Vulnerability Profile of Lao PDR

January 2021

Updated November 2020

Prepared by UNCTAD in anticipation of the 2021 review by the CDP of the list of Least Developed Countries (LDCs)
Explanatory Notes

The $ sign refers to the United States dollar.

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

Abbreviations

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASEAN</td>
<td>Association of Southeast Asian Nations</td>
</tr>
<tr>
<td>CDP</td>
<td>Committee for Development Policy</td>
</tr>
<tr>
<td>DFQF</td>
<td>duty-free, quota-free</td>
</tr>
<tr>
<td>FDI</td>
<td>foreign direct investment</td>
</tr>
<tr>
<td>GDP</td>
<td>gross domestic product</td>
</tr>
<tr>
<td>GMS</td>
<td>Greater Mekong Subregion</td>
</tr>
<tr>
<td>GNI</td>
<td>gross national income</td>
</tr>
<tr>
<td>GVC</td>
<td>global value chain</td>
</tr>
<tr>
<td>HAI</td>
<td>Human Assets Index</td>
</tr>
<tr>
<td>LDC</td>
<td>least developed country</td>
</tr>
<tr>
<td>PCI</td>
<td>Productive Capacities Index</td>
</tr>
<tr>
<td>RCEP</td>
<td>Regional Comprehensive Economic Partnership</td>
</tr>
<tr>
<td>SEZ</td>
<td>Special Economic Zone</td>
</tr>
<tr>
<td>SMEs</td>
<td>small and medium-sized enterprises</td>
</tr>
</tbody>
</table>
Contents

Executive summary ............................................................................................................. 6
1. Introduction ..................................................................................................................... 7
2. Situation analysis: economic policy and performance ................................................... 9
   2.1. Regional dynamics and geopolitical risks ................................................................. 11
   2.2. Economic performance and structure in the regional context .................................... 12
   2.3. Structural transformation ......................................................................................... 13
   2.4. Assessing the state of productive capacities in Lao PDR ........................................... 15
   2.5. Regional trade and integration ............................................................................... 19
   2.6. A milestone in regional integration – the RCEP .................................................... 20
   2.7. COVID-19 related economic challenges .................................................................. 22
3. Identifying areas of vulnerability: Progress under graduation criteria ............................. 28
   3.1. Gross National Income (GNI) per capita ................................................................... 28
   3.2. People: Human Assets Index (HAI) ........................................................................... 30
       3.2.1. Human capital development ............................................................................. 32
       3.2.2. Social vulnerabilities ....................................................................................... 34
   3.3. Prosperity: Economic and Environmental Vulnerability Index (EVI) ....................... 36
       3.3.1. Victims of natural disasters ............................................................................ 39
       3.3.2. Remoteness .................................................................................................... 40
       3.3.3. Instability of exports from market concentration ............................................ 40
       3.3.4. Additional economic vulnerabilities ................................................................. 41
       3.3.5. Investments have been inefficient at boosting economic growth ...................... 44
   3.4. Planet and Environment .......................................................................................... 46
4. Evaluation of the consequences of identified vulnerabilities ........................................... 49
   4.1. Harnessing the nexus between structural transformation and export diversification ... 49
       4.1.1. Poor economic linkages and limited GVC participation ..................................... 49
       4.1.2. Mining and quarrying sector .......................................................................... 51
       4.1.3. Energy generation/electricity, gas and water supply ......................................... 51
       4.1.4. Construction sector ........................................................................................ 52
       4.1.5. Agricultural sector .......................................................................................... 52
       4.1.6. Manufacturing sector ...................................................................................... 54
       4.1.7. Services sector ................................................................................................ 56
       4.1.8. Product space and potential for diversification .................................................. 56
       4.1.9. Potential trade losses from graduation .............................................................. 60
   4.2. Consequences for social development and environmental sustainability ............... 60
       4.2.1. Impact of FDI on growth and poverty ............................................................... 60
       4.2.2. Impact of mining and electricity generation on environmental sustainability and agriculture ............................................................. 60
   4.3. The consequences of climate change and natural disasters ....................................... 61
5. Building resilience and policy recommendations ................................................. 67

5.1. Promoting enterprise development and strengthen business linkages .......................... 67
5.1.1. Servicification and the digital economy ......................................................... 70
5.1.2. Resource Governance Management to boost domestic resource mobilization .......... 71
5.2. Addressing external vulnerabilities ....................................................................... 71
5.3. Conclusions .......................................................................................................... 73

Bibliography ............................................................................................................... 76
Annex I: Key elements of a Graduation with Momentum Strategy for Lao PDR .................. 81
Annex II: Additional figures and tables ....................................................................... 83
Annex III: Definition of Product Space and Economic Complexity ............................... 84

Figures

Figure 1: The conceptual framework of the vulnerability profile ........................................ 8
Figure 2 Lao PDR: GDP and GDP per capita, annual growth rate, 1992 - 2019 ................. 10
Figure 3 Lao PDR: exports of goods by main product in $ billion and total exports of goods as per cent of GDP, 1995 - 2019 ........ 10
Figure 4 Selected indicators of competitiveness ............................................................ 12
Figure 5 Value Added by sector (per cent of GDP) ........................................................ 13
Figure 6 Gross value added per worker growth (annual per cent) ....................................... 14
Figure 7 Sectoral Employment (per cent) ....................................................................... 14
Figure 8 Labour productivity (GVA per worker) and share (per cent), 2018 ....................... 15
Figure 9 Comparison of regional productive capacity index (PCI) scores ......................... 16
Figure 10 Productive capacity index for Lao PDR and benchmarks (2000-2018) ............. 16
Figure 11 Productive capacities of Lao PDR, LDCs and other developing countries (ODCs) in 2018 .................................................. 18
Figure 12 A comparison of export value of garment sector between 2019 and 2020 .......... 22
Figure 13 Lao Airline’s Monthly Passengers: Comparing same months in 2019 and 2020 .... 23
Figure 14 Real GDP growth, Lao PDR and developing economies, 2010 – 2021. Projected values for 2020 and 2021 ............... 24
Figure 15 Economic growth (2015-2020) ..................................................................... 25
Figure 16 Sectoral contribution to economic growth (2016-2020) .................................... 25
Figure 17 A comparison of fiscal revenue for 9 months between 2019 -2020 (billion Kip) ....... 26
Figure 18 Lao PDR: distance from the graduation threshold under the per capita income criterion (based on GNI per capita) ...... 28
Figure 19: The trend in Gini index in Lao PDR .............................................................. 29
Figure 20 Lao PDR: distance from the graduation threshold under the human assets criterion (based on Human Assets Index) .... 30
Figure 21 Lao PDR: Composition of Human Assets Index (EVI), 2012-2020 .................. 31
Figure 22 Literacy rate, by gender, 2005 and 2015 (per cent) ........................................... 32
Figure 23 Gross-enrolment-ratio-upper-secondary, 2018, by province .............................. 35
Figure 24 Structure of employment ................................................................................ 36
Figure 25: Lao PDR: Economic and Environmental Vulnerability Criterion (distance from the graduation threshold) ............ 37
Figure 26: Lao PDR: Composition of Economic and Environmental Vulnerability Index (EVI), 2012-2020 .............................. 38
Figure 27 Number of natural disasters, by type and period ............................................. 39
Executive summary

This report presents the Vulnerability Profile (VP) of the Lao People’s Democratic Republic (hereafter Lao PDR), as mandated by the 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 (to be held in early 2021) on the preparedness of Lao PDR for graduation from the least developed country (LDC) category.

In the 2018 review, Lao PDR met two of the three thresholds for graduation from the 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, Lao PDR was the 13th 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 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 Lao PDR. 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 to attracting foreign investment is failing to yield the benefits it once did. This means that Lao PDR policymakers 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. Contractary fiscal policy is expected to have a further negative effect on demand and indicators of social wellbeing. The report notes that Lao PDR’s real economic growth is expected to fall from 5.2 per cent in 2019 to 0.2 per cent in 2020. Without COVID-19, Lao PDR would have expected to sustain a GDP growth of 6.7 per cent for 2020 (IMF World Economic Outlook, 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 Lao PDR’s pre-qualification 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.

