AMRO Country Report
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AMRO Annual Consultation Report

Lao PDR - 2020

The ASEAN+3 Macroeconomic Research Office (AMRO)

April 2020

Acknowledgments

1. This Annual Consultation Report on Lao PDR has been prepared in accordance with the functions of AMRO to monitor and assess the macroeconomic status and financial soundness of its members; identify relevant risks and vulnerabilities; report these to member authorities; and if requested, assist them in mitigating these risks through the timely formulation of policy recommendations. This is being done in accordance with Article 3(a) and (b) of the AMRO Agreement.

2. This Report is drafted on the basis of the Annual Consultation Visit of AMRO to Lao PDR from February 24 – March 3, 2020 (Article 5 (b) of AMRO Agreement). The AMRO Mission team was headed by Dr. Seung Hyun (Luke) Hong (Group Head and Lead Specialist). Members include Mr. Paolo Hernando (Desk Economist for Lao PDR), Dr Byunghoon Nam (Senior Economist); Dr. Nguyen Thi Kim Cuc (Senior Economist); Dr. Tanyasorn Ekapirak (Researcher and Sector Specialist for Lao PDR); Mr. Phanomphone Keovongvichith (Associate); Mr Takashi Yonemura (Associate); Mr. Douangkeo Khathhoumphom (Associate). AMRO Director Mr Toshinori Doi also participated in key policy meetings with the authorities. This AMRO Annual Consultation Report on Lao PDR for 2020 was peer reviewed by Dr. Chaipat Poonpatpibul (Group Head and Lead Economist) and Dr. Jade Vichyanond (Economist); and approved by Dr Hoe Ee Khor, AMRO Chief Economist.

3. The analysis in this Report is based on information available up to 20 April 2020.

4. By making any designation of or reference to a particular territory or geographical area, or by using the term "member" or "country" in this Report, AMRO does not intend to make any judgements as to the legal or other status of any territory or area.

5. On behalf of AMRO, the Mission team wishes to thank the Lao authorities for their comments on this Report, as well as their excellent meeting arrangements and hospitality during our visit.

Table of Contents

Executive Summary **4**
A. Recent Developments and Outlook **6**
A.1 Real Sector Developments and Outlook 6
A.2 External Sector and the Balance of Payments 10
A.3 Monetary Condition and Financial Sector 12
A.4 Fiscal Sector 13
B. Risk, Vulnerabilities and Challenges **16**
B.1 Shock of Global Pandemic on the Lao Economy 17
B.2 Weak Fiscal Position and Heavy Debt Burden 18
B.3 Vulnerable External Position 19
B.4 Narrowing Capital Buffers for Banks 19
B.5 Frequent and Severe Natural Disaster 20
C. Policy Discussions and Recommendations **20**
C.1 Mitigating the Impact of COVID-19 Pandemic on Health and the Economy 20
C.2 Strong Commitment to Medium Term Fiscal Consolidation Plan after Large Stimulus 21
C.3 Enhancing Buffers Against External Shocks 25
C.4 Easing Monetary Policy and Liquidity Constraints 26
C.5 Enhancing Structural Reforms 27
Appendix 1. Selected Figures for Major Economic Indicators **28**
Appendix 2. Selected Economic Indicators for Lao PDR **32**
Appendix 3. Balance of Payments **33**
Appendix 4. Statement of Central/General Government Operations **34**
Appendix 5. Monetary Survey **35**
Appendix 6. Data Adequacy for Surveillance Purposes: a Preliminary Assessment **36**
Annexes: Selected Issues **37**
Annex 1. Development of Tourism Industry and Economic Impact **37**
Annex 2. Inflation Dynamics and Exchange Rate Pass-Through in Lao PDR **42**
Annex 3. Development and Reform of Electricity Sector in Lao PDR **47**

Executive Summary

1. **Growth in 2020 is expected to slow sharply due to the economic fallout from COVID-19 pandemic.** Growth is expected to fall to 2.0 percent this year as the impact of virus containment measures and spillovers of the virus outbreak from neighboring countries take a toll on the Lao economy. Meanwhile, inflation is expected to rise to 4.3 percent in 2020 from 3.3 percent in 2019 due to lingering effects of supply shocks from the drought and swine flu in late-2019, and higher import prices brought about by tighter border controls, which are only expected to ease in the second half of the year.

2. **The current account deficit is expected to deteriorate in 2020 amid the adverse global environment.** For 2020, exports are expected to be hit by the bleak global outlook caused by COVID-19 pandemic resulting in lower agriculture and manufacturing exports, particularly in Special Economic Zones which are connected to the global supply chains. While imports will also be dampened, the slowdown in exports, coupled with the fall in tourist receipts and workers' remittances are expected to lead to a wider current account deficit of 8.3 percent of GDP in 2020 from 4.5 percent of GDP in 2019.

3. **Credit growth saw some recovery in 2019 but is expected to remain weak in 2020 amid the sharp slowdown of the economy.** After two years of sharp deceleration, credit to the economy began to recover slowly, growing by 7.4 percent in 2019. Credit growth is expected to remain sluggish as the imposition of a lockdown and tighter border controls has brought the economy to a standstill. Government initiatives in 2020 to enhance access to long-term finance for micro, small, and medium enterprises (MSMEs) are expected to provide financial support, by enabling access to concessional funds and credit guarantees.

4. **The fiscal deficit narrowed in 2019 but is expected to widen in 2020 with the announcement of an economic stimulus package to mitigate the impact of the COVID-19 pandemic.** Figures from the government indicate that the fiscal deficit narrowed to 3.2 percent of GDP in 2019 from 4.7 percent of GDP in 2018 mainly due to tighter expenditure control measures, while revenue performance remained weak. With the COVID-19 outbreak, the fiscal deficit in 2020 is expected to increase beyond the budgeted target as the government has rolled out measures to bolster the health systems and provide direct support to households and businesses, including MSMEs.

5. **The economy is expected to be under severe pressure in 2020.** Along with the rest of the world, the Lao economy is expected to suffer from the adverse impact brought about by the COVID-19 pandemic. The pandemic is likely to inflict major losses on the economy and weaken the fiscal and external position, putting a further strain on the economy going forward. In particular, the high debt stock and growing proportion of non-concessional borrowing have substantially increased the government's debt service burden and rollover risk. The high current account deficit also makes Lao PDR vulnerable to a sudden tightening of global financial conditions and an adverse shift in investors' sentiment.

6. **Continued policy support will be needed to upgrade the health sector capacity to cope with future health challenges.** The coronavirus pandemic has had far-reaching implications, and the Lao economy may remain susceptible to the spread of the virus until a vaccine is developed and made widely available across the world. Restarting the economy toward robust growth needs the government's continued efforts to upgrade the health care capability of the country. This include improving the ability to screen and quarantine people and investing in health care facilities, to allow the economy to reopen while at the same time effectively safeguarding public health.

7. **The government should boost financial support during these challenging times.** The imposition of the nationwide lockdown is expected to severely affect the household earnings and cash flow of firms. Emergency funds for the control and prevention of COVID-19, tax deferment for affected businesses, and cash handouts for members of the national pension fund have been rolled out. Additional fiscal support may be needed once the lockdown is lifted and the economy is restarted. The reduction of the reserve requirement ratio and the policy rate already initiated by the central bank may be further boosted by direct support to firms via the establishment of credit guarantees and emergency loan windows to prevent business closure. Temporary regulatory forbearance will also help businesses survive.

8. **Strong commitment to medium-term fiscal consolidation plan remains imperative amid the provision of fiscal stimulus in 2020.** Supportive fiscal expansion in 2020 should carefully take into account the limited fiscal space. In particular, the additional spending to mitigate the impact of the COVID-19 pandemic should be accommodated by reprioritizing and reallocating the existing budget as much as possible. The strong commitment to a credible fiscal consolidation plan should help maintain market confidence, which is vital to effective medium-term debt management.

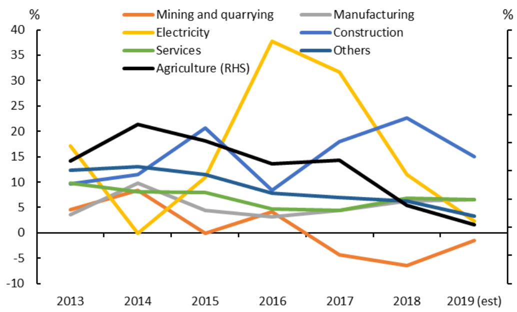
9. **Structural reforms and economic diversification are needed to boost Lao PDR's growth potential and economic resilience.** To improve economic resilience, diversifying the economic base is critical, by more effectively leveraging on the resource sector to develop other sectors such as manufacturing, tourism, and agro-based industries. The government should lay out clear plans to maximize the economic benefits from existing and upcoming large infrastructure projects like the forthcoming railway, by creating more jobs for Lao people and improving the logistic industry to enhance competitiveness. With the emergency preparedness and service delivery system of government repeatedly strained by various natural disasters, including the COVID-19 pandemic, more attention towards disaster response framework is needed. More investment in disaster resilient infrastructure will also help safeguard the poor and vulnerable, as well as result in less economic disruption in the future.

A. Recent Developments and Outlook

A.1 Real Sector Developments and Outlook

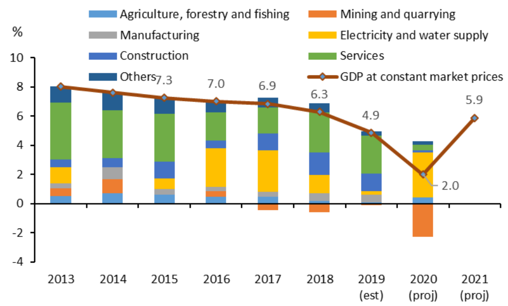
1. **Lao PDR's economy slowed in 2019 due to natural disasters.** GDP growth is estimated to have dropped to 4.9 percent in 2019 from 6.3 percent in 2018 as drought reduced the output of hydropower plants, and floods damaged the agriculture sector, particularly rice. Growth of the electricity sector fell to 2.3 percent in 2019, while agricultural sector remained flat as the fall in rice production was generally offset by increased production of more weather resistant agricultural products. The resilient construction sector[1] and the continued rise in tourism[2] and manufacturing activities were bright spots for the economy. However, overall consumption growth was relatively muted in 2019, dampened by the depreciation of the kip and higher inflation. Meanwhile, investments were negatively affected by the compression in public expenditure and weak credit growth.

Figure 1. Key Drivers of Growth



Source: Lao Statistics Bureau, AMRO staff estimates

Figure 2. Contribution to GDP Growth



Source: Lao Statistics Bureau, AMRO staff estimates

2. **Growth in 2020 is expected to slow sharply due to the economic fallout from COVID-19 pandemic.** Growth is expected to fall sharply this year to 2.0 percent as the impact of virus containment measures and spillovers of the virus outbreak from neighboring countries take a toll on the Lao economy**.** The services sector is expected to be hit hardest, especially sectors directly related to tourism such as accommodation and restaurants, retail trade, transportation and real estate. The lockdown imposed in Laos for more than a month starting 30 March 2020, will have further adverse consequences on the services sector as a whole. The construction sector is also expected to take a hit after growing rapidly in the past three years, with the delay of some major infrastructure and real estate development projects due to the lockdown. Meanwhile, manufacturing growth is expected to be flat, despite the significant ramping up of production capacity towards the middle of this year as the bleak global outlook for trade takes a toll on manufacturing exports.[3]

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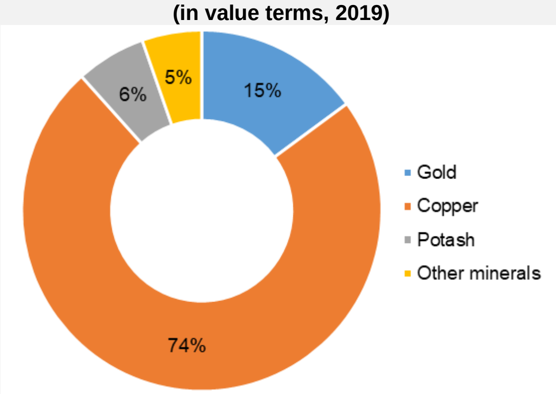
[1] Despite the completion of large hydropower projects, growth in the construction sector remain strong supported by the Lao-China railway and Vientiane-Vangvieng highway.
[2] Tourism provided a boost, as visitor arrivals were above the target, growing by 14.4 percent, driven by rising tourists from China.
[3] Increased capacity as new factories come on line to produce data storage devices and drives, corrugated boxes for parcels, plastics and mechanical equipment are expected to offset the fall in the manufacturing of other goods.

3. **Amid the gloom, growth in 2020 is expected to be driven by the agriculture and electricity sectors.** Weather conditions have normalized following the dry weather conditions during the first two months of the year, allowing the agriculture sector to bounce back from the natural disasters last year. Meanwhile, the electricity production is expected to increase significantly with installed capacity expanding by a third, which is mostly for export to Thailand. For 2021, the Lao economy is projected to rebound to a 5.9 percent growth, as the economy recovers from the impact of the virus pandemic, supported largely by the electricity sector as new installed capacity continues to drive output, offsetting the anticipated decline in the mining sector (see Box A).

