-related development finance was funded by multilateral development banks, 37 per cent of which was in the form of debt instruments (OECD DAC finance statistics).

The Lao People's Democratic Republic has ratified and engaged in most of the major international conventions related to the environment.¹⁰² It has also been engaging in regional efforts to address environmental issues through ASEAN¹⁰³ and other

initiatives with neighbouring countries sharing environmental challenges that require regional cooperation.¹⁰⁴

The Government recognizes the need to mainstream environmental and sustainability considerations into socioeconomic development planning. The 2016–2020 National Socioeconomic Development Plan emphasizes the need to address environmental considerations in its strategy to graduate from LDCs. It includes, among its priorities, improving environmental protection, addressing climate change and reducing the impacts of natural shocks on the economy and people (OECD, 2017). At the centre of the Government's efforts to mainstream environmental concerns is the National Strategy on Climate Change (NSCC) approved in 2010.

The Government has also developed disaster risk financing mechanisms.¹⁰⁵ At the time of writing, a climate change and disaster management law was currently under preparation to establish proper mechanisms and measures to cope with and reduce the impact of natural disasters and to manage before, during and after disasters, while building the resilience of vulnerable communities (IFRC, 2018).

Efforts have also been put into better managing the environment impacts of investment through improving the policy framework for environment and social safeguards. Large investment projects which are likely to have substantial environmental impacts – such as large-scale hydropower or mining projects – require Environmental Impact Assessment (EIA), whereas smaller investment projects require initial environmental examination (IEE). Irrespective of project type, developers are required to obtain the environmental compliance certificate before the project can be initiated. Projects affecting forests are now required to pay for natural resource management. For example, hydropower projects are required to contribute 1 per cent of their annual sales. The Government has also established the

¹⁰¹ The regulation of commodity trade mispricing: The case of the Lao People's Democratic Republic, Working Paper No. R4D-IFF-WP06-2019.

¹⁰² Including the United Nations Framework Convention on Climate Change (UNFCCC), the Convention on Biological Diversity, the United Nations Convention on Combating Desertification, the Montreal Protocol on Substances that deplete the Ozone layer, the Convention on International Trade in Endangered Species of Fauna and Flora, the Stockholm Convention on Persistent Organic Pollutants (POPs), the Kyoto Protocol and the Paris Agreement.

¹⁰³ ASEAN cooperation on environment is led by the ASEAN Ministers responsible for the environment. It focuses on two interrelated issues: environment and transboundary haze pollution. The latter is specifically governed by the ASEAN Agreement on Transboundary Haze Pollution.

¹⁰⁴ For example, the Lao People's Democratic Republic – together with Cambodia, Thailand and Viet Nam – is part of the Mekong River Commission (MRC) that was established in 1995 to promote regional dialogue on issues relating to the management of the Mekong River. China and Myanmar, the upstream countries of the Mekong River Basin, are Dialogue Partners of the MRC.

¹⁰⁵ The State Reserve Fund, established in 2013 under the Ministry of Finance, includes 3 per cent of the annual expenditure budget. The Social Welfare Fund, established in 2015 under the Ministry of Social Welfare, covers disaster emergency relief. See *Global Facility for Disaster Reduction and Recovery (GFDRR)*.

Forest Resource Development Fund funded from annual budget and other various sources.¹⁰⁶

Unfortunately, it appears that inadequate environmental governance continues to hamper the implementation of environmental safeguards. The responsibility of properly monitoring and reporting progress on environmental management plans is often left to project developers. The lack of national institutional capacity to plan, regulate and monitor implementation of EIA legislation is a major impediment to its enactment (OECD, 2017; Campbell et al., 2015; GIZ and BGR, 2015; United Nations, 2015).