Lao PDR’s export product space 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.

Given the results of the VP assessment of key indicators, namely GNP per capita, Human Asset Index and Economic and Environmental Vulnerability Index, Lao PDR 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 Lao PDR’s graduation 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 Lao PDR face such as a serious budget deficit, high levels of external debt and low foreign reserves, a transition period of at least 5 years could be warranted.

It is recommended that Lao PDR 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 Lao PDR authorities.
1. Introduction

This report presents the Vulnerability Profile (VP) of the Lao People’s Democratic Republic (hereafter Lao PDR), as mandated by the 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)).

Lao PDR was first included in the United Nation’s list of least developed countries (LDCs) in 1971. In its 2018 review of the UN list of least developed countries (LDCs), Lao PDR was determined by the Committee for Development Policy (CDP) to be pre-eligible for graduation from the category. In the 2018 review, Lao PDR 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).

Table 1 Lao PDR’s pre-eligibility for graduation from LDC status (2018 review)

<table>
<thead>
<tr>
<th>Criterion</th>
<th>GNI per capita</th>
<th>Human Assets Index</th>
<th>Economic and Environmental Vulnerability Index*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lao PDR’s score ($) 1,996 (3-year average)</td>
<td>72.8 (70.7) *</td>
<td>33.7 (27.8) *</td>
<td></td>
</tr>
<tr>
<td>Lao PDR’s score (%) 162.4 per cent</td>
<td>110.3 per cent (107.2 per cent) *</td>
<td>95.9 per cent (115.1 per cent) *</td>
<td></td>
</tr>
</tbody>
</table>

Source: UNCTAD calculations based on CDP data.

Note:
* 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. Lao PDR’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). Lao PDR 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, Lao PDR would have met the EVI graduation threshold.

The country’s score for the third criterion, the Economic and Environmental Vulnerability Index (EVI), fell short of the graduation threshold. Should Lao PDR 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.

Lao PDR still faces various challenges and vulnerabilities that hinder its economic and social development. The aim of this vulnerability profile is to track Lao PDR’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: (i) situation analysis of the country; (ii) identification of vulnerabilities based on the five P’s of the SDGs, (iii) evaluation of effects of the vulnerabilities, and (iv) 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 assessment of Lao PDR’s vulnerability to certain shocks feature the 5 Ps of the UN Sustainable Development Goals Agenda: People, Planet, Prosperity, Peace, and Partnerships.
The rest of the report is organized as follows. Section 2 provides a situation analysis of Lao PDR’s path to graduation. It first provides a background to Lao PDR’s progress before delving into the regional dynamics and geopolitical issues the country faces. 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. Section 3 analyses areas of vulnerability including people, the economy and the environment. It begins with an analysis of Lao PDR’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. Section 4 analyses the impact of the identified vulnerabilities on Lao PDR’s prospects of building a resilient and sustainable economy. Finally, section 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 Lao PDR’s eligibility for graduation 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’s decision in 2021 to recommend or not recommend Lao PDR’s graduation from the LDC category.
2. Situation analysis: economic policy and performance

In 1986, the Lao PDR 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 the partial abolition of price controls\(^2\), the 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. Lao PDR 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 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). 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.

Lao PDR’s exports 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 mines\(^4\) 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).

---

\(^2\) Except in the case of basic services such as air transport, postal services, and telecommunications. See [http://factsanddetails.com/southeast-asia/Lao PDR/sub5_3d/entry-2988.html](http://factsanddetails.com/southeast-asia/Lao PDR/sub5_3d/entry-2988.html)

\(^3\) Excluding sectors such as military affairs, police, water, electricity, and postal services.

\(^4\) Lanexang Minerals and Phou Bia Mining Ltd, which started production in 2005 and 2008, respectively.

\(^5\) The Nam Theun 2 Hydro-power Project (2010) and the Hongsa Lignite Power Plant (2016).
By 2017 Lao PDR was the 13th 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 Lao PDR’s income categorization from low to lower-middle-income status as GDP per capita and Human Development indicators showed significant improvement. Lao PDR’s broader priorities and development objectives are guided by the Vision 2030, the ten-year Development Plan Strategy 2016-2025 and 2016-2020 8th National Socio-Economic Development Plan (NSEDP). These planning 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 members\(^6\) of the Greater Mekong Subregion (GMS) and one of ten members\(^7\) of the Association of Southeast Asian Nations (ASEAN). The ten ASEAN countries together with South Korea, China, Japan, Australia, and New Zealand 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 8 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).

Lao PDR 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 Vietnam, and large industrialized countries (Australia, Japan, New Zealand, Singapore and South Korea).\(^8\)

The major geopolitical risks that can be identified are linked to Lao PDR’s objective and strategies 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 Southeast 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 Lao PDR’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. Lao PDR, Cambodia\(^9\) and Myanmar).

The potential for geopolitical interests external to the region to disrupt Lao PDR’s development strategy also exists because the sustainable development of the Mekong basin is increasingly framed as a global public good\(^10\) 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 EU as China’s largest trading partner in the first quarter of 2020.\(^12\) ASEAN is also the United States’ fourth-largest export market and the EU’s third largest trading partner (after the United States and China).

Beyond these political economy issues, reputational concerns linked to sustainable FDI\(^13\) and local business operations in the Mekong economic corridors, could eventually be an additional source of geopolitical vulnerability for Lao PDR to watch as it pursues its own

---

\(^{6}\) Cambodia, the People's Republic of China (i.e. Yunnan Province and Guangxi Zhuang Autonomous Region), Lao PDR, Myanmar, Thailand, and Vietnam.

\(^{7}\) Brunei, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar (Burma), Philippines, Singapore, Thailand and Vietnam.


\(^{9}\) Cambodia suspended its plans to build new hydropower dams on the Mekong in March 2020 in response to community opposition. [https://www.theguardian.com/world/2020/mar/20/cambodia-scrap-plans-for-mekong-hydropower-dams](https://www.theguardian.com/world/2020/mar/20/cambodia-scrap-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 EU and the US have launched specific policies and initiatives for the Mekong Region.


\(^{13}\) Including in the context of the SDGs and the rising importance of sustainable corporate practice and impact investing.
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 any negative impacts on the environment and wellbeing of its population and that of its neighbours, and imply a potential source of geopolitical instability and revenue volatility for Lao PDR’s economic performance and ambitions.

2.2. Economic performance and structure in the regional context

Lao PDR 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. Lao PDR’s trade openness 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 lower middle-income members such as Indonesia, Philippines and Vietnam is significant, with the distance between the richest and poorest members (Cambodia, Lao PDR 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, Lao PDR and other LDC members of ASEAN lag behind more advanced regional partners on all indicators. For example, UNIDO’s Competitive Industrial Performance Index, which benchmarks the ability of countries to produce and export manufactured goods competitively, shows that Lao PDR lags behind all its ASEAN partners, including other LDC members. According to UNCTAD’s B2C E-commerce Index, Lao PDR outperforms other LDC members on e-commerce readiness.

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

*Source: World Economic Forum (2019).*
2.3. Structural transformation

Lao PDR 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 Lao PDR GDP 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 Lao PDR, 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 2010-18, at 3 per cent although accounting 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 in the performance was mainly on the back of improvements in the within-sector productivity, especially in the agriculture sector. However, between-sector productivity effects were also important over the same time period with gains having been 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).

![Figure 6 Gross value added per worker growth (annual per cent)](source: UNCTAD calculations (2020).

![Figure 7 Sectoral Employment (per cent)](source: ILO (2020).
Between 2010 and 2018, total employment in Lao PDR 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 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 to significant job creation.

Figure 8 Labour productivity (GVA per worker) and share (per cent), 2018

For Lao PDR 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 Vietnam 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, Lao PDR is well placed to attract downstream electronics manufacturing, although occupations in this industry are considered at particularly high risk of automation (World Bank, 2018c). 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.