Box A. Prospects of the Shrinking Mining Sector in Lao PDR[4]

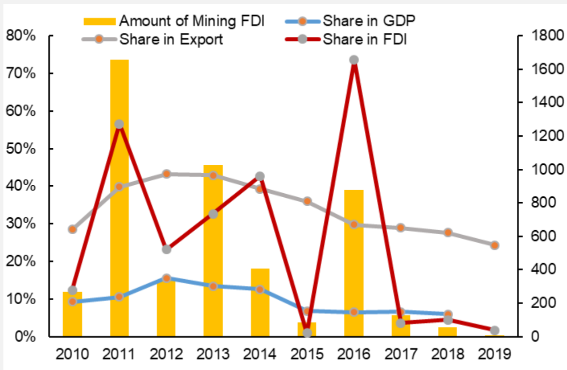
The mining sector's contribution to Lao's economic growth has declined steadily. The mining sector had been a key driver of economic growth since the mining production first started in 2002. In 2012, prior to the global commodity price slump, the mining sector accounted for 16 percent of GDP and 43 percent of total exports. Foreign investment flowed in and helped develop rich mineral resources. These inflows have accounted for about 30 percent of total FDI into Lao PDR over the past 10 years. However, with the commodity price decline from 2012 onwards and the gradually shrinking production in major mines, the mining sector's share of GDP and share of exports have both fallen steadily. In 2018, its share in GDP stood at 6 percent, and it accounts for 28 percent of total exports. (Figure A2)

Figure A1. Mineral Production Breakdown (in value terms, 2019)



Note: Gold includes silver.
Source: Ministry of Energy and Mines

Figure A2. Contribution of Mining Sector



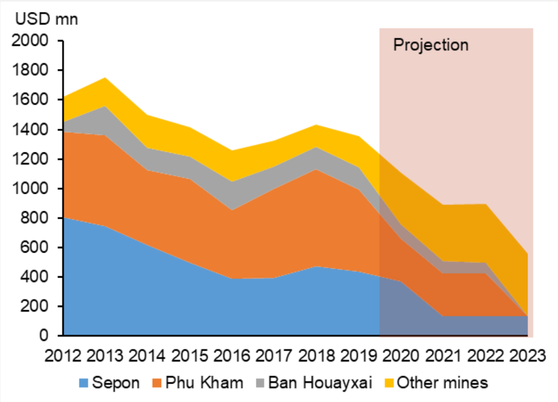
Source: Haver; CEIC

The closure of big mines will result in the mining sector shrinking further. Sepon[5], Phu Kham[6] and Ban Houayxai[7] are the three biggest mines in Lao PDR, producing 84 percent of total copper and gold output in 2019. Due to depleting mineral ores, the three mines are scheduled to close over the next few years. This will likely accelerate the mining sector's decline. With these closures, the total production value in the mining sector is projected to shrink by half in the next few years (Figure A3). In addition to the impact on economic growth, the closures of big mines will impact government's revenue. The mining sector's contribution to government revenues has declined from 19 percent in

[4] Prepared by Takashi Yonemura (Associate Researcher).
[5] Sepon is a copper mine where MMG Ltd. and the government own 90 percent and 10 percent stakes respectively. As copper deposits depleted, MMG Ltd. sold its share to Chifeng Jilong Gold Mining Co. Ltd., which plans to shift Sepon from copper production toward gold production from the end of 2020.
[6] Phu Kham is a copper and gold mine. PanAust (Phubia) and the government own shares worth 90 percent and 10 percent respectively.
[7] Ban Houayxai is a gold and silver mine. PanAust (Phubia) and the government own shares worth 90 percent and 10 percent respectively.

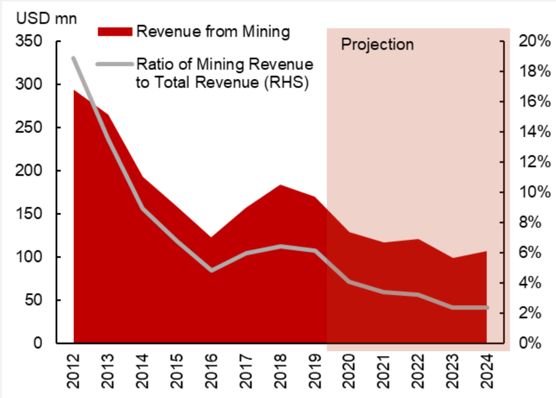
2012 to 6 percent in 2019, and it is likely to slip further to about only 2 percent in the next five years (Figure A4).

Figure A3. Production Value Share of Three Big Mines



Source: Ministry of Energy and Mines

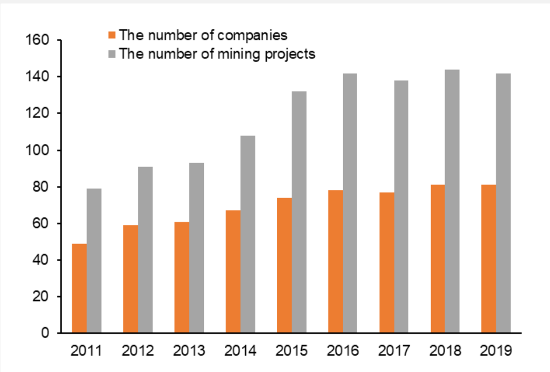
Figure A4. Government Revenue from Mining Sector



Source: Ministry of Energy and Mines

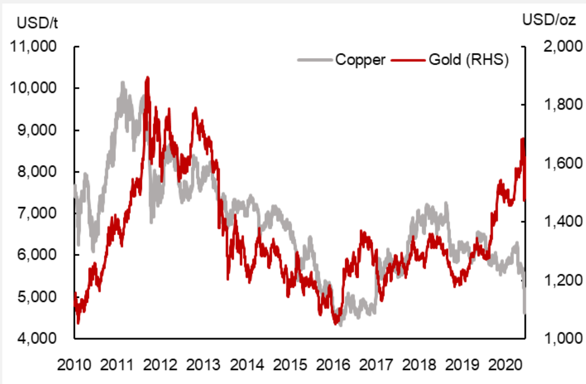
New investments in the mining sector have remained suppressed due to the extension of a moratorium on new concessions. The global commodity price boom in 2010 and 2011 led to a surge in investments in the mining sector. Following the downturn of the commodity price cycle, however, some companies lacking the proper skills or experience, did not make progress in exploration which inhibited the sound development of the mining sector. Acknowledging this problem, the government announced a moratorium on new mining concessions in 2012 to review and improve its concession granting system. However, the number of mining projects has increased between 2012 and 2015 since most existing projects were able to advance to the feasibility study and exploitation phases.[8] Meanwhile, the number of mining projects has not increased since 2015 as the moratorium on new projects was extended beyond its originally scheduled expiration in 2015. As of end 2019, 81 companies and 142 mining projects had been granted government concessions (Figure A5).

Figure A5. Development of Concessions



Source: Ministry of Energy and Mines

Figure A6. Copper and Gold Price Trends



Source: Haver

Amid subdued global commodity prices, the mining sector's expansion has been inhibited by structural constraints. According to the Japan International Cooperation Agency (JICA)[9], weak mining sector regulation and limited management capacity resulted in the granting of land concessions to incompetent mining companies amid surging investment inflows. This eventually led to a mining sector slowdown and resulted in the prolonged moratorium. Another obstacle often mentioned is the export policy on domestic value added, which forces mining companies to process the produced ore in Lao PDR itself. Given the huge amount of initial investment required, this policy

[8] Mining development can be broadly sequenced into three phases – prospecting, exploration, and feasibility study and.. exploitation.

[9] JICA (2020), "Joint Policy Research and Dialogue Program for Fiscal Stabilization in Lao PDR"

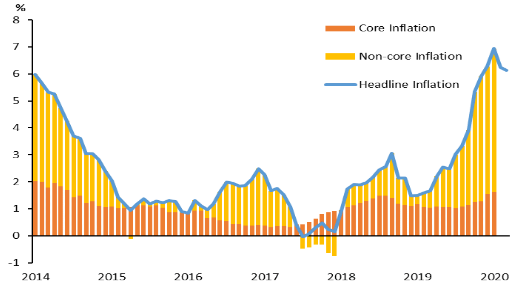
tends to discourage investors from starting new investment projects in an uncertain investment environment. Meanwhile, low global commodity prices tend to create an unfavorable environment for active investments in the mining sector. Although the prices of certain commodities have recovered recently, it has not been sufficient to outweigh lingering concerns over a global economic slowdown and to incentivize investors to start new projects in Lao PDR. (Figure A6)

To better exploit mining potential and utilize the resource, further policy efforts are necessary to create a conducive environment. In addition to copper and gold, Lao PDR is abundant in other mineral resources such as bauxite. In order to take greater advantage of these less exploited mineral resources for long-term development, it is important that an enabling regulatory framework and capacity are established, to properly address the various structural constraints. A stronger governance framework will help investors align their investment projects with the country's development interests. In particular, given volatile commodity prices globally, the government must take measures to reduce regulatory uncertainties and improve the overall business environment. This will help ensure Lao PDR's mining sector is able to attract greater investment. Furthermore, the government has an important role in effectively utilizing the revenue from these resources for other development projects. Establishing a framework to leverage on the non-renewable resource for capacity development such as education and infrastructure with an inter-generational perspective will also be a positive step towards a more conducive environment in Lao PDR.

4. **Inflation increased in 2019 due to higher food prices, and is expected to continue to rise in 2020.** Inflation spiked to 4.6 percent in the second half of 2019 from 2.0 percent in the first half, due mainly to the shortage of rice production after the floods in July and August, while the price of pork increased due to the spread of African swine fever towards the end of 2019. The depreciation of the Lao kip by around 8 percent against the Thai baht also contributed to inflation of imported items. These price pressures drove inflation to 3.3 percent for the whole of 2019 from 2.0 percent in 2018, while core inflation fell slightly to 2.1 percent in 2019 from 2.2 percent in 2018. Inflation has remained elevated at 6.4 percent in the first quarter of 2020.

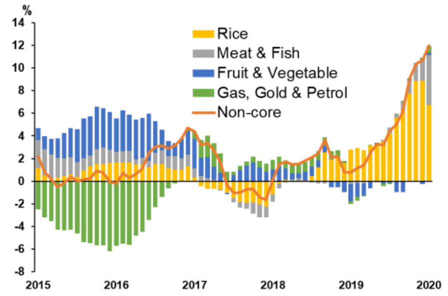
5. **Going forward, food prices are expected to steadily decline with the next crop harvest in the summer.** After the initial shock on the prices of imported goods due to the lockdown, prices are expected to decline steadily as supply of food increases with the summer harvest while demand is dampened by the impact of COVID-19 pandemic. For the whole year, inflation is expected to average around 4.3 percent in 2020, taking into consideration the depreciation of the Lao kip against the Thai baht and US dollar, which has put upward pressure on domestic prices (Refer to Selected Issue on Inflation Dynamics and Exchange Rate Pass-Through in Lao PDR).

Figure 3. Headline Inflation



Source: Lao Statistics Bureau

Figure 4. Non-core Inflation by Components



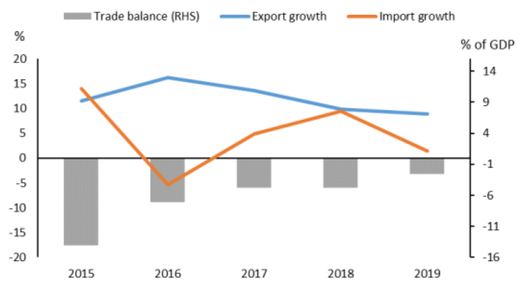
Source: Lao Statistics Bureau

A.2 External Sector and the Balance of Payments

6. **Export growth remained relatively strong in 2019 despite the contraction of electricity exports.** Exports grew by 8.9 percent in 2019, slightly slower than the 9.8 percent growth in 2018. Exports of gold rose by 32.4 percent, partially cushioning the 11.7 percent fall in copper export, as total mining export fell by 4 percent. Electricity exports also fell by 1.8 percent as hydropower plants suffered from the low water level of the Mekong River and an earthquake forced a temporary shutdown of Hongsa Lignite Power Plant.

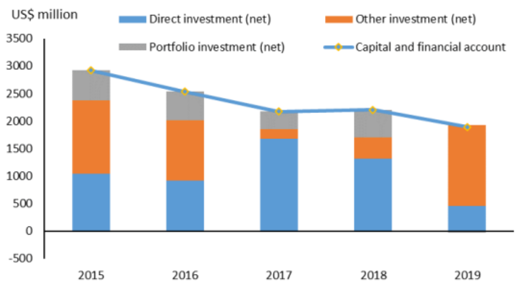
7. **Manufacturing and agricultural exports provided a boost, which helped to narrow the trade deficit while imports slowed down.** Agricultural exports rose by 31.1 percent as the contraction in rice exports was more than offset by a rise in the exports of high value crops[10] and agro-processing products. Manufacturing exports also increased by 5.8 percent in 2019. Meanwhile, the slowdown in imports was steeper than exports, as it grew by only 1.4 percent in 2019 due to completion of several hydropower plants and a moratorium on new government projects. As a result, the trade deficit fell to 2.6 percent of GDP in 2019, from 4.8 percent of GDP in 2018.