Multi-faceted vulnerabilities response:
Fostering agriculture resilience and
environmental sustainability

Regarding the vulnerability of agricultural production and infrastructure to natural disasters, and low agriculture productivity increases, sectoral development programmes have the potential to enhance productivity, and minimize the effects of natural disasters on sectoral investments. Moreover, an inclusion of the private sector in responding to natural disasters and in financing climate change mitigation and adaptation could benefit longer term sustainable sectoral development.

5.3. Conclusions

The findings of the vulnerability profile reveal that the COVID-19 pandemic has highlighted the importance of risk management and resilience building as critical areas for policy attention in the Lao People's Democratic Republic. The economic shock due to the pandemic highlights that the lack of long-term vision, such as ex ante investment to enhance preparedness, hurts short-term growth and could imperil the transition to LDC graduation. It also underscores that inherent climate risks are a critical challenge for the Lao People's Democratic Republic and the Mekong region in terms of the impacts of extreme weather events on livelihoods, stability of food systems, and preservation of physical assets, infrastructure services, and natural capital which could derail progress towards sustainable development.

It is also evident that economic activity in leading sectors such as mining and hydropower generation,

and also in the implementation of agricultural concessions, is exacerbating environmental vulnerabilities. This is particularly apparent in terms of its effects on natural capital and disruptions to the livelihoods of affected populations. The latter is a clear sign that the natural resources-based development path is showing signs of strain and long-term diminishing returns. The existing development model needs to change, as it is not delivering on the country's potential and, through strategic policy innovation and management, there may be room to mitigate the negative impact of environmental vulnerabilities and to better leverage potential rewards.

The vulnerability profile reveals that currently, too many leakages exist associated with various economic and human assets vulnerabilities and the natural resources-based development level of contributions to the mobilisation of development finance generally.

The benefits that the Lao People's Democratic Republic has derived from its natural resource-based development strategy are undisputed and pre-qualification for LDC graduation is testimony to that. Yet, the successes registered by the Lao People's Democratic Republic in attracting FDI and propelling exports are not translating into commensurate dividends in terms of fiscal revenues, jobs growth, economy-wide productivity improvements and structural transformation – i.e. it has too weak an impact on what matters most to the Lao citizen. The vulnerability profile also underscores the poor economic linkages and value addition potential that exists between the mining and hydropower generation sectors with the wider economy. This limits the natural resources-based development strategy's contribution to economic diversification and may serve to reinforce existing structural impediments instead of helping to address them. Notwithstanding, the Lao People's Democratic Republic has achieved some notable progress on economic diversification, but the vulnerability profile shows that lacunae in productive capacities are a constraint that potentially fuels inequality and poverty. Specifically, human capital is at the point of imposing a severe and binding constraint on the country's development prospects. Recent growth in the past five years was mainly realized by new products of “electrical machinery and equipment”, which promise potential for future growth and further diversification into new products. Although the economic gain from technology-intensive products is higher than from labour-intensive goods, employment-rich sectors remain the backbone of

¹⁰⁶ Such as contributions from timber revenues, the fees obtained for forest, forest land and forest resources, a share of the sale of illegal timber seized by the Department of Forest Inspection, and contributions from businesses and organizations engaged in forestry, forest products and wildlife.

inclusive growth of the Lao People's Democratic Republic. Widening inequalities have partly been a result of a rapid expansion of capital-intensive sectors with few job creations. The vulnerability profiles identified diversification potential in the agriculture sector, most importantly into food-processing products and packaging. Apart from export growth at the extensive margin, i.e. adding new products to the export basket and export growth at the intensive margin for some of the established export goods is equally important. Boosting competitiveness of the country's economy to increase productive capacity (see proposed priority 1) is likely to be beneficial for all sectors.

The relative successes of the natural resources-based development strategy of the Lao People's Democratic Republic have come at a high cost in terms of debt distress and macroeconomic instability due to a heavy reliance on attracting labour-intensive manufacturing FDI and insufficient policy focus on building productive capacities as a pathway to structural transformation, greater resilience and sustainable development. There are also attendant risks related to regional integration, whereby regional and global networks assign production according to capital endowment. In the context of the country's current weak human capital profile, there remains a risk that the economy will be trapped in low skill and low value labour-intensive segments of the production chain.