2.4. Assessing the state of productive capacities in Lao PDR

Building productive capacities successfully requires knowing their current levels and specifying benchmarks against goals and targets and with other developing countries. UNCTAD has recently developed a Productive Capacities Index (PCI) aiming 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).
Box 1. The UNCTAD Productive Capacities Index (PCI)

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 forty-six 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 in UNCTAD (forthcoming), but for the purpose of this publication it is suffice 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 9 Comparison of regional productive capacity index (PCI) scores

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

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, Lao PDR has lagged most countries in the region (including fellow LDC, Cambodia) on productive capacities, particularly in recent years (2011-2018). Lao PDR together with Cambodia and Myanmar are found at the bottom in the region with respect to 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 Lao PDR and benchmarks (2000-2018)

Source: UNCTAD secretariat calculations, based on data from UNCTAD.
Lao PDR 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 Lao PDR 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 Lao PDR, it is instructive to examine the eight individual components of the PCI. Like many LDCs, the challenges of building productive capacities and structurally transforming the economy (through diversification) persist in the Lao PDR (only slight improvements in the structural change component of the PCI in 2000-18), 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 manifests 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 Lao PDR into regional and global value chains. Lao PDR 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), Lao PDR 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 PDR and for further economic development and diversification. 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 Southeast Asia, with only 67 out of 100 people having access to a mobile telephone.

The private sector strongly contributed to the overall PCI score for Lao PDR. The high performance of the private sector category despite a challenging environment for enterprise and private sector development as we will see later, is because its components are mainly related to cost and time to export and import. Unlike other landlocked developing countries, more than 85 per cent of Lao PDR’s trade is within the region and a large proportion of this is with neighbouring countries, notably Thailand, Vietnam and China, 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).

Lao PDR’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, 2019a). Lao PDR enterprises 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 PDR 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 under invest 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.

---

16 According to the World Bank, high informality, limited skills, a burdensome business environment that is discriminated enforced, and limited competition have prevented the emergence of a vibrant private sector in Lao PDR (World Bank, 2017c).
17 https://www.nationthailand.com/business/30312839
Regional disparities are widening as more developed ASEAN economies—Singapore, Malaysia, Brunei, Thailand, Indonesia, and the Philippines—actively develop their education systems to compete in the global knowledge economy (Khalid et al, 2019). In 2017, Lao PDR’s Human Capital Index was 0.45 compared to 0.47 for Myanmar, 0.49 for Cambodia, 0.6 for Thailand, and 0.67 for Vietnam. Lao PDR 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 often vulnerable to losing their jobs even if employment is increasing overall (ILO, 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, Vietnam 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, 2020a). Manufacturing remained the single largest recipient of FDI in Vietnam, accounting for 47 per cent of all FDI in the country. Japanese companies operating in industrial clusters in Thailand also transfer the labour-intensive parts of their production process to SEZs in Cambodia, Lao PDR and Myanmar. As investors increasingly considers other factors besides labour costs, Lao PDR is not assured of being the most attractive investment destination among this group. According to UNCTAD’s World Investment Report (2020), FDI inflows to Lao PDR 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, 2020a).

The shortage of skilled labour in Lao PDR exists alongside inadequate supplies of unskilled labour (EMC, 2017). Significantly higher wages in Thailand compared to local jobs resulting in outmigration from Lao PDR rural areas closest to the Thai border mean that the increase in non-farm activities in Lao PDR 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). Lao PDR’s import and export profile (Table 2) shows a high reliance on intra-regional trade. In 2019, the share of ASEAN in Lao PDR’s exports and imports was 52 percent and 59 percent, respectively.

Table 2 Key trade partners (exports and imports SITC Rev. 3)

<table>
<thead>
<tr>
<th>Principle exports 2019</th>
<th>per cent of total</th>
<th>Principle imports 2019</th>
<th>per cent of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ores and metals</td>
<td>23.4</td>
<td>Machinery and transport equipment</td>
<td>38.4</td>
</tr>
<tr>
<td>Electric power</td>
<td>22.5</td>
<td>Manufactured goods</td>
<td>22.4</td>
</tr>
<tr>
<td>All food items</td>
<td>12.7</td>
<td>Mineral fuels</td>
<td>17</td>
</tr>
<tr>
<td>Machinery and transport equipment</td>
<td>3.6</td>
<td>Chemicals/products nes.</td>
<td>6.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Main destination of exports</th>
<th>per cent of total</th>
<th>Main origins of imports</th>
<th>per cent of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thailand</td>
<td>41.2</td>
<td>Thailand</td>
<td>48.5</td>
</tr>
<tr>
<td>China</td>
<td>33.9</td>
<td>China</td>
<td>30.4</td>
</tr>
<tr>
<td>Vietnam</td>
<td>9.5</td>
<td>Vietnam</td>
<td>7.9</td>
</tr>
<tr>
<td>EU (EU27)</td>
<td>5.7</td>
<td>EU (EU 27)</td>
<td>2.5</td>
</tr>
<tr>
<td>Japan</td>
<td>2.3</td>
<td>Japan</td>
<td>2.1</td>
</tr>
</tbody>
</table>

Source: UNCTAD based on UNCTADStat.
Note: Ores and metals include SITC 27+28+68; All food items include SITC 0+22+4.

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 SDGs 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 justifies 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 Lao PDR is subject to higher compliance costs from trade with its top trading partners Vietnam and Thailand. This makes it harder (and more costly) for Lao PDR producers to upgrade their products for these markets.

Table 3 shows a breakdown of average AVEs for SPS measures, by HS section and ASEAN importer, for agri-food products. Among ASEAN member states, the highest average compliance costs for SPS measures on agri-food products across all sectors is for Vietnam (16.6 per cent), Myanmar (12.1 per cent) and Lao PDR (11.9 per cent) and is linked to limited technical capacity of enforcement and monitoring in these countries. For imports to Lao PDR, the costs of SPS compliance is 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 Lao PDR imports 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 Lao PDR 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).

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.
**Table 3** Average Ad-valorem equivalent, SPS measures, by section and importer (per cent)

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

Source: Ing and Cadot (2019).

Note: AVE = ad valorem equivalent, HS = Harmonized System, SPS = sanitary and phytosanitary.

Brunei (BRN), Cambodia (KHM), Indonesia (IDN), Lao PDR (LAO), Malaysia (MYS), Myanmar (MMR), the Philippines (PHL), Singapore (SGP), Thailand (THA), and Vietnam (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 (per cent)