Figure 5. Trade Balance



Source: Bank of Lao PDR, AMRO staff estimates

Figure 6. Capital and Financial Account



Source: Bank of Lao PDR, AMRO staff estimates

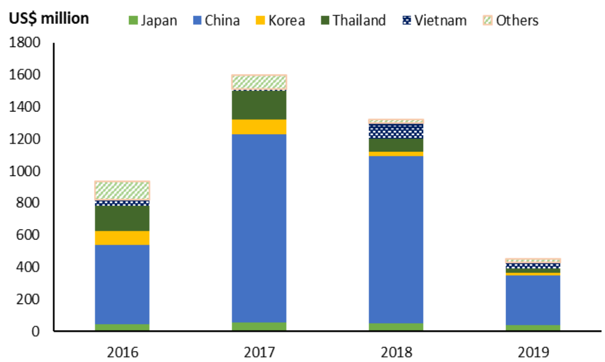
8. **The current account deficit also narrowed in 2019.** Although interest payments on external debt rose, the current account deficit narrowed to 4.5 percent of GDP in 2019,[11] from 7.9 percent in 2018, as the trade deficit fell while remittances rose. Meanwhile, the services account saw a narrower deficit as visitor arrivals and tourism revenues exceeded the target.

9. **The current account deficit was mainly financed by new loans and the overall BOP registered a slight surplus.** FDI inflows fell significantly in 2019 to USD557 million from USD1.32 billion in 2018, as investments from China shrank. The other main source of financing was loans under the Other Investments (OI) account, which rose to USD1.51 billion in 2019, accounting for more than three-quarters of inflows to the capital and financial account (Figure 6). The overall balance of payments (BOP) ended 2019 with a surplus of USD124

[10] This include bananas, watermelon, tamarind, mango, pomelo, mandarin and other citrus fruits.
[11] External trade figures generated by the Lao authorities differ significantly with mirror data from major trading partners. The data gap in exports has narrowed in recent years, however, the data gap for imports remains large at almost 4.5 percent of GDP. In this regard, alternative estimates using mirror data from major trading partners indicate the current account deficit to be 8.9 percent of GDP in 2019, down from the 11.2 percent of GDP in 2018.

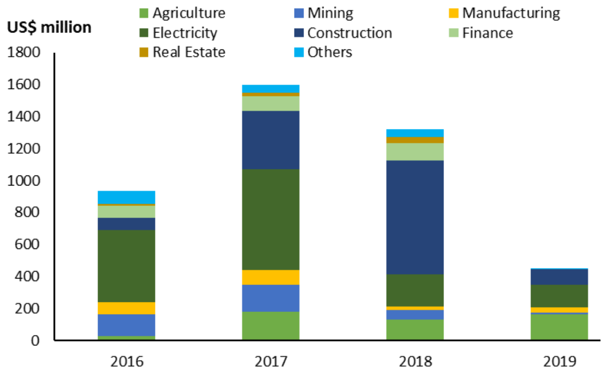
million, resulting in a rise in international reserves to USD997 million. The country's international reserves are estimated to cover about 1.6 months of goods and services imports (by conventional metric) or about 3.59 months of non-FDI imports (according to the authorities' own estimate).[12]

Figure 7. FDI by Country of Origin



Source: Bank of Lao PDR

Figure 8. FDI by Sector



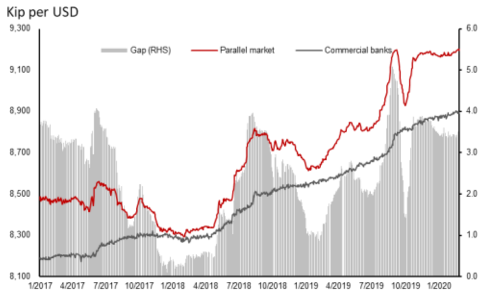
Source: Bank of Lao PDR

10. **The current account deficit is expected to deteriorate in 2020 amid the adverse global environment.** For 2020, export growth is expected to be hit by the bleak global outlook caused by COVID-19 pandemic resulting in slower agriculture exports and manufacturing output, particularly in Special Economic Zones which are connected to the global supply chains. While imports also remain dampened amid COVID-19, the slowdown in exports, coupled with the fall in tourist receipts and workers' remittances are expected to lead to a wider current account deficit of 8.3 percent of GDP in 2020.

11. **The exchange rate experienced heightened depreciation pressures in 2019.** Structural and cyclical factors have exerted downward pressure on the exchange rate. In recent years, the supply of foreign exchange has been tight, in part due to falling mining revenues and rising external debt service. The pressure was exacerbated in the second half of 2019 by lower hydro-electricity production and exports. With the tight liquidity, in particular the supply of USD in the FX market, the gap between the commercial and parallel exchange rates widened, peaking at around 5 percent in the last quarter of 2019. Although the gap has narrowed slightly in 2020, it remains elevated at around 3.5 percent (Figure 9). The pressure on the exchange rate is intensified by speculation of further depreciation against the USD. Meanwhile, the appreciation of the Lao kip against the Thai baht in 2020[13] has eased the pressure between the LAK-THB commercial and parallel rates (Figure 10).

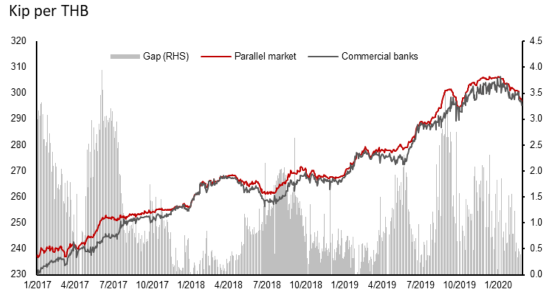
[12] The authorities' estimate is based on projections of non-FDI related imports using data from the Customs Department. Meanwhile, AMRO's estimate, excluding investment goods imports, show that, as of end-2019, gross official reserves could be equivalent to about 2.6 months of non FDI-related imports.
[13] The appreciation of the LAK against THB is mainly driven by the depreciation of THB against the USD, as the LAK has remained relatively stable against USD.

Figure 9. Kip to US Dollar Exchange Rate



Source: Bank of Lao PDR, AMRO staff estimates

Figure 10. Kip to Thai Baht Exchange Rate

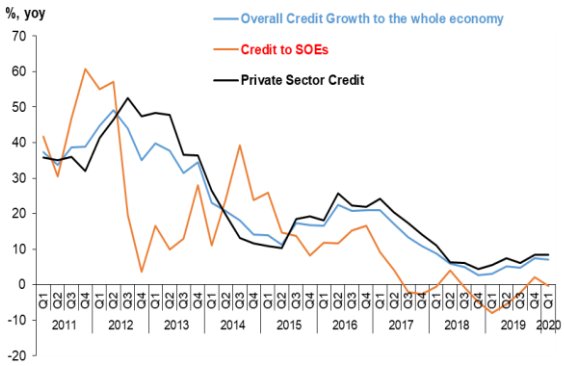


Source: Bank of Lao PDR, AMRO staff estimates

A.3 Monetary Condition and Financial Sector

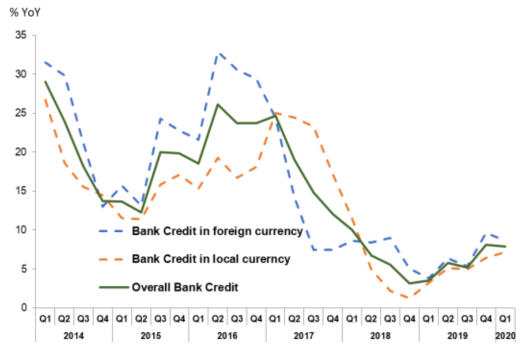
12. **Credit growth remained subdued in 2019 amid the slowdown of the economy.** After two years of sharp deceleration, credit to the economy began to recover slowly, growing by 7.4 percent in 2019 (Figure 11), with foreign currency lending outpacing the growth in local currency credit (Figure 12). In addition to the government's recognition of past construction related arrears of around 3.1 percent of GDP, the removal of the interest rate cap has allowed more room for banks to price-in credit risks, although the effects on credit growth remain limited. Government initiatives in 2020 to enhance access to long-term finance for micro, small, and medium enterprises (MSMEs) are expected to have wider economic impact, by providing access to concessional funds and credit guarantees. While credit growth was at 7.0 percent in Q1 2020, it is expected to decline amid the economic and financial challenges brought about by the COVID-19 pandemic. Meanwhile, the linking of bank accounts to modern payment systems has encouraged the growth of deposits in the banking system.

Figure 11. Domestic Credit Growth



Source: Bank of Lao PDR

Figure 12. Commercial Banks' Credit Growth

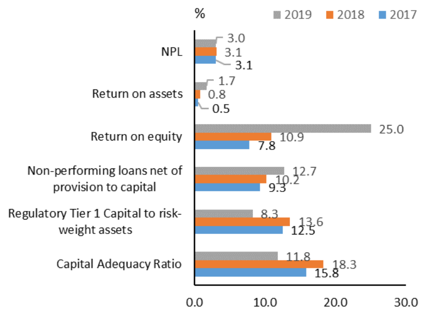


Source: Bank of Lao PDR

13. **Banks' capital buffer deteriorated last year.** Overall capital adequacy ratio for the banking system declined to 11.8 percent at the end of 2019 from 18.3 percent in 2018 amid the slowdown of the economy. The overall non-performing loan (NPL) ratio remained stable at 3.0 percent while two state-owned banks are still undergoing restructuring. The loan-to-deposit ratio (LTD) has declined to 83.3 percent as of Q1 2020 with the steady growth of deposits even as credit growth remained subdued. Bank profitability improved, with return on

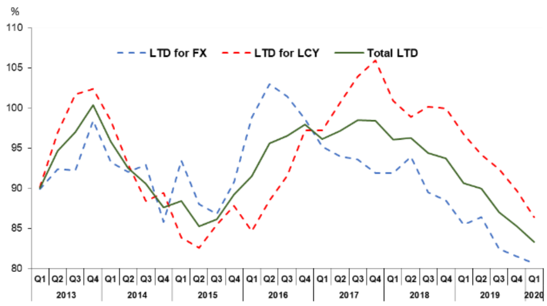
assets increasing to 1.7 percent as of end-2019. Meanwhile, the process of clearing past government construction related arrears is still ongoing.

Figure 13. Financial Soundness Indicators



Source: Bank of Lao PDR

Figure 14. Loan-to-Deposit Ratios

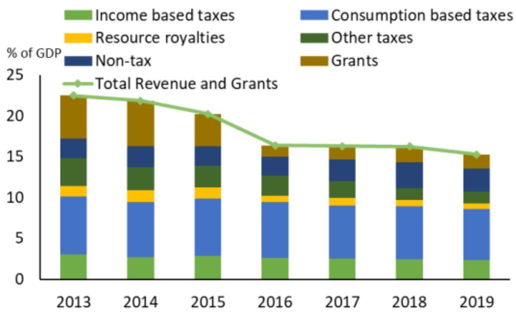


Source: Bank of Lao PDR

A.4 Fiscal Sector

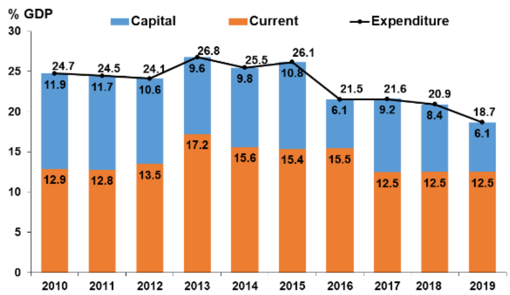
14. **Revenue performance in 2019 remained weak.** Notwithstanding policy changes aimed at strengthening and modernizing tax administration, the tax revenue to GDP ratio fell to 10.8 percent of GDP in 2019 from 11.2 percent of GDP in 2018. The decline in terms of GDP encompassed all major tax categories, with their growth well below nominal GDP growth and the tax revenue collection falling below the target by more than 5 percent.[14] Non-tax revenues also fell to 2.9 percent of GDP in 2019 from 3.1 percent previously, due mainly to lower interest revenues and dividends. Grants also fell to 1.7 percent of GDP in 2019 from 1.9 percent in 2018. (Figure 15).

Figure 15. Total Revenue and Grants



Note: Resource royalties consist of hydro-power royalties, timber royalties and other fees related to the resource sector.
Source: Ministry of Finance

Figure 16. Current and Capital Expenditure



Source: Ministry of Finance

15. **Expenditure fell significantly in 2019 as government cut back on investments.** Efforts to manage current expenditure more tightly through cost savings measures helped limit the operating expenses of government, while the reduction in civil service recruitment helped to cap the public sector wage bill. However, higher transfers and interest payments resulted in current

[14] In spite of new reform initiatives, the rolling out the implementing instructions for the new tax measures was slow and the capacity to support the strong implementation was not sufficient.

expenditure remaining stable at 12.5 percent of GDP. In this regard, the fall in government expenditure was mainly due to the contraction of capital expenditure as government curtailed public investments, including putting in place a moratorium on new hydropower projects (Figure 16).