The VP findings also suggest a probable deficit in institutional capacity in the face of the manifest need for the Lao People's Democratic Republic to simultaneously anticipate, manage and mitigate multiple vulnerabilities, and effectively secure the rewards from the natural resources-based development strategy. Even under the best circumstances, natural resources-based development strategies are fraught with pitfalls, including risks of Dutch disease and IFFs. The nature of the environmental vulnerabilities of the Lao People's Democratic Republic and their potential contribution to geopolitical tensions require additional institutional capacity and coordination capabilities. Despite improvements in disaster risk management, it is crucial to strengthen institutional capacity and resources at the village and district level as local communities are at the forefront of disaster response.

The natural resources-based development path remains an important source of export earnings and an input source to many manufactures industries. However, what is needed is a fresh, focused

approach to natural resources-based development that also leverages industrial policy. Three critical fault lines that will require particular attention for graduation with momentum and can be identified as priority areas for attention are outlined below.

Proposed priority 1: CLOSING THE GAP IN PRODUCTIVE CAPACITIES

Priority 1 (a) INFRASTRUCTURE

Infrastructure continues to be a key impediment to the growth of the Lao People's Democratic Republic, and the country registers logistics costs up to double those of other ASEAN countries and the lowest ICT availability and penetration in South-East Asia. The Lao People's Democratic Republic needs to unlock the rewards from development efforts linked to boosting domestic productive activities, including through regional and global integration more effectively. Infrastructure development, as in other developing country contexts, is dependent on public participation and drives up the country's foreign debt burden. More needs to be done to foster an environment, in which cost sharing and public-private partnerships in greening and climate proofing infrastructure is enabled. In addition, more effective coordination of infrastructure investments is required, so as not to destabilize public finances.

The need for strategic public-private sector partnerships implies heavy investments in public institutional capacity. Suboptimal macroeconomic and infrastructure project management, including as evidenced by the pace and level of rapid environmental degradation from infrastructure development revealed by the vulnerability profile, signals critical weaknesses. The Government also had limited fiscal space to respond to the impacts of natural disasters suffered in 2018 and 2019, and the COVID-19 crisis. The lack of relevant human resources and skilled personnel in the Lao People's Democratic Republic makes environmental management and the enforcement of related regulation extremely challenging.

Priority 1 (b) HUMAN CAPITAL

Four market opportunities from regional integration can potentially be targeted: export growth, import localization, contract manufacturing and domestic demand. For the latter, the Lao People's Democratic Republic has the least immediate opportunities, as the economy is limited in attracting market seeking FDI by its small market (smallest population in the region) and current levels of disposable income. It is notable

that unlocking all four market opportunities and maximizing the gains from them require human capital. Crucially, in the context of regional and global integration, and global technological advancements, the thresholds for tapping and sustaining gains from these opportunities is rising. In this context, FDI-led development can quickly transform into a handicap because economies are susceptible to being locked in to roles as suppliers of cheap labour. Accordingly, investments in human capital are critical for endogenizing growth drivers and planting the seeds for resilience and sustainability. Human capital is currently a major challenge for the Lao People's Democratic Republic, because returns from infrastructure development could dissipate if human capital remains weak. It is vital that investments in human capital are understood as a structural element of developing and operationalizing the sustainable development potential of FDI. Although the vulnerability profile discusses the country's product space and potential for diversification and highlights products that have high economic gains for consideration, following through on this potential is contingent on the availability of improved human capital. It will be vital for the Lao People's Democratic Republic to make a concerted effort to lay the foundations for increasing economic complexity and diversification through investments in human capital at all levels of the education system. The potential benefits from ASEAN/RCEP will otherwise remain unfulfilled. Developing human capital represents the most effective gateway to shared prosperity, which is the end goal of the development effort.