<table>
<thead>
<tr>
<th>HS Section</th>
<th>BRN</th>
<th>IDN</th>
<th>KHM</th>
<th>LAO</th>
<th>MMR</th>
<th>MYS</th>
<th>PHL</th>
<th>SGP</th>
<th>THA</th>
<th>VNM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemicals</td>
<td>3.3</td>
<td>7.3</td>
<td>0.8</td>
<td>4.4</td>
<td>-0.9</td>
<td>5.6</td>
<td>-0.4</td>
<td>0.6</td>
<td>0.3</td>
<td>0.7</td>
</tr>
<tr>
<td>Plastics &amp; rubber</td>
<td>3.1</td>
<td>5.1</td>
<td>3.1</td>
<td>-2.5</td>
<td>-4.2</td>
<td>3.1</td>
<td>2.4</td>
<td>3.1</td>
<td>7.7</td>
<td>10.5</td>
</tr>
<tr>
<td>Leather</td>
<td>4.9</td>
<td>5.7</td>
<td>-1.4</td>
<td>-1.4</td>
<td>-1.4</td>
<td>4.8</td>
<td>-1.9</td>
<td>4.9</td>
<td>-1.4</td>
<td>-1.4</td>
</tr>
<tr>
<td>Textile &amp; apparel</td>
<td>4.8</td>
<td>6.9</td>
<td>7.2</td>
<td>7.8</td>
<td>7.8</td>
<td>9.4</td>
<td>6.9</td>
<td>9.9</td>
<td>7.1</td>
<td>7.8</td>
</tr>
<tr>
<td>Footwear</td>
<td>2.5</td>
<td>5.1</td>
<td>2.1</td>
<td>2.1</td>
<td>2.1</td>
<td>2.1</td>
<td>1.8</td>
<td>2.5</td>
<td>2.1</td>
<td>2.0</td>
</tr>
<tr>
<td>Cement etc.</td>
<td>7.1</td>
<td>5.0</td>
<td>3.9</td>
<td>3.9</td>
<td>3.9</td>
<td>4.3</td>
<td>9.4</td>
<td>7.8</td>
<td>6.0</td>
<td>13.3</td>
</tr>
<tr>
<td>Metals &amp; metal product</td>
<td>3.6</td>
<td>10.3</td>
<td>4.7</td>
<td>6.6</td>
<td>4.1</td>
<td>5.1</td>
<td>9.3</td>
<td>5.2</td>
<td>4.7</td>
<td>8.6</td>
</tr>
<tr>
<td>Machinery</td>
<td>8.1</td>
<td>4.1</td>
<td>2.8</td>
<td>4.5</td>
<td>3.3</td>
<td>7.0</td>
<td>2.7</td>
<td>3.3</td>
<td>3.3</td>
<td>1.8</td>
</tr>
<tr>
<td>Transport equipment</td>
<td>4.8</td>
<td>1.5</td>
<td>7.5</td>
<td>6.9</td>
<td>12.9</td>
<td>6.1</td>
<td>5.5</td>
<td>6.3</td>
<td>8.7</td>
<td>12.9</td>
</tr>
<tr>
<td><strong>Simple average</strong></td>
<td>4.7</td>
<td>5.7</td>
<td>2.8</td>
<td>3.6</td>
<td>3.1</td>
<td>5.2</td>
<td>3.4</td>
<td>5.0</td>
<td>4.5</td>
<td>5.4</td>
</tr>
</tbody>
</table>

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 PDR (LAO), Malaysia (MYS), Myanmar (MMR), the Philippines (PHL), Singapore (SGP), Thailand (THA), and Vietnam (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.

2.6. A milestone in regional integration – the RCEP

On 15 November 2020, Lao PDR 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 South Korea, China, Japan, Australia and New Zealand. 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) 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. The agreement could improve access to Chinese Belt and Road Initiative (BRI) funds and generate economic gains through increased market access by strengthened intra-regional connectivity. Lao PDR already receives more than 90 per cent of its FDI from the RCEP members; economic cooperation under the RCEP could help Lao PDR to play a stronger role in global value chains (GVCs) via even greater investment in infrastructure and manufacturing projects.

---

20 All RCEP members have FTAs with one another (with varying rules and regulations on trade, investment and services), except for Japan (UNCTAD, 2020d).
The tangible benefits of RCEP are expected to be more pronounced for the North Asian bloc, namely China, South Korea and Japan (when compared to the South Asian bloc), as the RCEP covers the China-Japan and Japan-South 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, Lao PDR 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 Lao PDR.28 Also, an integrated regional customs regime could make the region more attractive to further diversification of supply chains for multinational companies, potentially driving more foreign investment to small ASEAN countries such as Lao PDR (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 Lao PDR) 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

---

22 Ibid.
23 About 70 per cent of Laotians 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 https://uk.reuters.com/article/uk-asean-summit-rcep-explainer/what-happens-now-the-rcep-trade-deal-has-been-signed-idUKBN27W0WJ
26 https://www.lexology.com/library/detail.aspx?g=4d1af2e4-5c2e-4972-8b7e-13ce6a7b0038
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.
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 virus with no new cases reported for 59 consecutive days by 10th June 2020, the Lao PDR economy struggled with negative or low growth in the range of -1.8 per cent to 1 per cent forecast for 2020.

Lao PDR 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 PDR 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, since 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 Lao PDR garments for first 9 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 persist into 2021.

![Figure 12 A comparison of export value of garment sector between 2019 and 2020](image)

Source: Lao PDR Ministry of Industry and Commerce.

In addition, many manufacturers, including of food, low-tech products (apparel, leather, furniture, wood, paper), and medium and high-tech products (chemicals, plastics, metal and non-metal products, electric machinery, and machinery) located in SEZs are experiencing a sales and revenue contraction, 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, firms in SEZs are encountering growing cashflow difficulties with knock-on effects to their ability to fulfill 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, faced a shortage in expertise due to lockdown measures enforced in China impacting the progress of investment projects in the first six months of 2020. Services SEZs located along the Lao PDR-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 PDR-Chinese railway and Vangvieng high-way construction projects could not obtain construction materials during March-May 2020 and experienced a shortage of workers as Chinese workers could not enter Lao PDR. This is not expected to push forward their 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 Lao PDR (around 4 per cent of GDP) were immediately affected, with knock-on effects on supporting sectors (tour operators, handicrafts, accommodation, restaurants (3 per cent of GDP), and transport (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 Lao PDR had its first confirmed case at the end of March 2020, as the 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 $ 700-800 million with 30,000-40,000 staff 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 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-China railway construction project and hydro-power construction projects were consequently delayed.

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. The Government estimates that the unemployment rate will be around 23.4 per cent in 2020 (out of the estimated labour force of 2.16 million, inclusive of return migrants). The Ministry of Labour and Social Welfare estimates a $250 million drop in remittance inflows. The World Bank estimates that the incidence of poverty will increase by about two percentage points or up to 214,000 people could fall into poverty because of COVID-19. In addition, the pandemic is expected to contribute to increased household food insecurity in 2020 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 ten 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 projections, Lao PDR’s real economic growth is 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 Lao PDR 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, Lao PDR would have expected to sustain a GDP growth of 6.7 per cent for 2020.

Figure 14 Real GDP growth, Lao PDR and developing economies, 2010 – 2021. Projected values for 2020 and 2021

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

On the other hand, the Lao PDR Ministry of Planning projects that COVID-19 will 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. Export industries (Figure 16), including garment and manufacturing parts are expected to register negative growth because of the decline in global demand. Similarly, negative growth is 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 are expected to contribute approximately 3.5 per cent and significantly compensate for the slowdown in other sectors especially service sector.
The COVID-19 crisis has further worsened long-standing macroeconomic vulnerabilities. In recent years, the Lao PDR economy 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 Lao PDR’s already weak fiscal position. 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 Ministry of Finance, revenue collection for the first 9 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 15-16 per cent of GDP in previous years.

Given lower fiscal revenue, the Government of Lao PDR is facing a further erosion of its fiscal space. The Government is 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 is 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 estimates the fiscal deficit to rise to 7.5-8.8 per cent of GDP and public debt 65-68 per cent of GDP in 2020 compared to the Lao PDR projected slight increase to about 6 per cent in 2020 up from 5.1 per cent in 2019 with heightened risks of debt distress from public debt.

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 is estimated to increase to 11-12 per cent in 2020. According to the Ministry of Industry and Commerce, exports value in the first 9 months of 2020 was $3,88 billion, almost $0.5 billion lower than the same period in 2019 representing a 12 per cent reduction. Similarly, imports value for the first 9 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 is the income losses during first six months of 2020 from tourism estimated at between 300-400 million, which translate to a drop in foreign earnings and exacerbate the current account deficit. In addition, of the approximately half of a million Lao PDR labourers reported to be working in Thailand, nearly 200,000 returned home following the implementation of lockdown measures by the Thai government 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 Government’s ability 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 Lao PDR (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) and implemented a 200 billion kip stimulus package for small and medium-sized enterprise, and established a 1,800 billion kip COVID-19 recovery fund after the lockdown period to support domestic production and boost the economy.