16. **The fiscal deficit significantly narrowed in 2019 reducing public debt as a share of GDP.** Figures from the government indicate that the fiscal deficit narrowed to 3.2 percent of GDP in 2019[15] from 4.7 percent of GDP in 2018. Despite the lower fiscal deficit, public debt is estimated to remain stable at 57.5 percent of GDP at the end of 2019, due to the depreciation of the exchange rate. Debt service continues to be large, with principal payment equivalent to 5.4 percent of GDP, which resulted in a gross financing need of 8.6 percent of GDP in 2019, a third of which was financed domestically (see Box B)[16] and the remaining two-thirds was financed from external sources. Amid the downgrade of its sovereign rating in the Thai bond market, Lao authorities looked to other funding sources in the international market[17] and they were able to receive credit ratings from Moody's and Fitch for the first time. [18]

Box B. Recent Developments in Lao PDR's Government Bond Market[19]

The size of the government bond market in Lao PDR is still small, but saw more activity in 2019 as supporting regulations and systems have been put in place. The first issuance of government securities dated back in the early 1990's,[20] and was relatively modest with government securities consisting mostly of treasury bills and bonds issued through BOL auctions. In 2017, aiming to upgrade the dormant government bond market, Lao government announced Decree No. 101/POM,[21] which provides a definition of government securities, their categorization[22] and different issuance methods. Notably, the decree allows the Ministry of Finance (MOF) to auction its bond issuance on a designated platform on the Lao Securities Exchange (LSX). This is in addition to traditional methods of bond auctions via the BOL and direct placement. With the enactment of Decree 101, government has been able to issue more bonds. The total value of issued bonds amounted to LAK3,932 billion via BOL auctions (Table B1) and LAK1,370 billion via the LSX platform in 2019 (Figure B1).

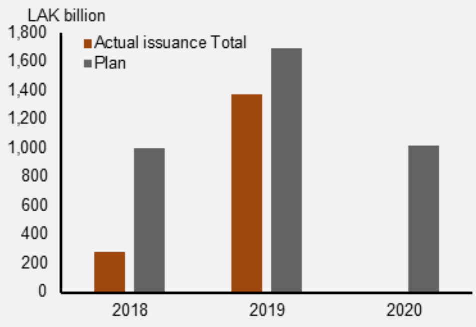
[15] Amid the low fiscal deficit figure, there are indications that the government could have accumulated some arrears, as it has not been able to pay for some expenses, including electricity bills.
[16] Domestic financing was mostly through the new platform for government bonds at the Lao Stock Exchange (LSX), wherein the government was able to issue LAK1,370 billion Kip out of the original plan of LAK2,700 billion.
[17] In October 2019, a syndicated loan of EUR135 million (LAK1,350 billion) was obtained from Credit Suisse. In December 2019, a US$ 150 million international bond (LAK1,350 billion) was issued with a coupon rate of 6.875 percent, maturing in June 2021.
[18] Moody's rated the Lao bond 'B3' with a positive outlook while Fitch rated it 'B-' with a stable outlook. These ratings denotes that the bond is below investment grade ('junk' bond), highly speculative and subject to credit risks.
[19] Prepared by Douangkeo Khathoumphom.
[20] Government securities were first issued in the form of Treasury Certificates of 3-month and 6-month maturities and a coupon rate of 4 percent in 1991. The issuance amount was LAK2 billion for each tenor, totaling LAK4 billion.
[21] Prior to Decree No. 101, Government securities were issued in accordance with the Law on State Budget and with the agreement of the Lao National Assembly. During this period, the BOL led the efforts to develop the bond market and issued regulations on government bond transactions, such as the regulations relating to the discount window for government bonds in 1994, Government bond auctions in 1995, and Open Market Operations for the trading of bonds in the secondary market in 2007.
[22] Government securities can be categorized into (i) Treasury bills (T-bills) with less than 1-year maturity; (ii) Treasury bonds (T-bonds) with 1-year or longer maturity; (iii) development bonds issued to finance infrastructure development projects with longer maturities; (iv) (bank) recapitalization bonds; and (v) bonds issued for other purposes—upon government approval—such as such as debt arrear-clearance bonds.

Table B1. The Government Bonds (T-bond) Issue via BOL Auction

Year	Issuance Amount (LAK billion)	Coupon rates				
		1 year	2 year	3 year	4 year	5 year
2013	1,000	4.50%	4.75%	5.10%	5.50%	6.00%
2014	1,000	4.50%	4.75%	5.10%	5.50%	6.00%
2015	2,000	4.00%	4.25%	4.60%	5.00%	5.50%
2016	2,000	4.00%	4.25%	4.60%	5.00%	5.50%
2017	3,000	5.00%	5.50%	6.00%	-	-
2018	3,300	5.00%	5.50%	6.00%	-	-
2019	3,061	5.00%	5.50%	6.00%	-	-
2020	3,000	5.00%				

Source: BOL

Figure B1. Government Bonds Issued via LSX Platform



Source: LSX

Progress has been made with the LSX issued government bonds recently. The amount of government bonds issued via the LSX platform increased significantly from LAK285 billion in 2018 to LAK1,370 billion in 2019, and is fast approaching the planned target of LAK1,700 billion (Table B.2). This owes to the increase in issuance frequency and the widening of purchase windows for each issuance. In addition, the maturity profile of bonds issued in 2019 has been lengthened, with a significant increase in the amount of bonds issued in 3-year tenors, as well as the first time issuance of bonds of 7-year tenors and above, albeit at a fairly modest scale (Table B2). Most bond investors are still commercial banks. To expand the investor base, efforts are underway to encourage long-term investors to participate more actively in purchasing government bonds such as insurance companies and pension funds, particularly the National Security Fund Committee (NSFC).

Table B2. Government Bonds Issued via LSX by Tenors (in LAK billion)

LAK billion	Bond Tenors at Issuance							
	1 year	3 year	5 year	7 year	10 year	15 year	20 year	Total
2018	**189.11**	**60**	**36.02**	**-**	-	-	-	**285.13**
Apr-19	200.02	270.01	0.01	0.04	-	-	-	470.08
Jun-19	10.87	233.92	-	-	-	-	-	244.79
Sep-19	-	50.26	0.03	-	0.29	0.14	0.45	51.17
Oct-19	-	11.13	-	-	-	0.12	`-	11.25
Nov-19	-	350.12	-	-	0.005	-	0.032	350.157
Dec-19	-	245	-	0.18	0.2	-	0.002	245.38
2019	**210.89**	**1,160.44**	**0.04**	**0.22**	**0.5**	**0.26**	**0.48**	**1,372.83**

Source: LSX

The government plans to develop the domestic bond market further. The plan in 2020 is to issue government bonds worth LAK3,000 billion and LAK1,022 billion via the BOL auction and LSX routes respectively. To be able to issue a broader range of securities, and strengthen the regulatory environment, the Law on Securities (2012) is proposed to be amended – with the proposed draft completed in 2019, and will be presented to the National Assembly in June 2020 for consideration. To widen the investor base, government continues to cooperate with securities companies on information campaigns to promote the bond market, and at the same time disseminate information on international standards and best practices on bond issuance procedures, especially for the government bond market.

17. **Amid challenging budgetary targets in 2020, an economic stimulus package was announced to mitigate the impact of the COVID-19 pandemic**. The 2020 budget projects the tax collection to rise to 12.0 percent of GDP from 10.8 percent in 2019, with full implementation of tax reform measures. With the deficit target of 4.4 percent of GDP, public

debt is expected to rise to 60.3 percent of GDP in 2020.[23] However, with the COVID-19 outbreak, the fiscal deficit in 2020 is expected to increase beyond the budgeted target as the government has rolled out measures targeted at bolstering the health systems and providing direct support to households and businesses, including micro, small and medium enterprises (MSMEs).

Table 1. Key measures to address COVID-19 pandemic (as of 20 April 2020)

	Measures
Monetary Policy	• Reduced the reserve requirement ratio (5 percent to 4 percent for LAK and from 10 percent to 8 percent for foreign currency) and • Lowered the policy rate (by 1 percentage point).
Fiscal Policy	• Ten billion kip (less than one percent of GDP) has been allocated for prevention and control. • Expedited clearance and tax and duty-exemption for importations of medical equipment to be used towards the outbreak. • Deferral of various taxes on workers and businesses, particularly for sectors heavily affected by the COVID-19. • Employees and workers who are members of the National Social Security Fund (NSSF) will receive LAK500,000 for May and June 2020 to support members during the difficult time of COVID-19
Regulatory Forbearance	• Allowed borrowers who were classified as NPLs from Jan 2020 to be moved to the Special Mention loan category
Private Sector	• Bank of Lao PDR encouraged commercial banks and financial institutions to provide payment accommodations to borrowers affected by the pandemic: - Commercial Banks and Financial Institutions to consider the deferment of the repayments, interest rate, and reduction of the interest rate and fee. - Provision of new loans to borrowers affected by COVID-19 to support liquidity or revive production and business operations - Commercial Banks and Financial Institutions to consider restructuring the debt for those affected by the COVID-19
Containment	• Entered full lockdown starting 30 Mar as Prime Minister orders reinforcement measures on containment, prevention and full response to the pandemic initially until April 19 but extended until May 3.

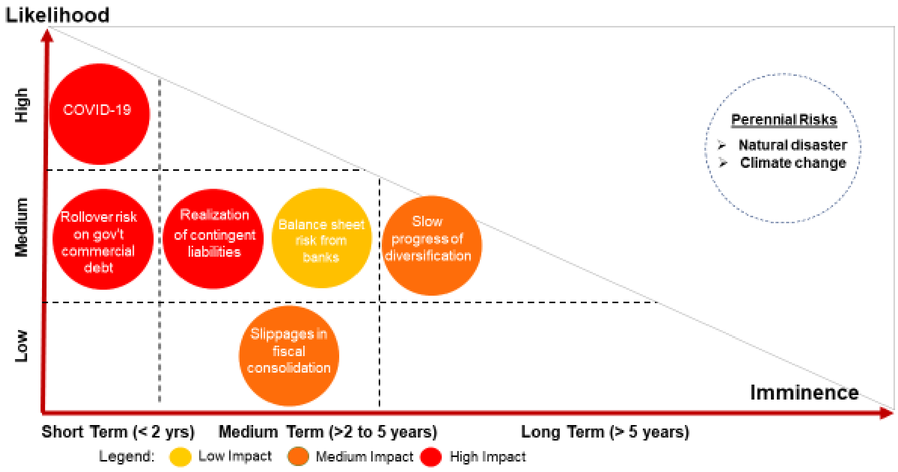
Source: National authorities

B. Risk, Vulnerabilities and Challenges

18. **The economy is expected to be under severe pressure in 2020.** Along with the rest of the world, the Lao economy is expected to suffer from the adverse impact brought about by the COVID-19 pandemic. The pandemic is likely to inflict major losses on the economy and weaken the fiscal and external position, putting a further strain on the economy going forward.

[23] Revenue and expenditure are based on authorities' 2020 budget approved in December 2019. Stimulus packages to cope with the COVID-19 outbreak are not counted in this projection. GDP and public debt figures are based on AMRO projections.

Figure 17. Lao PDR Risk Map



B.1 Shock of Global Pandemic on the Lao Economy

19. **Stringent measures to contain the spread of the virus will result in a severe downturn in economic activity.** Given the high infection rate, policy makers around the world have rolled out strong measures to contain the virus, particularly imposing lockdowns and border controls with varying severity, to safeguard public health. With economic activity in standstill, both supply and demand will be disrupted and, if containment measures are extended, a rise in bankruptcy and unemployment is expected. How soon the virus is contained and how quickly the measures can be lifted so that the economy can be restarted will determine the magnitude of the economic fallout from the virus.

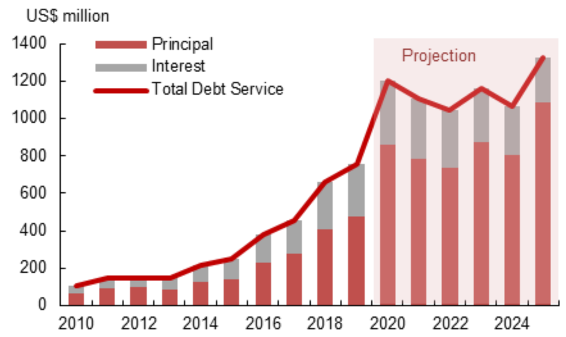
20. **In addition to the domestic impact, spillovers from neighboring countries will also be significant.** Lao PDR is closely linked to its neighbors, particularly Thailand, China and Vietnam, through trade, investment and tourism.[24] These neighboring countries are expected to suffer substantial economic slowdown in 2020 due to the pandemic, which will then have a large spillover impact on the Lao economy. The negative effect of lower tourist visitors has already been severely felt in hotels, restaurants and tourist retail sales. In addition, this global pandemic is expected to bring significant changes in supply chains and business activities, which could serve to dampen or boost foreign investment flows into Lao PDR over the medium-term, depending on the skillfulness in adapting to these changes. Amid the downside risks, a stabilizing factor is the exports of electricity, as these are expected to be more resilient despite the slowdown in economic activity in Thailand. [25]

[24] Currently, Thailand is Lao PDR's major trading partner, absorbing 90 percent of electricity exports, and also its main source of tourism. Meanwhile, China is the primary source of investment and financing, with its share in trade and tourism increasing significantly in the past 3 years. See AMRO Annual Consultation Report to Lao PDR 2019 for further details.
[25] The guaranteed nature of the Power Purchase Agreement (PPA) on electricity exports is expected to provide a certain level of resilience against demand fluctuations, particularly with the Electricity Generating Authority of Thailand (EGAT),

B.2 Weak Fiscal Position and Heavy Debt Burden

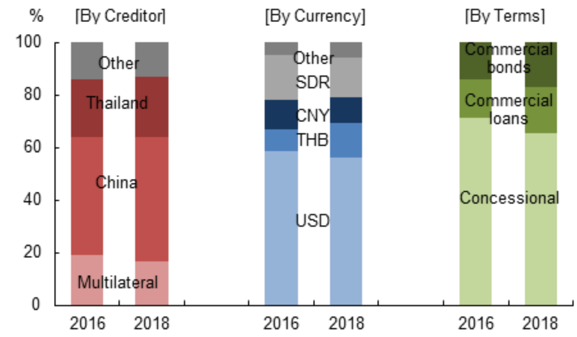
21. **The high debt stock and growing proportion of non-concessional borrowing have substantially increased the government's debt service burden and rollover risk**. Chronic sizeable fiscal deficit and large amounts of on-lending to hydro-power sector have inflated public external debt. As a result, debt service burden has dramatically increased to USD1.2 billion (6.3 percent of GDP) in 2020 and is projected to be maintain over USD 1 billion for several years to come (Figure 18).[26] Aside from the higher debt service, the increase in non-concessional borrowings and short-tenure bank loans has made the debt portfolio more vulnerable to sudden shifts in market sentiment (Figure 19). In particular, the adverse international market condition due to the COVID-19 pandemic is expected to make it challenging to raise funds given the general risk aversion sentiments in the market, heightening the rollover risks.