As previously noted, regional proximity (geographical and through trade agreements) to major Asian economies represents both an opportunity and a challenge. In the context of human capital development, it could diminish returns to investments in education. For example, an abundance of low-skill labour creates a degree of lock-in, given shortages of unskilled labour in neighbouring Thailand and Viet Nam. Turning that around will require strategic focus and leadership from the Government, once again signalling another area of governance where investments in institutional capacity will play a critical role. The benefits of investment in human capital are typically slow to realize, but the Lao People's Democratic Republic will need to consider measures that can also deliver benefits in the short term. For example, the Government could play a significant role in influencing cultural attitudes to lifelong learning and training, and the prestige society accords to different jobs and skill sets, and nudging behaviour on issues of work ethic.

Proposed priority 2: MOBILIZING CAPITAL

The Lao People's Democratic Republic must secure resources to finance development. Securing a greater share of gains from the natural resources-based development model will be part of a more effective effort in domestic resource mobilization and implies actions at the level of public sector financial management and the strategic review and alignment of fiscal incentives across the board. It also encompasses broader measures in the sphere of industrial policy aimed at broadening the tax base. This underpins the role of Government in investing the gains from the natural resources-based development strategy back into the domestic economy because it is critical to lay the foundations for an economy that is not only growing well, but also delivers opportunities for creating wealth for all citizens. The latter represents an expanding tax base. Such measures will be important not only for preserving fiscal health, but also for creating the necessary fiscal space for the Lao People's Democratic Republic to pursue social policies linked to public services delivery.

This priority area also requires a complementary focus on building public institutional capacities, as the peculiarities of commodity-dependant economies impose the need for a critical degree of sophistication across several areas of national governance and macroeconomic management. Capabilities in public finance, taxation and IFFs management are important as natural resource sectors are prone to significant financial leakages. This will in part, for example, require the Lao People's Democratic Republic to place emphasis on avoiding race-to-bottom investment promotion policies that confer overly generous incentives to the private sector in the context of infrastructure concessions and sectoral development policies. Such policies can often present themselves as the "easy road" in the face of regional competition and weak human capital.

The three critical fault lines discussed are interdependent and underscore the interdependence embodied by the Sustainable Development Goals. Failure to make progress on domestic resource mobilisation will severely deter improvements in human capital and infrastructure development as both areas require significant and sustained injections of development finance. Similarly, failure to advance on building the relevant public institutional capacity will lead to ineffective implementation. Finally, in annex I, the potential building blocks and key elements of a graduation with momentum strategy for the Lao People's Democratic Republic are outlined.



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Annex I

Key elements of a graduation with momentum strategy for the Lao People's Democratic Republic

Complementing the Vulnerability Profile, this annex outlines key strategic considerations for the graduation of the Lao People's Democratic Republic with momentum. This is in line with the mandate enshrined in the General Assembly resolutions 59/209 and 67/221, which "(R)equests the entities of the United Nations system to provide targeted assistance, including capacity-building, to graduating countries... in support of the formulation and implementation of the national transition strategy" (General Assembly resolution 67/221, paragraph 13). The overarching objectives underpinning this plan would be to effectively use the time window until graduation (plus any relevant transition period) in the key priority areas: (a) promoting diversification and building productive capacities (infrastructure and human capital) and (b) mobilizing capital.

Due to recent problems such as the high budget deficit, economic contraction and rising unemployment, caused by COVID-19, it would be advisable that the graduation of the Lao People's Democratic Republic from the LDC category be accompanied by a longer transition period. The duration of the transition period will aid the country's potential for graduation with momentum. An economic recovery from something on the scale of COVID-19, under normal circumstances, might take at least two to three years. However, given the additional challenges the Lao People's Democratic Republic faces, such as a serious budget deficit, high levels of external debt and low foreign reserves, a transition period of at least five years could be warranted.