31 Data based on estimation of World Bank.
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 maintain 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 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 to June 2020. International organizations and development partners have played a significant role in providing both financial and in-kind assistance to the Lao PDR Government to implement preventative health measures and measures aimed at maintaining people’s livelihoods and laying the foundations for economic recovery.
3. Identifying areas of vulnerability: Progress under graduation criteria

Sections 3.1, 3.2 and 3.3 examine the situation of Lao PDR under the graduation thresholds relevant to the three criteria for identifying LDCs, namely the per capita income criterion, the human assets criterion, and 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 main structural impediments to sustainable development. Each graph in the following sections indicates the evolving distance to or from the graduation threshold under the reviewed criterion.32

3.1. Gross National Income (GNI) 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, Lao PDR already met the graduation criterion at the 2018 triennial review (red dotted line, 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 US $340 in 2003 to US $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.

Figure 18 Lao PDR: distance from the graduation threshold under the per capita income criterion (based on GNI per capita)

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 3-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

The country’s rapid economic growth has not been able to veil the unequal distribution of the national income among Laotians, with the inequity patterns emerging from urban-rural and between-province disparities. 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 period.\(^{36}\)

Inequality in Lao PDR 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.

**Figure 19: The trend in Gini index in Lao PDR**

![Gini index trend](image)

Source: Government of Lao PDR.


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 percent 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, namely Indonesia, Thailand, and Vietnam. However, the inequality which has been experiencing a decline in Thailand and Indonesia, has been increasing in Lao PDR (with the Gini index in Lao PDR reaching to a higher level than that of Thailand, Indonesia and Vietnam as of 2018).\(^{38}\)

---

\(^{35}\) Since the early 1990s, five rounds of the Lao Expenditure and Consumption Surveys (LECS) have been conducted by the government’s Lao Statistics Bureau, Ministry of Planning and Investment, with the technical assistance of Statistics Sweden and the World Bank.


3.2. People: Human Assets Index (HAI)

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, Lao PDR’s HAI score 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 Lao PDR 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.

Figure 20 Lao PDR: distance from the graduation threshold under the human assets criterion (based on Human Assets Index)

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.

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 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.

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).
40 In the 2018 review, the index scores of the health-related indicators were: 1) prevalence of undernourishment in total population: 79.8; 2) under-five mortality: 67.3; and 3) maternal mortality: 83.9
Despite improvements, the areas where Lao PDR is the most vulnerable in terms of human assets are:

1) 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).\(^{41}\)

2) Gross enrolment ratio for secondary school (number of students enrolled in secondary education divided by population of the age group which corresponds to secondary education) of male 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.

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

---

\(^{41}\) Source: World Development Indicators (2020).
Table 5 Annual access rate to healthcare facilities by pregnant women during January-April 2020

<table>
<thead>
<tr>
<th></th>
<th>ANC 1-time coverage (per cent)</th>
<th>ANC 4 times coverage (per cent)</th>
<th>PNC (3-42 days) coverage (per cent)</th>
<th>Delivery at health facility</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>33.2</td>
<td>22.1</td>
<td>11</td>
<td>36,608</td>
</tr>
<tr>
<td>2020</td>
<td>31.7</td>
<td>21.1</td>
<td>9.4</td>
<td>34,832</td>
</tr>
</tbody>
</table>

Source: Ministry of Health, DHIS2 database

While the HAI score is sufficient to pre-qualify Lao PDR 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 healthcare 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. CDP data mirror the former showing a general improvement, 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.

![Figure 22 Literacy rate, by gender, 2005 and 2015 (per cent)](image)


The kind of skills that school graduates in Lao PDR 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 a third of second-grade students scored zero in reading fluency and 57 per cent scored zero in reading comprehension.
The shortage of skilled labour is a challenge common to many developing countries, however, in Lao PDR studies 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, a child born in Lao PDR today would expect to achieve on average only 46 per cent of her full productivity as a future worker compared to the world average of 56 per cent.

Lao PDR’s poor human capital is a persistent and destabilising 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. Issues commonly cited include a lack of qualified teachers, high teacher absentee rates and a lack of both teaching materials and infrastructure. Almost a third of second-grade students scored zero in reading fluency and 57 per cent scored zero in reading comprehension and post-secondary graduates in Lao PDR performed almost on-par with primary-educated Vietnamese underscoring the low level of learning outcomes that leave children without essential knowledge and skills (Monitor Jan 2019).

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 labour and skills are among the biggest constraints facing the private sector at a time when Lao PDR’s economic growth 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, the World Bank survey in 2016 found that garment sector workers were only moderately more skilled than farmers (World Bank, 2017c). Little investments have been made in those employment-rich sectors what 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. 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. 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 of 2019 represents a first step to improving student learning outcomes and to impart 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, Lao PDR’s education budget grew by only 9 per cent during 2013 to 2018. This is low compared to peer countries and other countries in the region (UNHRC 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

43 https://www.unicef.org/lao/education
44 https://www.giz.de/en/worldwide/26261.html
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 Lao PDR 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 0.67 per cent reduction in poverty in the country. Indeed, Lao PDR 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. 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. 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.

In section 2, Figure 3, Figure 5 and Figure 7 show the economic, employment and export structures of Lao PDR from 2000 to 2018. Approximately 64 per cent of the labour force was engaged in agriculture in 2018, although this sector represented less that 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 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 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 under-employment is high. Another channel for labour distribution is via migration to neighbouring countries such as Thailand. Southeast 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, Lao PDR 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 Lao PDR estimate that there is only one position open for every 12 returned migrant jobseeker as a result of the COVID-19 pandemic. The World Bank’s office in Lao PDR stated that the unavoidable drop in remittances to families at home from laid-off Lao PDR 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.

---

47 Ibid.
48 The revised poverty methodology suggests that the incidence of poverty declined to 18.3 per cent in 2018/19 (World Bank 2020).
49 Ibid
50 http://www.mekongmigration.org/?p=9155
The problem of high poverty has negative implications for health and education, more severe in remote, rural, and ethnic areas. About one third of under-five-years children suffer from malnutrition and there are eight provinces which still have the malnutrition and the 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-five mortality rates declined significantly between since 2010 as mentioned earlier, the gap among regions and ethnic groups is still wide. In 2017, the under-five 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. 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 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 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 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.

---

![Figure 23 Gross-enrolment-ratio-upper-secondary, 2018, by province](source: Government of Lao People’s Democratic Republic, 2018)

---

51 UNICEF, [https://www.unicef.org/laos/education](https://www.unicef.org/laos/education)
Pervasive informality generates low returns to schooling. According to the ILO,\textsuperscript{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 Lao PDR 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 Lao PDR. 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 Lao PDR, 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 Vietnam as source of official inflows. Since 2013/2014, total ODA directed to the social sectors has registered uninterrupted and significant declines, falling from $426 million in 2012/2013 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 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 (EVI)

After the CDP Plenary in 2020, the EVI has been simplified and consists of two sub-indices, one on economic vulnerability and one on environmental vulnerability with each sub-index containing four indicators, with 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.\textsuperscript{53}

\textsuperscript{52} \url{https://www.ilo.org/asia/media-centre/news/WCMS_627585/lang--en/index.htm}
\textsuperscript{53} Outcome of the comprehensive review of the LDC criteria, CDP (2020).
From a long-term perspective, Lao PDR’s situation 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 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 graduation threshold at 119 per cent.

A retrospective review of EVI criterion under the new methodology shows that Lao PDR would have met the threshold, for the first time, in 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 Lao PDR given its geographic characteristics, with a contribution of 0 to the overall EVI score- could explain, by 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 Lao PDR 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 Lao PDR 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 instability” to 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 8 per cent contribution to 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 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.

\(^{54}\) 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 PDR: Composition of Economic and Environmental Vulnerability Index (EVI), 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 hypothetical review (*).
3.3.1. Victims of natural disasters

Lao PDR 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 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 field 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.