Figure 18. External Debt Service



Source: Ministry of Finance
Note: Projection is based on existing bonds and loans.

Figure 19. External Debt Profile



Source: Ministry of Finance

22. **Structural constraints in revenue collection and the limited resource mobilizing capacity may constrain the effective use of fiscal stimulus.** After successfully reducing fiscal deficit in 2019, the Lao government loosened the consolidation target in 2020,[27] but the policy room to accommodate a large scale fiscal stimulus to fight COVID-19 pandemic seems very limited. The combination of a relatively large informal sector, extensive use of tax incentives, and limited administrative capacity, have constrained the authorities from effectively raising tax revenues and building fiscal space during periods of robust economic growth. The temporary tax relief measures implemented to mitigate the impact of the pandemic together with slow economic activity due to the extended lockdowns in this region would make it even more difficult to achieve the target for the year.[28] On the expenditure side, in addition to immediate expansion of public health related spending, there are growing spending needs to support businesses hurt by the lockdown and supply chain disruption, and

[26] Immediate challenge would be the repayment of government bonds issued in the Thai market maturing this year. US$162 million and US$90 million are due in June and October, respectively.
[27] Fiscal deficit targeted in the budget for 2020 is 4.4% of GDP, which is greater than 3.2% of GDP in 2019 and 3.6% of GDP in 2020 announced in the original medium-term fiscal consolidation plan.
[28] Moreover, 2020 revenue target is very ambitious considering the historic tax buoyancy. Tax buoyancy is the elasticity of tax revenue with respect to nominal GDP which was on average 0.73 during 2011-2019, and 3.07 for the 2020 budget.

to help vulnerable households. However, the policy room to accommodate such growing spending needs seems very limited due to the constraints in resource mobilization through revenue collection and financing.

23. **The government faces rising risks from contingent liabilities.** The power sector, although a key growth driver, is an important source of fiscal risk, with about one third of the public external debt on-lent to the Electricite du Lao (EDL). In addition to its massive liabilities[29], the EDL's financial position has been deteriorating rapidly as operating loss continues with its electricity tariff set below cost recovery (Refer to Selected Issue on the Development and Reform of Electricity Sector in Lao PDR). Moreover, the recapitalization needs for some SOEs, in particular, the national airline and the two smaller state-owned banks, will also weigh on the government. The resolution of domestic payment arrears related to past government infrastructure projects has added 3.1 percent of GDP to the public debt in 2018, but there are still unresolved arrears that need to be assessed on whether they should be added to the debt stock.

B.3 Vulnerable External Position

24. **The high external debt and low international reserves make the economy vulnerable to external shocks.** A significant depreciation of the exchange rate would increase the debt service burden of the government, puts upward pressure on inflation, and weakens the private sector's cash flow and balance sheets, given the significant dollarization of the economy. Despite recent improvement, the current account deficit remains large, financed increasingly by commercial and shorter tenor instruments such as bonds and bank loans. This makes Lao PDR increasingly vulnerable to a sudden tightening of global financial conditions and a shift in investors' sentiment similar to the flight to quality of international investors under the highly uncertain environment brought about by the COVID-19 pandemic. Under such an environment, financing costs could reach prohibitive levels for non-investment grade sovereigns like Lao PDR, considering its thin international reserve buffer and high external debt service burden.

B.4 Narrowing Capital Buffers for Banks

25. **Some pockets of vulnerabilities remain in the banking system.** Amid a deterioration of capital buffers in the banking system, pockets of vulnerabilities emerged in 2019. While large banks such as BCEL and ICBC are relatively healthy, some small banks need to be closely monitored, particularly those with capital below the minimum regulatory requirement. A case in point is the Lao Construction Bank (LCB), as BOL had to exercise control of the bank under the new legal framework[30]. Transitioning to risk-based supervision and Basel II standards remains challenging for supervisors, requiring continued high-level support and capacity building among staff.

[29] EDL's total liabilities (current and non-current) stood at USD 6.4 billion in 2017 (38 percent of GDP)
[30] The new legal framework for the banking sector through the BOL Law and Commercial Bank Law that was passed in 2018 provided greater power for the BOL to conduct prompt corrective action and initiate resolution framework for weak banks.

B.5 Frequent and Severe Natural Disaster

26. **The economy is highly vulnerable to natural disasters.** Lao PDR has experienced more frequent and severe natural disasters in recent years as well as unpredictable weather patterns. These extreme weather conditions have dragged down growth, affecting the agriculture, electricity and tourism sectors the most, which account for 14, 12 and 5 percent of the economy, respectively (the importance of tourism is larger than its direct share of the economy given strong backward linkages with other sectors of the economy, as shown in the Selected Issue on Development of Tourism Industry and Economic Impact). The economy is highly dependent on water resources derived from the Mekong River, which provides irrigation for more than two-thirds of rice production, and 90 percent of fisheries and electricity resources. The increasing severity of natural disasters is a key concern, particularly as the performance of key growth drivers – hydropower, agriculture and tourism – are highly dependent on weather conditions.

Authorities' Views

27. **The authorities generally agreed with AMRO's view that the main risks emanate from the COVID-19 pandemic, high debt and debt service burden, as well as pressures on the exchange rate.** The authorities acknowledge that the pandemic requires quick and aggressive policy action to save lives and protect livelihoods, however, the lack of policy space is a key concern. Authorities agreed that the fiscal situation remains challenging, with multiple reforms to consolidate the fiscal position, modernize revenue collection, enhance expenditure efficiency, and effectively manage the debt, and in different stages of implementation. With regards to the exchange rate, the impact of risk aversion and a tightening in global financial conditions is a key concern, as spillovers resulting from global financial volatility could potentially exert downward pressure on the exchange rate.

C. Policy Discussions and Recommendations

C.1 Mitigating the Impact of COVID-19 Pandemic on Health and the Economy

28. **Continued policy support will be needed to upgrade the health sector capacity to cope with future health challenges.** The coronavirus pandemic has had far-reaching implications, and the Lao economy may remain susceptible to the spread of the virus until a vaccine is developed and made widely available across the world. Restarting the economy toward robust growth needs the government's continued efforts to upgrade the health care capability of the country to screen people within its borders and travelers coming into the country, to effectively safeguard public health without causing too much damage to the economy. Learning from the experience of other countries, Lao PDR has imposed a lockdown on the population, which has so far been successful in containing the virus spread and avoiding the spike in cases seen in other countries. The Lao authorities should take advantage of the low level of infections to expand the health care capacity so as not to be overwhelmed in case an unexpected spike in infection were to occur in the future.

29. **Government will need to ensure adequate access to necessary goods and services while preparing for the restart of the economy by helping businesses stay afloat during the lockdown.** A massive contraction of economic activity is expected during the lockdown phase, as demand falls sharply with the restriction on movement of people, and the supply chain is disrupted with the closure of factories and tighter border controls. Amid the sharp drop in commercial activity, government must be prepared to ensure that people can have adequate access to necessary goods and services[31], and to support firms to survive and maintain their livelihood during the lock down. On helping the economy recover once the lockdown is lifted, additional large scale government support together with credit facilities for MSMEs should be rolled-out to help workers and firms navigate and retool under the new challenges brought about by the coronavirus.

C.2 Strong Commitment to Medium Term Fiscal Consolidation Plan after Large Stimulus

30. **Amid the challenges to the fiscal position brought about by COVID-19, a successful debt rollover supported by better public debt management, will be a key policy priority.** Authorities need to prepare, with sufficient lead-time, detailed debt management plans to ensure on-time debt repayment in order to ease market concerns on massive debt service burden in the coming years. Fundamentally, enhanced capacity and framework is needed to better manage the high public debt and contingent liabilities, which can be aided by improved debt profile. Refraining from commercial borrowing and relying more on concessional finance would be prudent to mitigate rollover risk, and reduce the interest burden. Government efforts to move toward domestic financing is commendable, and need to be accelerated further to make the debt profile resilient to external shocks. To better control fiscal risk, a comprehensive debt management framework, including contingent liabilities, should be established.

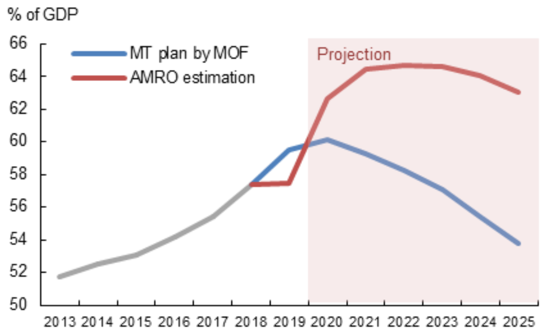
31. **Although sufficient fiscal support is imperative in 2020, strong commitment to medium-term fiscal consolidation plan will remain crucial afterward.** The imposition of the nationwide lockdown is expected to severely affect the household earnings and cash flow of firms. Additional fiscal support may be needed once the lockdown is lifted and the economy is restarted. However, considering the limited fiscal space and an adverse financing environment, additional spending needs should be accommodated first by reprioritizing and reallocating the existing budget as much as possible.[32] More importantly, relative easing of fiscal stance this year should be accompanied by strong commitment to credible consolidation plan from next year onwards to regain market confidence, which can be vital to effective medium-term debt management. Strengthening the fiscal rule could be considered, while

[31] The large informal sector in Laos is especially vulnerable during the lockdown so that targeted support measures, such as targeted cash transfers to buy food, would be an essential lifeline.

[32] Authorities need to actively search for all possible options to expand the financing capacity, including bilateral debt rescheduling and restructuring, leveraging on the recent global initiatives such as debt payment moratorium by G20 finance ministers and central bankers. Also, additional efforts are need to secure more resources from various institutions including available facilities of international organizations, advanced country donors, and private sector donations in order to fill in the shortfalls in tax collection.

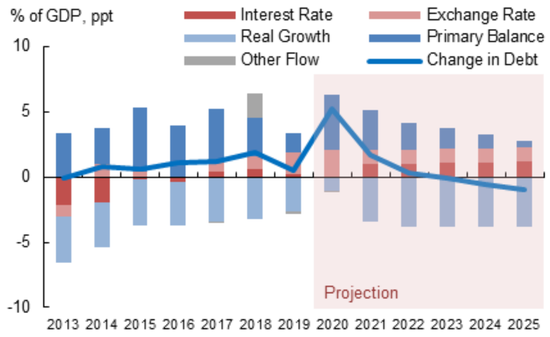
revising the fiscal consolidation targets is necessary with more credible baseline assumptions.[33]

Figure 20. Debt-to-GDP Ratio



Source: Ministry of Finance, AMRO staff estimation
Note: AMRO's recalibrated fiscal consolidation path assumes fiscal relaxation in 2020 and stronger fiscal consolidation after 2021.

Figure 21. Debt Dynamics



Source: AMRO staff estimation

32. **The achievement of fiscal consolidation targets hinges on a combination of increasing revenues and improving spending efficiency**. To provide the needed revenue, accelerating tax reforms should be the priority where extra efforts are needed to expand the tax base and improve tax administration. To improve revenue collection amid relatively fast economic transformation, the tax system needs to be reformed and upgraded regularly by leveraging on fast developing information and communication technology (ICT). A centrally coordinated tax expenditure management system is needed to properly monitor and manage the effective use of tax incentives. Continuing efforts to enhance the capacity of tax administrators and upgrade the administration system are also crucial. On the expenditure side, there is a need to boost expenditure efficiency while ensuring sufficient resources are allocated for development needs. This will require improvements in the planning and implementation capacities, including project selection and management with better coordination among different government agencies; effective roll-out of budget plans; closer monitoring to achieve targeted results; and greater transparency and accountability of fiscal accounts. Authorities acknowledged the importance of fiscal consolidation and have been putting efforts to implement fiscal reforms in the areas of revenue, expenditure, and debt management (see Box C).