(a) Promoting diversification and building productive capacities

1. Reaping the benefits of RCEP and strengthen regional integration within ASEAN. The RCEP provides new possibilities to build new/foster existing value chains.
2. Potential export losses from the loss of preferential market access and duty-free, quota-free (DFQF) can be compensated by benefits from export diversification and greater regional integration. Losses are mainly expected in textile exports to the European Union. but it could potentially be compensated by higher trade with RCEP countries. For this, high NTM compliance costs must be addressed (the highest compliance costs on imports of the Lao People's Democratic Republic are observed in the textile and apparel sector). In addition, it would be vital to engage the European Union in order to assess prospects for GSP/GSP+ preferential treatment (considering that GSP schemes will be revised in 2023) and explore the possibility of obtaining some flexibilities in relation to rules of origin.
3. Finalize and implement the third Diagnostic Trade Integration Study and use the institutional/financial support of the Enhanced Integrated Framework to improve overall business environment and identify key industries with strong linkages to the local economy.
4. Enhance the mobilization of Aid for Trade and socially/environmentally conscious investors to promote diversification as well as more sustainable practices in key value chain.
5. UNCTAD can be a crucial partner in identifying key value chains and the linkages to inclusive growth, building on recent projects in the maize value chain and its expertise in value chain diagnostics and trade mapping.
6. Useful insights on the consequences of graduation from the LDC category, as well as on broader elements of the industrial policy framework, could also be drawn from ad hoc consultations with business associations, trade unions and private sector actors (including lead firms in key GVCs).
7. It will be crucial to provide extensive market information to assist enterprises to adapt to changes in trade policies, including the LDC graduation, and to reap the benefits from trade deals.

Building productive capacities across sectors requires investments in human capital, and regional and ICT infrastructure to support productivity and competitiveness.

(b) Mobilizing capital

8. Capabilities in public finance, taxation and IFFs management are important because natural resource-sectors are prone to significant financial leakages. This will in part, for example, require the Lao People's Democratic Republic to place emphasis on avoiding race-to-bottom investment promotion policies.
9. Engage with multilateral and bilateral partners to access grants and loans at more concessional terms.
10. Since 2013/14, total ODA directed to the social sectors has registered uninterrupted and significant declines due to the fall in grants. The country urgently needs to reap benefits from current access to ODA and multilateral financing support at concessional terms to finance investment in human capital, and to reduce the burden of debt servicing as part of an extended transition period.
11. Encourage regional and multilateral cooperation to improve measurement of disaster risks to prepare ex-ante for expected escalating costs from natural disasters in the future. The country should explore novel financing solutions for sustainable development (e.g. green bonds, debt-for-nature swaps) and access to climate funds (e.g. Green Climate Fund).
12. Need for an improved interministerial coordination to address multi-faceted vulnerabilities, maybe managed by the Office of the President, including on providing the right communication signals to foreign investors and development partners.

As “the focal point in the United Nations for the integrated treatment of trade and development and interrelated issues in the areas of finance, technology, investment, and sustainable development” (paragraph 12 of Nairobi Maafikiano), UNCTAD stands ready – in coordination with other relevant entities of the United Nations system – to support the Government of the Lao People's Democratic Republic in its efforts to deliver graduation with momentum and develop an effective smooth transition strategy.

Annex II

Additional figures and tables

Table A.1

Domestic and foreign investment, by sector, 2019

(Dollars)

	Local share		Foreign share	Total investment
	Private	Government	Foreign share	
Electricity Generation	4 330 731 959	483 305 000	1 217 402 229	6 031 439 188
Mining	60 483 221	2 000 000	1 005 908 549	1 068 391 770
Public Health	665 000 000			665 000 000
Services	41 226 625		44 769 680	85 996 305
Agriculture	2 450 000		47 550 000	50 000 000
Telecom	45 000 000			45 000 000
Construction	9 999 999			9 999 999
Others				7 528 953
Consultancies	13 953		4 500 000	4 513 953
Education	836 400		1 178 600	2 015 000
Trading	510 000		490 000	1 000 000
TOTAL	5 156 252 158	485 305 000	2 321 799 057	7 963 356 215