### Table 6: Severe natural disasters between 2010 and 2020

<table>
<thead>
<tr>
<th>Year</th>
<th>Damage, in per cent of GDP</th>
<th>Total affected people, in per cent of population</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>1.013211</td>
<td>9.328049</td>
<td>Flood, Epidemic</td>
</tr>
<tr>
<td>2014</td>
<td>0.0112956</td>
<td>0.7104856</td>
<td>Flood</td>
</tr>
<tr>
<td>2015</td>
<td>0.0694906</td>
<td>0.3845836</td>
<td>Flood</td>
</tr>
<tr>
<td>2016</td>
<td>0.0003163</td>
<td>0.3845836</td>
<td>Flood</td>
</tr>
<tr>
<td>2017</td>
<td>0</td>
<td>0</td>
<td>Storm</td>
</tr>
<tr>
<td>2018</td>
<td>1.253218</td>
<td>10.59611</td>
<td>Flood, Storm</td>
</tr>
<tr>
<td>2019</td>
<td>0</td>
<td>4.4</td>
<td>Drought, Flood</td>
</tr>
<tr>
<td>2020</td>
<td>-</td>
<td>-</td>
<td>Storm, Flood</td>
</tr>
</tbody>
</table>


### Figure 27: Number of natural disasters, by type and period


---

\(^{55}\) It should be noted that the Victims of disasters indicator is based on twenty-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.


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. Lao PDR 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. Road is 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 Lao PDR’s connectivity infrastructure are also reflected in the country’s relatively weak performance under the “Infrastructure” score (i.e. quality of infrastructure in ports, roads, airports, 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 Lao PDR in 2007 (see Table 7). Compared to peer ASEAN countries, Lao PDR lacks behind Logistics performance indicators including postal services.

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 export-base in the manufacturing industry, and integrate domestic firms into GVCs, and keep pace with climate change and natural disasters.

Lao PDR has invested heavily in the construction of infrastructure to better connect to its neighbours, including the US$ 5.9 billion investment in the construction of the Lao-China Railway under the Belt and Road Initiative. The Lao-China railway is expected to lower trade costs and accelerate economic growth and poverty reduction in the region.

| 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  |
| Vietnam          | 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.

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 Lao PDR’s electricity generation sector has not experienced external shocks and has rather offset output stagnation and/or price decreases in the mining sector.

---

58 Lao PDR 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 percent of the population had their mail delivered at home (WITS E-Commerce indicators, https://wits.worldbank.org/analyticaldata/e-trade/country/LAO).

Lao PDR 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 Lao PDR has achieved insignificant progress on product diversification, trade remains concentrated in three regional markets, namely China, Vietnam 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 neighboring countries’ demand for electricity include shifts in their consumption needs and the evolution of their power mix. Thailand absorbed 96 per cent of Lao PDR’s electricity exports in 2015-2017 (UNCTADStat) 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 Lao PDR’s neighbours may have negative implications for Lao PDR. 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 Lao PDR, one of the 12 planned mainstream dams destined to sell 90 per cent of electricity generated to Thailand (IUCN, 2018; Weatherly, 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 Lao PDR 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 because 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). 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 Lao PDR and $1 billion came in 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 services\textsuperscript{41} and agriculture, respectively, and the share of investments in Industry & Handicrafts also decreased from 12 per cent in 2010 to less than one per cent in 2019.

The investor profile for the years 2010, 2015 and 2019 (Figure 29) shows that Vietnam, China and Thailand have been 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 Vietnam amounted to $2.75 billion from 2000 to 2014, $1 billion and $358

\textsuperscript{41} From the statistical website it is not clear which “services” this includes.
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 bottlenecks in concession fees collection. Two countries, China and Vietnam, 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 Lao PDR.

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, 2017b; 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 PDR 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.

---

Figure 28: Total investments, by sector

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 30a), 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 30b. 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-costs production sectors in Lao PDR, Myanmar and Cambodia.\textsuperscript{63} The RCEP has the 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 Laotian government aims to diversify the economy away from a dependence on mining and hydropower towards agri-processing and industry.\textsuperscript{64}

\textit{Current account deficit}

The poor linkages of these growth sectors to the broader economy are reflected in a strongly negative current account balance. Lao PDR’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 China’s Belt and Road Initiative. Gross international reserves remain low at about 1 month of prospective imports (World Bank, 2019b; World Bank, 2019c).\textsuperscript{65} Lao PDR’s authorities 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.

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).

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure31.png}
\caption{Current account balance, Lao PDR and developing economies, 2010 – 2021; 2020 and 2021 projected values}
\end{figure}

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


\textsuperscript{64} (https://trade4devnews.enhancedif.org/en/qa/phouvieng-phongsar-examining-lao-pdrs-trade-journey/)

\textsuperscript{65} A common rule of thumb is that reserves should cover three months’ worth of imports to be adequate.
3.4. Planet and Environment

Lao PDR’s Environmental Performance Index 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. Lao PDR performs better on the vitality of the ecosystem (Figure 32). This vulnerability is due to the high concentration of mining and construction projects.

![Figure 32 Lao PDR environmental performance index](image)

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

Note: The Asia average includes Afghanistan, Bangladesh, Bhutan, Brunei, Cambodia, China, India, Indonesia, Japan, Lao, Malaysia, Maldives, Micronesia, Mongolia, Myanmar, Nepal, Pakistan, Papua New Guinea, Philippines, Singapore, South Korea, Sri Lanka, Taiwan, Thailand, Timor-Leste, Vietnam.

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 leaves in rural areas (Section 3.3.1). Lao PDR’s rate of natural resource depletion increased sharply since the mid-2000s, peaking in 2011 much higher in 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).
Lao PDR and neighbour countries: natural resource depletion\(^1\) (as per cent of GNI), 2000-2018

Source: World Bank, World Development Indicators.

Notes:
\(^1\)Natural resources depletion measures the aggregate forest, mineral and fossil fuel depletion as a per centage 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.

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. 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 Lao PDR’s national economic development plan 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 forty hydropower plants operating in the country. In 2016, fifty 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).

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) countries\(^67\) the long-term implications of twelve hydropower projects\(^68\) 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 twelve dams (ICEM, 2010; ADB, 2016).


\(^67\) Cambodia, Lao PDR, Thailand and Vietnam.

\(^68\) Those hydropower projects are among the largest and most significant developments ever considered by the LMB countries.
Unexploded Ordnance (UXO)

Reducing the impact of UXO on communities is an important development issue in Lao PDR. More than two million tons of explosive ordnance were dropped on Lao PDR during the Second Indochina War, making it the most heavily bombed country in the world, in per capita terms. Some 270 million cluster sub-munitions 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, 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 Lao PDR 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, Lao PDR 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 Lao PDR’s graduation 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, and 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 depends on value chain linkages of these sectors and the efficiency with which revenues from natural resource extraction is transformed into growth.

4.1. Harnessing the nexus between structural transformation and export diversification

It will be difficult for Lao PDR to sustain a high level of economic growth in the long run due to an over-reliance 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 GVC participation

Lao PDR 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) what 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.
Figure 34: Value chains participation and total exports in 2019, by sector

Source: UNCTAD’s calculation 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 Lao PDR for the foreseeable future. The geology and the true coverage of natural resources in Lao PDR may still be underestimated, albeit 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, Lao PDR 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 Lao PDR 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, Vietnam, Thailand, 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 Lao PDR 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.

Figure 35: Mining and quarrying sector, GVC participation, 2007–2018

Source: UNCTAD’s calculation based on ADB MRIO GVC data.

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 Lao PDR 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 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 Lao PDR electricity (and energy) sector 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 spill-over 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 Lao PDR’s population. 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 steady annual increase of value added over the past 10 years, with the largest increase in 2014 with 4.1 per cent per year. Figure 36 indicates that this growth has mostly translated in 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 one per cent of input). 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. 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 Lao PDR 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.

---

Section 2 has shown that the agriculture sector is the largest contributor to overall productivity increases due to the dominant employment share. This low contribution could partly relate to the fact that in Rural areas only 80.6 per cent of the population have electrification (2016). These findings are based on the ADB MRIO GVC database.
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 Lao PDR 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 Lao PDR have been attributed to the increase in commercial farming, which in turn benefited from increased use of hybrid seeds, notably imported from Thailand and Vietnam. 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 like 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 adding new products and product diversification.