Box C. Major Fiscal Reform Measures for Fiscal Consolidation in Lao PDR[34]

The National Assembly session in December 2019 approved the Budget Plan for 2020, which is the last year of the 8th National Socio-Economic Development Plan (2016-2020), and is the third year of

[33] Debt dynamics heavily depends on macroeconomic assumptions. For example, the table below shows the changes in debt-to-GDP ratio (%p) compared to the baseline when underlying assumptions change.

	2020	2021	2022	2023	2024	2025
0.5%p decrease in real growth	+0.29	+0.51	+0.74	+0.90	+1.00	+1.04
1%p increase in interest rate (new financing)	+0.01	+0.06	+0.12	+0.18	+0.24	+0.31
1%p increase in exchange rate (LAK/USD)	+0.51	+1.05	+1.58	+2.05	+2.46	+2.79

[34] Prepared by Phanomphone Keovongvichith (Associate).

the Public Finance Development Strategy (2018-2025). Therefore, the ongoing efforts to achieve fiscal consolidation remain a key priority, including the fiscal deficit target of less than 3 percent per annum on average during 2020-2025. In this regard, the Strategic Plan of Taxation (2018-2020)[35] adopted in 2017 has been implemented gradually and the Public Expenditure and Financial Accountability review was completed in March 2019 with support from international donors. On the public debt management side, the Law on Public Debt Management was approved by the National Assembly in June 2018. Meanwhile, the government continues its efforts to enhance transparency in public finance management. With tight expenditure controls, the government reduced the budget deficit at around 2.3 percent of GDP in 2019, and plans are underway to undertake deeper fiscal reform measures in line with the medium-term fiscal consolidation plan:

1) **Revenue:** Revenue measures aim at increasing the tax base, improving taxpayers' compliance and enhancing tax administration.

   - **Enhancing and expanding the implementation of value-added tax (VAT**). Lao PDR's authorities continue to widen the tax base for VAT[36] and expand points of sales (POS) systems and services.
   - **Extending the tax information system (TaxRis) to more taxpayer units to enable online tax declarations by self-assessment and payment of taxes through the banking system**. The implementation of TaxRis[37] has improved taxpayers' compliance, expanded the taxpayer database and enabled more responsive services to taxpayers. As of December 2019, the number of total taxpayer units is 109,615,[38] and about 37.3 percent (41,328 taxpayer units) are registered on TaxRis.
   - **Improving the taxpayer database by coordinating business registration with the issuance of tax identification number (TIN)**. The Ministry of Finance has worked closely with the Ministry of Trade and Industry to ensure a new business unit can be properly registered and issued with a TIN at the same time. This streamlined process can save time and costs for business units, while tax administrators can be informed of new business units when they register.
   - **Implementation of three new tax laws.** The Excise Tax Law, Income Tax Law and Tax Administration Law were approved by the National Assembly in June 2019, replacing the existing Law on Taxation in 2015. This implementation of three tax laws is expected to have a positive impact on government revenue collection.[39]
   - **Modernizing customs administration**. The automated customs clearance system (ASYCUDA) has been implemented at 24 international checkpoints and three special economic zones. A single window system was launched in June 2019. The modernization of customs administration is expected to contribute to customs revenue by facilitating trade and preventing the smuggling of imports such as petroleum and machinery.
   - **Work on other revenue reform measures are in the pipeline**. To enhance revenue collection, the Lao authorities are working on both legal and institutional frameworks, such as (i) revision of Customs Law, which will be submitted for the consideration of the National Assembly in June 2020; (ii) drafting new property tax laws; (iii) revising the Presidential Decree No.003 on technical fees; (iv) centralization of tax collection from three agencies (Tax Department, State Asset Department, Department of SOEs and Insurance) into a single

[35] This has four main sub-strategic plans, namely (i) enhancing revenue collection by administering the points of sales and services; (ii) allowing more taxpayer units to be eligible for the simplified VAT system; (iii) supporting the rental units to be registered in the Tax Information System (TaxRis); and (iv) maintaining a reliable taxpayers' data base.
[36] The scope of VAT has been expanded to a wider range of businesses that have incomes less than LAK400 million.
[4] TaxRis was launched in November 2018, and its implementation has been extended to 15 out of 18 provinces as of end-2019.
[38] 458 large taxpayer units are under the management of the Tax Department, and the remaining 100,957 taxpayer units are under the Provincial Tax Division.
[39] (i) General tax compliance is expected to improve with the reduced standard corporate income tax rate from 24 percent to 20 percent; (ii) the capacity of tax administration (personnel and institution) is projected to improve with enhanced tax information (taxpayer database and tax identification number), and the coordination between tax administration with other sectors (commerce, banks); and (iii) the excise tax rates will increase for luxury goods and services, as well as unhealthy goods, such as spirits and tobacco.

agency (Tax Department); and (v) continuing SOE restructuring, including Electricite du Laos (EDL) and Laos Airlines.

2) **Expenditure:** Expenditure measures aim at increasing efficiency in government spending.

- **Further improving expenditure efficiency.** Administrative spending will be allocated efficiently and based on available revenue collection, while priority is given to interest repayment. Capital spending will focus on investment projects already approved in previous years, and new investment project selection will be extremely selective.
- **Improving the division of fiscal responsibilities between the central and local governments**. Two regulations were issued in 2019, namely (i) Minister of Finance's Decision on the village finance system; and (ii) Minister of Finance's Guideline on strengthening the delegation of responsibilities in rural development and poverty reduction to local governments.[40]
- **Implementing post inspection of government spending.[41]** The post inspection covers all government spending disbursed by the National Treasury system, public procurement by the state budget and the use of state money. This is intended to improve transparency in the use of budgetary resources and to enhance the effectiveness and efficiency of government spending.

3) **Debt management and transparency:** The measures on public debt management are aimed at improving internal and inter-agency coordination mechanisms, improving the debt structure by lengthening the maturity profile while reducing costs, and fostering transparency.

- **Reviewing debt management policy**. While reviewing all loan structures, the government plans to minimize new commercial loans. For commercial loans, full impact assessment must be made beforehand, ensuring the repayment of principal and interest.
- **Restructuring loans and power purchasing agreements (PPAs) in the electricity sector**. To lessen the external debt burden, the government plans to swap hydropower-related liabilities with the equity of PPAs by selling shares to foreign investors.[42] In addition, the government is considering a revision of PPAs for domestic electricity production to allow a certain portion to be allocated for export.
- **Expanding domestic bond issuance and obtaining international credit ratings.** The government obtained international credit ratings from Moody's and Fitch at the beginning of 2020, in an effort to enhance transparency in public finance governance. This development is expected to help foster public and bond investors' trust in the government's commitment to reform the bond market and debt management.
- **More regular publication of the budget data to the public through the Ministry of Finance website.** Quarterly, bi-annual, nine-month and annual fiscal performance reports in Lao[43] are accessible on the Ministry of Finance's website.

33. **Reform of state-owned enterprises (SOEs) needs to be prioritized to contain the fiscal risk.** Mounting losses of SOEs, particularly in the electricity sector, needs to be addressed quickly to contain the negative spillovers to government debt burden. Considering the government's on-lending and guarantees to EDL, it is critical to improve EDL's financial

[40] Focus is on the provincial capacity to become a strategic unit (planning and guiding role), district to become a comprehensive strengthening unit (supervise, assign, monitor and report the implementation of programs for the villages level), and the village to become a development unit (village level needs to be equipped with necessary resources and capacity to implement the programs in its localities).
[41] Minister of Finance's Guideline No. 1672/MOF, issued in June 2019.
[42] The pilot PPA under consideration is Nam Ngum 3, where the electricity is sold to Thailand at a higher tariff rate (8.6 cent/kWh). The liability-equity swap of this project alone is estimated to reduce liabilities by about USD1 billion.
[43] Only the annual fiscal performance report is available in English.

strength. In this regard, recent policy initiatives to reform EDL are welcome, and well-calibrated comprehensive measures should be implemented, including improving the efficiency of operation, restructuring and raising electricity tariffs[44], privatizing some of the hydropower plants, and renegotiating some of the more onerous PPA contracts. A comprehensive and centralized plan to manage SOE debt is also needed to mitigate the impact of adverse movements in interest rate and exchange rate on the debt burden of SOEs and minimize the spillovers to government budget.

Authorities' Views

34. **Authorities reaffirmed their continued commitment to fiscal consolidation.** In light of the fiscal challenges, reforms are being pursued in multiple areas. To address the challenges, MOF will continue to manage the budget effectively, targeting key areas and focusing on priority projects. Authorities will also actively seek solutions to ease the pressure on government-owned companies, particularly EDL.

C.3 Enhancing Buffers Against External Shocks

35. **Allowing a more flexible exchange rate and building up international reserves are crucial to enhance the buffer against external shocks.** Given the high degree of dollarization and vulnerable external position, a fully flexible exchange rate may lead to excessive volatility and raise concerns about the high level of public external debt and balance sheet mismatches. However, given the widening exchange rate misalignments, allowing more flexibility in the exchange rate will enable the external position to adjust more readily to external shocks, fend off speculation and allow the exchange rate to be more in line with economic fundamentals. The BOL may consider widening the daily FX trading band first and allow more flexibility in the daily fixing, to close the gap between the reference and parallel rate.[45] This will help the central bank preserve its international reserves during episodes of FX pressures, while further efforts are needed to strengthen the external sector. Building a healthy level of international reserves is critical to strengthening the buffer against external shocks.

Authorities' Views

36. **The authorities will work towards steadily increasing international reserves while enhancing the stability of the exchange rate in the medium term.** Increasing international reserves have been challenging, but expected to improve with a wider export base and rising receipts from the hydropower sector. Policy measures are currently being contemplated to enhance the management of the exchange rate and de-dollarize the economy in the medium-term. In the short-term, the authorities will continue to manage the exchange

[44] Electricity tariff is relatively lower in Lao PDR, compared to neighboring ASEAN countries. Unit electricity price (US cents/kWh): (Lao PDR) 4.0 – 11.0, (Cambodia) 15.6 – 21.0, (Vietnam) 7.2 – 13.0, (Thailand) 7.1 – 13.4, (Indonesia) 9.4 – 10.3, (Malaysia) 4.95 – 12.98.

[45] The BOL strives to keep the movement of the Kip vis-à-vis the US dollar within +/-5 percent per annum. The BOL achieves this objective by setting a daily official reference rate, computed as the weighted average of the previous day's interbank rates, and requires commercial banks and foreign exchange bureaus to keep their buying and selling rates within +/-0.25 percent of the BOL's previous daily reference rate for the US dollar.

rate within the existing band amid the high exposure to foreign currency risk across various sectors in the economy.

C.4 Easing Monetary Policy and Liquidity Constraints

37. **The central bank should provide monetary and liquidity support during these challenging times.** The imposition of the nationwide lockdown is expected to severely affect the cash flow of firms which have to continue paying wages, rents and service their debt. In this regard, the BOL's prompt action to reduce the reserve requirement ratio and lower the policy rate should lower the cost of funds to banks and encourage the banks to lower their lending rates and continue lending to the firms. Direct support to firms could also be considered via the establishment of credit guarantees and emergency loan windows to prevent business closure. It is important to avert bankruptcies, quell rising unemployment, and support loan repayment by both the firm and individual level, as the closure of businesses and the rise of NPLs would severely impact economic growth and financial stability in the country.

38. **Temporary regulatory forbearance will help businesses survive.** Banks on average remain well capitalized, but these buffers are set to be tested as the banks start to absorb the impact of the lockdown on businesses, especially MSMEs which face immense pressure from plunging demand and disruption of supply chains. Forbearance in the midst of the lockdown should be well-justified to support firms and workers to keep afloat and to contain the systemic risk to the financial system. Going forward, the central bank will need to clearly differentiate its policy of regulatory forbearance during and after the lockdown. During the lockdown phase until the opening up the regulatory forbearance may be open-ended. Once economic recovery gains momentum, the regulatory forbearance will need to be time-bound to help ensure prompt corrective action when the need arises and to minimize moral hazard.

39. **The upgrading of regulations and adoption of risk-based supervision need to remain on track to maintain the soundness of the banking system during this challenging time.** In this regard, the authorities' commitment to upgrade bank regulations to better identify risk and set appropriate buffers by adopting the Basel II Framework is commendable and should continue, with several regulations and directives rolled out in 2019.[46] Considering the limited supervisory capacity, focused training and development programs need to continue, both for the staff of the banks and the bank supervisors, to ensure the success of the improved risk management systems. Instituting the necessary data gathering systems to establish benchmarks for the internal risk models is also a priority, as sufficiently long time series data need to be gathered and processed. Furthermore, the authorities should also be mindful that the ongoing restructuring of the two smaller state-owned commercial banks[47] requires recapitalization to strengthen their balance sheets.

[46] This follows the success in setting the legal framework for Basel II through the passage of the BOL Law and Commercial Bank Law in 2018.

[47] There are a total of 3 state banks with BCEL being the largest one with assets equivalent to 30 percent of the whole banking sector. Meanwhile, Agriculture Promotion Banks (APB) and Lao Development Bank (LDB) assets account for 10 percent of total banking sector assets.