Table A.2

Identified new product potential with the closest “nearby” distance (and highest expected growth) to existing products, by industry

Industry	Product group	“nearby distance”	Global growth 5 Years
Electronics	Electrical transformers	3.5	2.4 per cent
	Semiconductor devices	3.5	5.7 per cent
	Electric apparatus for <1k volts	3	14.3 per cent
	Electronic printed circuits	3	9 per cent
Machinery	Cash registers, calculators	4.5	19.2 per cent
	Refrigerators, freezers	3.5	9.3 per cent
Agriculture products	Food preparations	4.5	26.2 per cent
	Packing boxes	4.5	26.6 per cent
	Animal feed	4.5	17.4 per cent
	Bakery products	4.5	17.7 per cent

Source: <https://atlas.cid.harvard.edu/countries/123/growth-opportunities>.

Note: This is only a selection. The full table of new product opportunities is available at <https://atlas.cid.harvard.edu/countries/123/product-table>.

Annex III

Definition of product space and economic complexity

<p>Economic Complexity</p>	<p>A measure of the knowledge in a society as expressed in the products it makes. The economic complexity of a country is calculated based on the diversity of exports a country produces and their ubiquity or the number of the countries able to produce them (and those countries' complexity).</p> <p>Countries that are able to sustain a diverse range of productive know-how, including sophisticated, unique know-how, are found to be able to produce a wide diversity of goods, including complex products that few other countries can make.</p>
<p>Economic Complexity Index (ECI)</p>	<p>A rank of countries based on how diversified and complex their export basket is. Countries that are home to a great diversity of productive know-how, particularly complex specialized know-how, are able to produce a great diversity of sophisticated products.</p> <p>The complexity of a country's exports is found to highly predict current income levels or, where complexity exceeds expectations for a country's income level, the country is predicted to experience more rapid growth in the future. ECI therefore provides a useful measure of economic development.</p>
<p>Opportunity Outlook Gain</p>	<p>Measures how much a location could benefit in opening future diversification opportunities by developing a particular product. Opportunity outlook gain quantifies how a new product can open up links to more, and more complex, products. Opportunity outlook gain classifies the strategic value of a product based on the new paths to diversification in more complex sectors that it opens up.</p> <p>Opportunity outlook gain accounts for the complexity of the products not being produced in a location and the distance or how close to existing capabilities that new product is.</p>
<p>Product Space</p>	<p>A visualization that depicts the connectedness between products based on the similarities of the know-how required to produce them. The product space visualizes the paths that countries can take to diversify. Products are linked by their proximity to each other, based on the probability of co-export of both of the two products.</p> <p>The product space details the connectedness of nearly 900 products, in colour-coded sectors, based on real world data on the experience of countries' diversification over the past 50 years. Mapping is possible of a country's location in the product space from its export basket to understand what they are able to make, what products are nearby (at a short distance) that depend on similar know-how to that which currently exists, and to define paths to industrial diversification. By using real export data over time, the shape of the product space teaches how diversification works in practice: countries move from things they know how to do, to things that are nearby or related, or what they call the adjacent possible. The irregularity of the space means that diversification occurs preferentially, where countries in the dense middle of the product space have many nearby opportunities for diversification, as compared to countries at the periphery. Products at the periphery require know-how that is less readily redeployed into many new industries, in cultivating coffee or extracting oil from the ground, while adding know-how to produce men's shirts may open opportunities in several other textiles (women's trousers), but shows little relatedness to heavy machinery or chemical products, as fewer countries produce men's shirts and car parts. The product space allows predicting of the evolution of a country's industry, along with recommendations of those products that offer: greater economic complexity (higher wage levels), shorter distance (more existing know-how, reducing risk) and high opportunity outlook gain (opening more adjacent products for continued diversification opportunities).</p>