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, what 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 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, cement construction material has been the key driver, accelerated by the 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 the human capital base (see Section 3.2).

---

73 UNCTADStat.
Figure 37: Decomposition of the manufacturing sector, Top 10 export products, annual growth, by product group, 2010 - 2019

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

Figure 38: Exports of services to the world, by category, 2005 - 2018

Source: UNCTAD secretariat based on UNCTADStat.
Note: Goods-related services include manufacturing services on physical inputs owned by others and Maintenance and repair service; Transport include 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 of 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, the state-owned banks are dominant in the financial sector. The tourism industry has grown to one of the most important sectors for Lao PDR. In 2018, tourism contributed 5 per cent to GDP, with most tourists coming from Thailand, Vietnam, and China (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 tech; accommodation and real estate.

4.1.8. Product space and potential for diversification

Our approach builds on the idea that the economy faces a set of upgrading possibilities based on current productive capabilities. We use data and information 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 Lao PDR is about $9 billion with the largest potential in the ASEAN region ($6 billion), almost exclusively in Thailand and Vietnam. 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. The Economic Complexity Index (the methodology is explained in Appendix 1), which is an indicator of knowledge available and a measure of productive capabilities, shows that Lao PDR’s largest export markets (mining products) 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.

Countries grow by diversifying into new products of increasing complexity. Strategic new products aim to balance: 1) Distance to existing capabilities: lower distance (close to 0) signifies a product is “nearby” to existing knowhow; and 2) Complexity: more complex products tend to support higher wages; 3) Opportunity gain for future diversification: higher values hold stronger linkages to other high-complexity products, opening more opportunities for continued diversification.
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*

Lao PDR’s product space shows that the potential for diversification from mining products is low because 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). Haussmann et al. (2014) show that low-income countries tend to export products on the periphery of the network and have fewer opportunities for diversification.

Figure 39: Lao PDR 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 Lao PDR; 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.

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.

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.
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 $2542 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.

Figure 40: Distance and product complexity for Lao PDR exports and feasible products, 2018

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

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.” These strategic areas include new potential products of “Electrical and optical equipment” and “Machinery.” While this is not an exclusive selection, and more in-depth analysis must be conducted to identify risks and opportunities, we find that both sectors are characterized by high backward integration with 20 per cent imported value added in Electrical and optical equipment and 35 per cent in Machinery, 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.


Within this group, 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 have a feasible likelihood of success. Based on the capability to produce these products based on existing products,

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, freezers show a high potential of diversification success.

Main input sources into Electrical and optical equipment are basic and fabricated metals, 13 per cent retail trade, 15 per cent wholesale trade, mainly coming from China, Thailand, and Vietnam.

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.
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. Error! Reference source not found. in Appendix 1 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 Machineries, 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 spill-overs. 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.

**Box 3. Lao PDR wood processing sector**

Wood and wood product exports from Lao PDR 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 Lao PDR 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 Lao Government 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.

Lao PDR 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 the need of moving towards larger domestic value-added given limited wood supply.

ITC found that most wood processing firms in Lao PDR 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 analyzing market opportunities and trends, training on marketing and business management as well as gap analyses to improve sustainable production.

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 Lao’s most important export markets (China, Thailand, and Vietnam) will be insignificant or zero (ITC, 2020, Lao study). For the European Union (of 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 EU.

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 EU, Japan, Canada, 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 FDI 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 Lao PDR 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 Lao PDR 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 Chinese FDI.

The rise of MNCs in the Mekong region has raised questions about their role in boosting sustainable development in Lao PDR. There seems to be little understanding on how MNCs engage with other stakeholders to ensure sustainable management. The potential contribution of MNCs 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 Lao PDR, based on interviews conducted in 7 villages in Southern Lao PDR, in a major gold and copper mining community. From the interviews, mining industry created tremendous economic opportunities for women. However, the authors found that socio-linguistic 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 is via: (i) the direct enterprise channel (job creation and salaries); (ii) distribution channel, a mechanism where the mining industry engages with various stakeholders on education, health and social schemes; and iii) 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 Lao PDR 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 Lao PDR’s border 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, Lao PDR 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), 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 Lao PDR’s vulnerability 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 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.\footnote{PDNA, 2018, Lao PDR Report.}

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.

\textit{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), 2018 (10.6 per cent).
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 Lao 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, 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. Mid-term 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 Lao PDR 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, Lao PDR must be prepared for a rising number of disasters.

Between the decade 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 in the next decade. In Lao PDR, annual damage increased over the same period from $10 million (average 2001-2010) 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.

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. Lao PDR 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

62 The $10 million damage is reported exclusively in 2009 (damage equivalent to 1.7 per cent of GDP).
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 percent from OECD member countries. Mitigation-related development finance amounted to $34 million in 2018.

Figure 42: Global occurrence (left) and damage costs (in thousands $) (right) of natural disasters by disaster type, 1980-2018

Source: UNCTAD secretariat graph based on EMDAT data.

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 in 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.\(^8\)

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 2012/2013 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 (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 hydro-power royalties 1.75 per cent to total revenues.

\(^8\) Source. Ministry of Finance (Lao PDR).
Lao PDR 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 Lao PDR’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 Lao PDR needs to give greater attention to internal coordination and provide the necessary leadership on development priorities (UNCTAD, 2019b).

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 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 Vietnam provided 76 per cent of official development finance flows to Lao PDR, against 43 per cent in 2012-2013. While most of the official flows from Vietnam 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. 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.

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). 40 per cent relate to capital expenditures, while 27 per cent of government expenditures are financed externally to invest in capital accumulation. 13 per cent of public investments are financed locally.

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). 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 Lao PDR 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 Lao PDR exports of copper concentrate and coffee beans for the period 2012-2017, with 6.8 per cent of copper concentrate exports found likely undervalued. 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

---

84 Source: Ministry of Planning and Investment (Lao PDR)
85 http://www.xinhuanet.com/english/2020-08/18/c_139298873.htm
86 Data is obtained from Ministry of Finance Lao PDR. Fiscal Policy Department.
87 Over the period 2012-2017, the authors find an amount of undervalued exports of $125 million.
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 Lao PDR tax and customs authorities 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 government’s effort 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. The response to COVID-19 forces governments around the world to increase their spending while facing a reduction of 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, Lao PDR had already increasingly relied on government borrowing. Between 2010 and 2019, general government net borrowing, as a per centage 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).

![Figure 43: General government net lending/borrowing Lao PDR and developing economies, 2010 – 2021; 2020 and 2021 projected values](image)

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

**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, Russia, Thailand, Japan, and Korea have been an increasingly important source of loans. Since Lao PDR’s first issuance of a sovereign bond 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 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 Lao PDR’s public and publicly guaranteed long-term debt (PPG) outstanding and disbursed external debt was only 18 per cent of export earnings but by 2018 had ballooned to 65 per cent, up from 54 per cent in 2010. Lao PDR is highly vulnerable to debt distress.

---

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

Lao PDR’s credit rating 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 Lao PDR 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 concerned, as a per centage of the national GDP, stands at 31.4 in 2019.⁹¹ A large portion of which is from public-private partnership (PPP) investments in the hydropower sector.⁹²

---


⁹¹ [https://data.jubileedebt.org.uk/](https://data.jubileedebt.org.uk/)

5. Building resilience and policy recommendations

5.1. Promoting enterprise development and strengthen 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 PDR varies between 100,000 and 179,000 depending on the source of information. All the different sources, however, concur that the overwhelming majority of enterprises (around 98-99 per cent) in Lao PDR 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 micro-enterprises 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 Lao PDR suggests that these firms may face significant barriers to expansion. SMEs in Lao PDR 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 Lao PDR are not reaping the rewards of strong economic growth. The World Bank’s Enterprise Surveys for Lao PDR 2018 shows that annual sales of the surveyed small firms declined 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 Lao PDR has a significant impact on women’s economic empowerment - which is recognized as one means for reducing poverty and increasing economic growth -, since this sector has a significantly higher female participation in ownership, management and workforce than medium and large enterprises. The World Bank Enterprise Survey for Lao PDR 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 sector, and limited infrastructure. However, they are perceived differently according to the size of the enterprise. According to the World Bank Enterprise Surveys for Lao PDR 2018, access to credit is the most cited top

---

85 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 Lao PDR 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).