C.5 Enhancing Structural Reforms

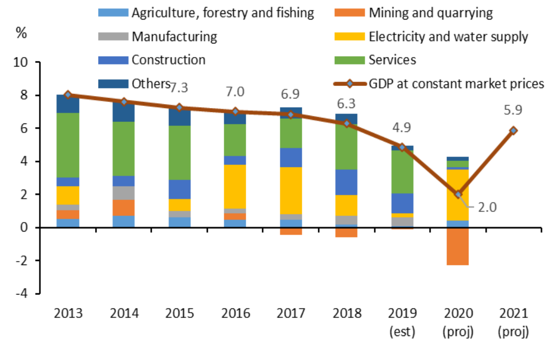
40. **Structural reforms and economic diversification are needed to boost Lao PDR's growth potential and economic resilience.** To improve economic resilience, diversifying the economic base is critical, by more effectively leveraging on the resource sector to develop other sectors such as manufacturing, tourism, and agro-based industries.[48] As a land-locked country with limited supply of skilled labor and a small domestic market, attracting FDIs to develop non-resource sectors requires an attractive and competitive business environment. In addition, the government should lay out clear plans to maximize the economic benefits from existing and upcoming large infrastructure projects like the forthcoming railway, by creating more jobs for Lao people and improving logistic competitiveness. With the emergency preparedness and service delivery system of government repeatedly strained by various natural disasters, including the COVID-19 pandemic, more attention towards disaster response framework planning and mitigation is needed. More investment in disaster resilient infrastructure will also help safeguard the poor and vulnerable, as well as result in less economic disruption in the future. As an added layer of protection, the participation of Laos in regional initiatives such as the Southeast Asia Disaster Risk Insurance Facility (SEADRIF)[49] is highly welcome.

[48] Putting in place a fiscal framework such as sovereign wealth fund could be considered, whereby the resource sector will provide the needed funds to promote the development of the non-resource sectors and to address other development needs.
[49] SADRIF provides ASEAN member states with climate and disaster financing and insurance solutions.

Appendix 1. Selected Figures for Major Economic Indicators

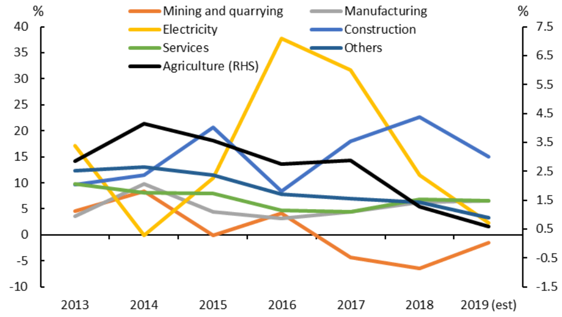
Figure 1.1. Real Sector

Growth in 2019 was mainly pulled down by the weak electricity sector.



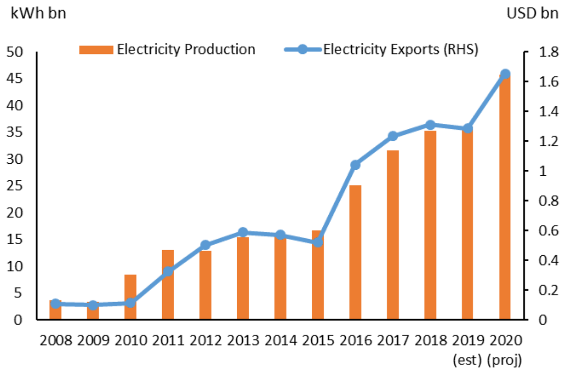
Source: Lao Statistics Bureau, AMRO staff estimates

Growth in services and manufacturing has continued to be resilient amid the growth slowdown…



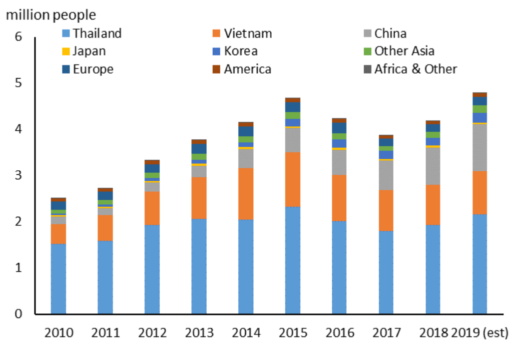
Source: Lao Statistics Bureau, AMRO staff estimates

…while electricity production and exports were hampered by the low water levels in 2019.



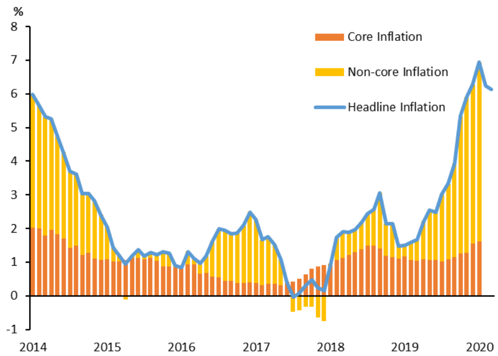
Source: Lao Statistics Bureau, AMRO staff estimates

Tourist arrivals increased for the second straight year driven by Chinese tourists.



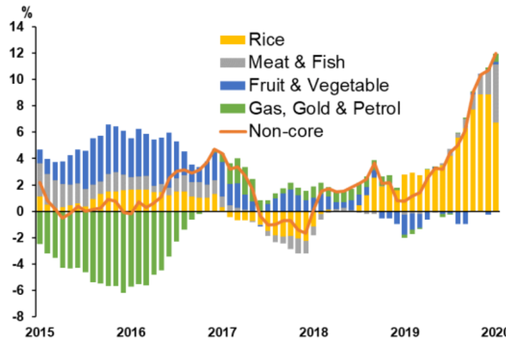
Source: Lao Statistics Bureau

Headline inflation has spiked up since the middle of 2019, driven by non-core inflation…



Source: Lao Statistics Bureau, AMRO staff estimates

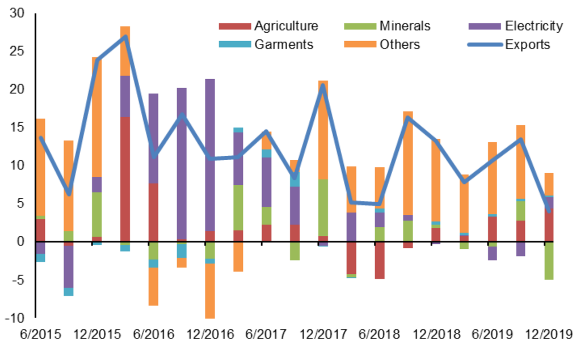
…which in turn was led by higher rice and pork prices.



Source: Lao Statistics Bureau, AMRO staff estimates

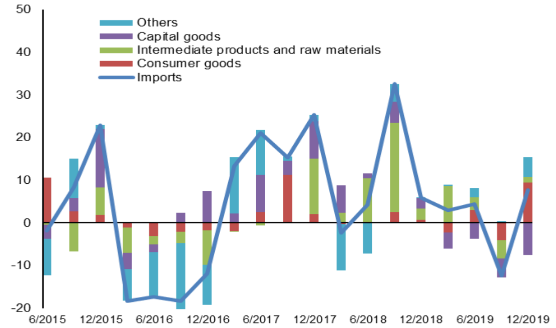
Figure 1.2. External Sector

Amid the decline in electricity and mining exports, agriculture and other exports (mostly manufacturing exports) have taken up the slack...



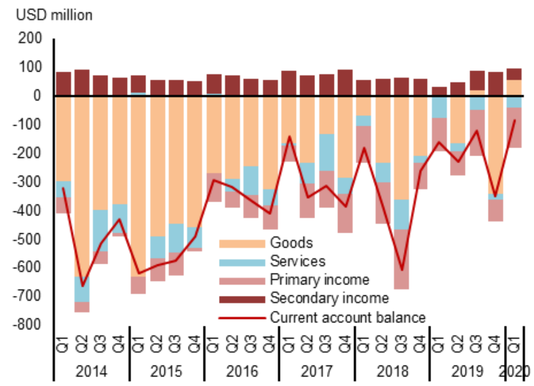
Source: Bank of Lao PDR

… meanwhile imports have slowed down more than exports driven mainly by the fall in imports of capital goods.



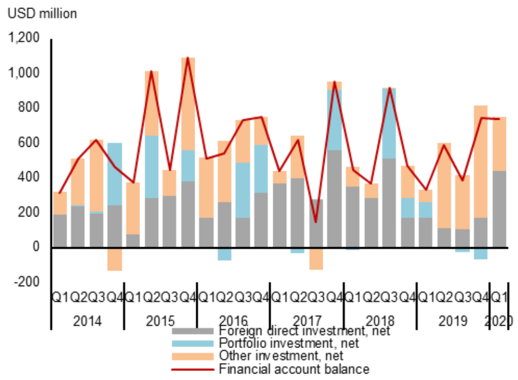
Source: Bank of Lao PDR

The current account deficit narrowed, driven by a smaller trade deficit in 2019 and a trade surplus in Q12020...



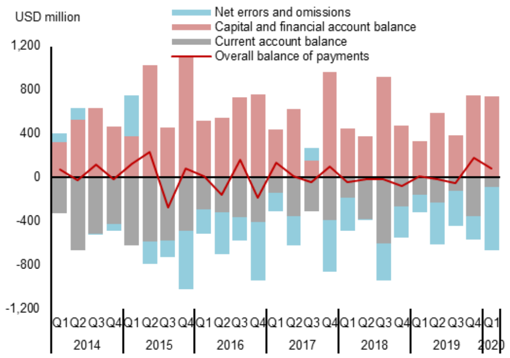
Source: Bank of Lao PDR

… which was financed by FDI and Other Investment inflows.



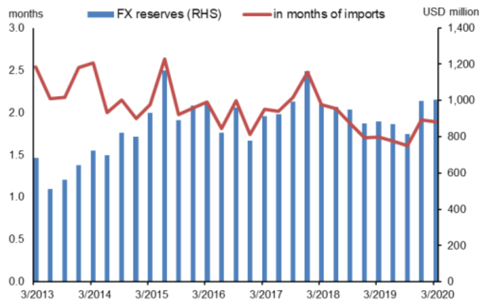
Source: Bank of Lao PDR

The overall BOP ended with a surplus in 2019 and Q12020 with persistently large negative net errors and omissions.



Source: Bank of Lao PDR

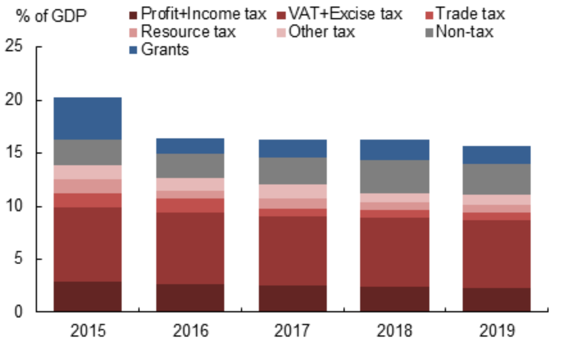
FX reserves rose to USD1,005.1 million in Q12020, which can cover 2 months of imports.



Source: Bank of Lao PDR

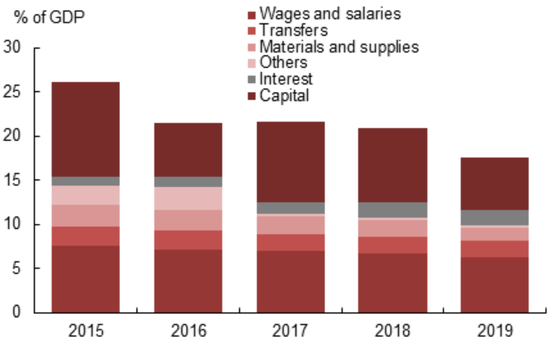
Figure 1.3. Fiscal Sector

Revenue has decreased as a share of GDP in 2019 across most revenue items.



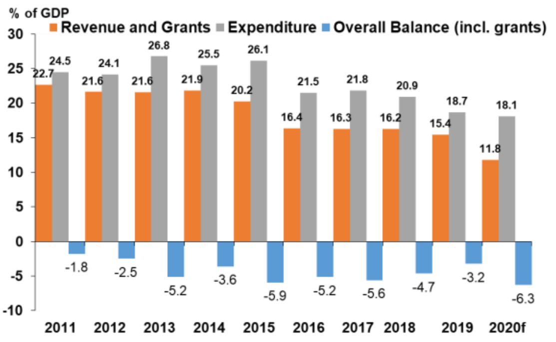
Source: Ministry Finance, AMRO staff estimates

Capital expenditure significantly declined in 2019, while interest payment has kept rising.



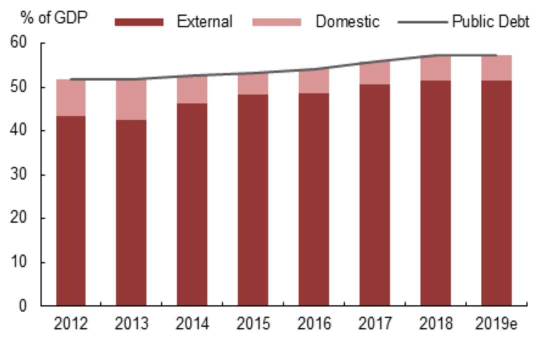
Source: Ministry Finance, AMRO staff estimates

The fiscal deficit narrowed further in 2019 but is expected to rise in 2020 due to the COVID-19 pandemic.