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

86 The World Bank does not have a clear definition of what these practices are. In its Enterprise Survey of Lao PDR 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, 2018a, page 8). In its Doing Business in Lao PDR 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 underway” (World Bank, 2018b, page 8).

67
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), 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 the East Asia and 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).

Lao PDR’s business environment 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 micro-enterprises 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 survey, 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 via interviews that the linkages to SMEs are strong for supply but that the SME only contributed 20 per cent 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- 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.

---

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. Micro-enterprises are mainly found in the retail trade sector.
Figure 45. Business environment constraints identified by firms as biggest, 2012 and 2018

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

Figure 46: Top business constraints identified by firms, by firm size

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

Note: Number of firms: Micro enterprises (27), Small enterprises (211), Medium enterprises (74), Large enterprises (20).
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 139\textsuperscript{th} 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 Lao PDR are more costly than in other developing countries such as Cambodia, Indonesia and Vietnam (see Figure 47; Sayavong, 2019). The penetration of broadband and internet users is lowest in Lao PDR 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.

*Figure 47: Fixed broadband and internet users, per 100 people, and internet tariffs, 2016*

![Figure 47: Fixed broadband and internet users, per 100 people, and internet tariffs, 2016](image)

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. 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 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 benefitting 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 eight 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-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, 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, Lao PDR scores 38 of 100 points where a high score indicates a good performance in resource governance. It ranks 64th 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 UN Environment, 2018).

Policy framework to address financial leakages

To date, the lack of specific legal and regulatory framework for trade mispricing or transfer pricing makes Lao PDR highly prone to illicit outflow of capital through trade mispricing. Tax laws should include this and exploring the UN or OECD transfer pricing guidelines 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 under section 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, Lao PDR 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),

98 The last (89th) rank is Eritrea and the first rank is Norway.
99 https://resourcegovernanceindex.org/country-profiles/LAO/mining
100 Mining governance dilemma and impacts: A case of gold mining in Phu-Hae, Lao PDR.
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).

Lao PDR has ratified and engaged in most of the major international conventions related to the environment.\textsuperscript{102} It has also been engaging in regional efforts to address environmental issues through ASEAN\textsuperscript{103} and other initiatives with neighbouring countries sharing environmental challenges that require regional cooperation.\textsuperscript{104} The government recognizes the need to mainstream environmental and sustainability considerations into socio-economic development planning. The 2016–2020 National Socio-Economic 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.\textsuperscript{105} At the time of writing, a climate change and disaster management law is currently being prepared to establish proper mechanisms and measures to cope with and reduce the impact of natural disasters and to manage before, during, and after disasters whilst 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 Forest Resource Development Fund funded from annual budget and other various sources.\textsuperscript{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).

\textit{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.

\textsuperscript{102} Including the United Nations Framework Convention on Climate Change (UNFCCC), the Convention on Biological Diversity, the UN 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.

\textsuperscript{103} ASEAN cooperation on environment is led by the ASEAN Ministers responsible for the environment. It focuses on two inter-related issues: environment and transboundary haze pollution. The latter is specifically governed by the ASEAN Agreement on Transboundary Haze Pollution.

\textsuperscript{104} For example, Lao PDR – together with Cambodia, Thailand, and Vietnam— 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.

\textsuperscript{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).

\textsuperscript{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.
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 Lao PDR. 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 Lao PDR 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 that 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 Lao PDR 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 Lao PDR 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 Laotian 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, Lao PDR 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 Lao PDR’s development prospects. Recent growth in the past 5 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 Lao PDR’s inclusive growth. 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, export growth at the intensive margin for some of the established export goods is equally important. Boosting competitiveness of the Lao PDR’s economy to increase productive capacity (see Proposed priority 1) is likely to be beneficial for all sectors.

The relative successes of the Lao PDR natural resources-based development strategy 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 Lao PDR’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 Lao PDR 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 Lao PDR’s environmental vulnerabilities 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 Lao PDR’s growth and the country registers logistics costs up to double those of other ASEAN countries and the lowest ICT availability and penetration in Southeast Asia. Lao PDR 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-partnership in greening and climate proofing infrastructure is enabled. In addition, more effective coordination of infrastructure investments so as not to destabilise public finances is required.

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 Lao PDR 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, Lao PDR 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 maximising 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 lock-in to role 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 Lao PDR, 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 Lao PDR’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 Lao PDR 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 Vietnam. 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 realise, but Lao PDR 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, 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

Lao PDR 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 Lao PDR to pursue social policies linked to public services delivery.

This priority area also requires a complementary focus on building public institutional capacities because the peculiarities of commodity-dependant economies imposes 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 because natural resource-sectors are prone to significant financial leakages. This will in part, for example, require Lao PDR 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 SDGs. 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 we outline the potential building blocks and key elements of a Graduation with Momentum Strategy for Lao PDR.
Bibliography


76


(N/d). GSICS 2020 global food price crisis on laos.pdf.

Annex I: Key elements of a Graduation with Momentum Strategy for Lao PDR

Complementing the Vulnerability Profile, this annex outlines key strategic considerations for Lao PDR’s graduation with momentum. This is in line with the mandate enshrined in the General Assembly resolutions 59/209 and 67/221, which “(R)equits 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” (A/RES/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: (i) Promoting diversification and building productive capacities (infrastructure and human capital) and (ii) 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 Lao PDR’s graduation 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 Lao PDR face such as a serious budget deficit, high levels of external debt and low foreign reserves, a transition period of at least 5 years could be warranted.

i) 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 EU 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 Lao PDR imports are observed in the textile and apparel sector). In addition, it would be vital to engage the EU in order to assess prospects for GSP/GSP+ preferential treatment (considering that GSP schemes will be revised in 2023), and exploring 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.

ii) 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 Lao PDR 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 2013/2014, 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 inter-ministerial 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 Lao PDR in its efforts to deliver graduation with momentum and develop an effective smooth transition strategy.
### Annex II: Additional figures and tables

#### Table 8: Domestic and foreign investment, by sector, in US$, 2019

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

#### Table 9: Identified new product potential with the closest “nearby” distance (and highest expected growth) to existing products, by industry

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

Source: [https://atlas.cid.harvard.edu/countries/123/growth-opportunities](https://atlas.cid.harvard.edu/countries/123/growth-opportunities)

Note: This is only a selection. The full table of new product opportunities is available here: [https://atlas.cid.harvard.edu/countries/123/product-table](https://atlas.cid.harvard.edu/countries/123/product-table)
## Annex III: Definition of Product Space and Economic Complexity

<table>
<thead>
<tr>
<th><strong>Economic Complexity</strong></th>
<th>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 <strong>diversity</strong> of exports a country produces and their <strong>ubiquity</strong>, or the number of the countries able to produce them (and those countries’ complexity). 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.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Economic Complexity Index (ECI)</strong></td>
<td>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. The complexity of a country’s exports is found to highly predict current income levels, or where complexity exceed 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.</td>
</tr>
<tr>
<td><strong>Opportunity Outlook Gain</strong></td>
<td>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. 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.</td>
</tr>
<tr>
<td><strong>Product Space</strong></td>
<td>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 <strong>proximity</strong> to each other, based on the probability of co-export of both of the two products. The product space details the connectedness of nearly 900 products, in color-coded sectors, based on real world data on the experience of countries’ diversification over the past 50 years. We are able to map 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 <strong>distance</strong>) 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 us 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 pants), but shows little relatedness to heavy machinery or chemical products, as fewer countries produce men’s shirts and car parts. The product space allows us to predict 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).</td>
</tr>
</tbody>
</table>