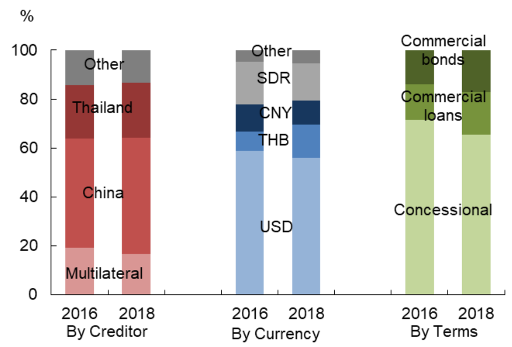
Source: Ministry Finance, AMRO staff estimates

Public debt has increased, mainly through foreign-currency-denominated debt.



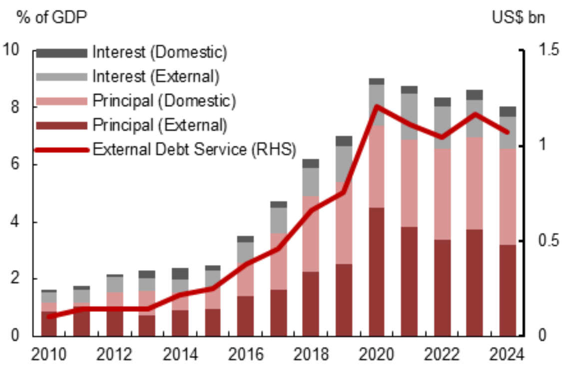
Source: Ministry Finance, AMRO staff estimates

Public debt is vulnerable to FX and rollover risk, as portion of commercial debt has been growing.



Source: Ministry Finance, AMRO staff estimates

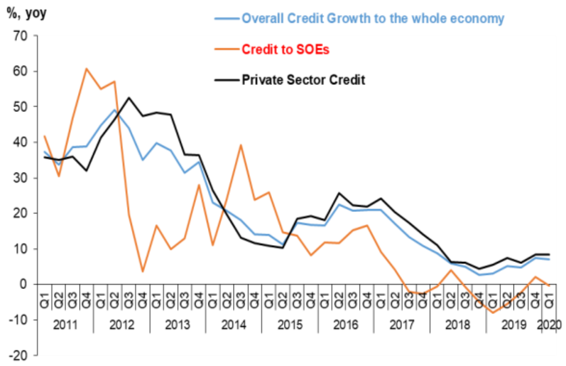
Rising stock of public debt has posed debt repayment pressure.



Source: Ministry Finance, AMRO staff estimates

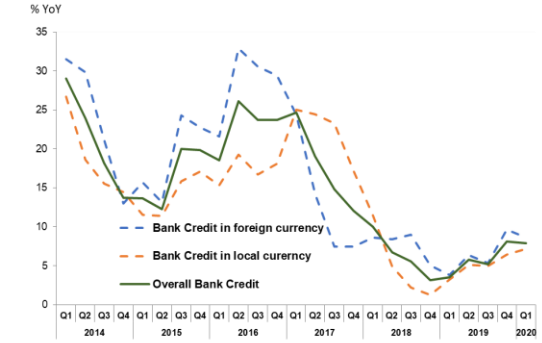
Figure 1.4. Monetary and Financial Sectors

Growth of credit to the private sector recovered slightly in 2019 but remains low, while credit to SOEs continue to contract.



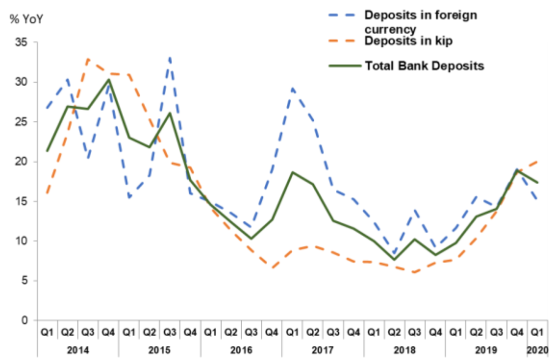
Source: Bank of Lao PDR

Local and foreign currency lending have edged up in 2019 but remain lackluster.



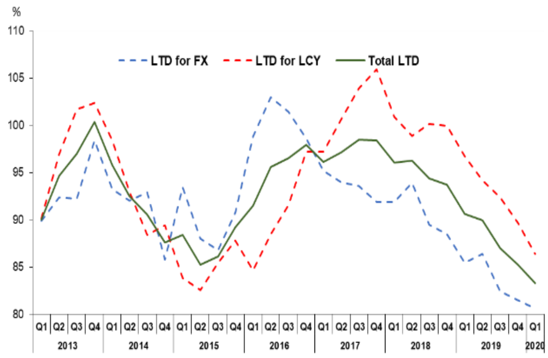
Source: Bank of Lao PDR

Deposit growth also picked up for both foreign and local currency in 2019.



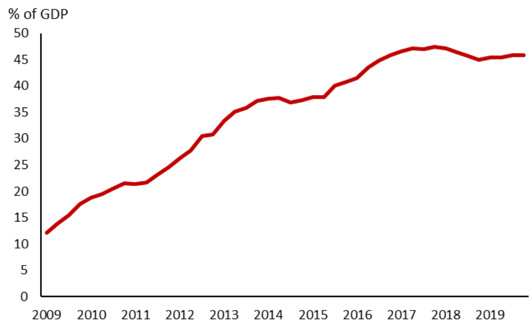
Source: Bank of Lao PDR

With deposit growth outpacing credit growth, the loan-to-deposit ratio has steadily fallen in 2019.



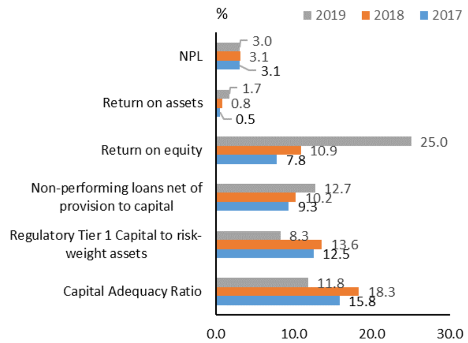
Source: Bank of Lao PDR

Credit to GDP declined in 2018 and has since stabilized in 2019.



Source: Bank of Lao PDR

NPLs have remained stable, however CAR fell in 2019.



Source: Bank of Lao PDR

Appendix 2. Selected Economic Indicators for Lao PDR

	2016	2017	2018	2019	2020	2021
					Projection	
Real Sector and Prices	(In percent change unless specified)					
Real GDP	7.0	6.9	6.3	4.9	2.0	5.9
GDP deflator	3.0	1.8	1.9	2.7	3.7	2.3
Consumer price inflation (average)	1.6	0.8	2.0	3.3	4.3	2.3
External Sector	(In millions of U.S. dollars unless specified)					
Export	4,245	4,873	5,295	5,764	5,923	6,560
Import	5,372	5,667	6,164	6,252	6,701	7,321
Trade balance	-1,128	-794	-869	-487	-778	-762
In percent of GDP	-7.1	-4.7	-4.8	-2.6	-4.1	-3.8
Current account balance	-1,385	-1,279	-1,430	-858	-1,590	-1,399
In percent of GDP	-8.7	-7.5	-7.9	-4.5	-8.3	-6.9
Capital and financial account balance	2,556	2,194	2,219	2,065	1,810	1,710
In percent of GDP	16.1	12.9	12.2	10.0	9.3	8.8
Overall balance	-172	201	-143	124	-80	11
Official gross reserves	815	1,016	873	997	917	928
In months of imports of goods & services	1.5	1.8	1.4	1.6	1.4	1.3
External debt, gross	13,147	14,087	15,273	16,814	18,353	18,952
In percent of GDP	82.6	82.6	84.2	88.9	95.4	92.8
Fiscal Sector	(In percent of GDP)					
Revenue and grants	16.4	16.3	16.2	15.4	11.7	13.9
Tax Revenue	12.7	12.0	11.2	10.8	8.4	10.4
Expenditure	21.5	21.8	20.9	18.7	18.0	19.4
Current expenditure	15.5	12.6	12.5	12.5	12.0	12.4
Capital expenditure	6.1	9.3	8.4	6.1	5.9	7.0
Net lending/borrowing balance	-5.2	-5.6	-4.7	-3.2	-6.3	-5.5
Primary net lending/borrowing balance	-3.9	-4.2	-3.0	-1.5	-4.2	-3.1
Public debt	54.2	55.4	57.4	57.5	62.7	64.4
Monetary and Financial Sector	(In percent change)					
Domestic credit	18.5	6.4	9.2	4.4	8.2	10.8
State Enterprises	16.7	-2.6	-4.9	2.2	-1.1	-0.8
Private Sector	22.0	14.2	4.4	8.5	10.5	13.2
Private Sector credit (% of GDP)	41.0	43.0	41.5	41.8	41.0	42.3
Broad money	10.9	12.2	8.4	18.9	20.0	23.0
Reserve money	-1.4	9.5	4.6	14.5	7.6	9.7
Memorandum Items:						
Nominal GDP (LAK billion)	129,279	140,698	152,414	164,138	173,625	188,069
Nominal GDP (USD million)	15,909	17,061	18,129	18,911	19,235	20,427
GDP per capita (USD)	2,409.9	2,585.1	2,777.7	2,797	2,988	3,186
Exchange rate (against USD, average)	8,126	8,247	8,407	8,687	9,027	9,207

Note: 2020 and 2021 fiscal numbers are AMRO projections. The budget for 2020 stipulate a fiscal deficit of 4.3 percent of GDP with revenue of 15.7 percent of GDP and expenditure of 20 percent of GDP.
Source: National authorities, AMRO staff estimates

Appendix 3. Balance of Payments

Indicators	2015	2016	2017	2018	2019
	(In millions of U.S. dollars; unless specified)				
Current account	-2,268	-1,385	-1,260	-1,430	-858
Trade balance	-2,022	-1,128	-794	-869	-487
Exports, f.o.b.	3,653	4,245	4,873	5,295	5,764
Imports, c.i.f.	5,675	5,372	5,667	6,164	6,252
Services, net	-234	-188	-336	-233	-172
Primary income, net	-232	-325	-446	-571	-428
Of which: Interest payments	125	158	210	257	
Secondary income, net	221	255	317	242	230
Capital and financial account	2,919	2,534	2,173	2,219	2,065
Financial account (net)	2,919	2,534	2,173	2,222	1,910
Direct investment (net)	1,038	920	1,677	1,320	452
Portfolio investment (net)	538	514	326	498	-30.4
Other investment (net)	1,343	1,100	170	391	1,473
Errors and omissions	-516	-1,342	-733	-931	-1,083
Overall balance	171	-172	201	-143	124
Memorandum items:					
Current account (% of GDP)	-15.7	-8.7	-7.4	-7.8	-4.5
Gross official reserves (in millions of US$)	987	815	1,016	873	997
(In months of imports of goods and services)	1.8	1.5	1.8	1.4	1.6
(In months of non-FDI related imports)	6.4	5.3	4.4	3.2	3.6
Nominal GDP (USD million)	14,420	15,909	17,061	18,129	18,911
Exchange rate (against USD, average)	8,131	8,126	8,247	8,407	8,687

Source: BOL

Appendix 4. Statement of Central/General Government Operations

Indicators	2015	2016	2017	2018	2019
	(In billions of kip; unless specified)				
Revenue and grants	23,699	21,163	22,925	24,758	25,329
Tax revenue	16,321	16,427	16,918	17,032	17,736
VAT	4,988	4,688	4,934	5,201	5,413
Excise	3,253	4,124	4,234	4,743	4,972
Personal income tax	1,143	1,624	1,603	1,619	1,646
Corporate income tax	2,204	1,751	1,980	2,073	2,209
Import duties	1,382	1,655	971	1,059	967
Resource taxes	1,545	971	1,316	1,097	1,180
Non-Tax revenue	2,759	2,987	3,661	4,797	4,763
Grants	4,618	1,749	2,346	2,929	2,829
Expenditure	30,652	27,825	30,736	31,866	30,624
Expense	18,035	19,981	17,662	19,063	20,547
Compensation of employees	8,988	9,198	9,806	10,184	10,346
Materials and supplies	2,943	3,055	2,922	2,929	2,997
Transfers	2,487	2,897	2,662	2,958	3,571
Interest	1,178	1,584	1,911	2,597	2,868
External	891	1,238	1,491	2,084	2,428
Domestic	287	347	420	512	440
Net acquisition of non-financial assets	12,617	7,843	13,074	12,803	10,076
Net lending/borrowing balance (incl. Grants)	-6,953	-6,662	-7,811	-7,107	-5,295

Source: LMOF

Appendix 5. Monetary Survey

Indicators	2015	2016	2017	2018	2019
	(In billions of kip; unless specified)				
Net Foreign Assets	-3188.5	-11268.3	-7,769.3	-9,248.3	-7,260.4
Assets	16876.5	15580.4	18,437.8	17,159.2	20,769.0
Liabilities	-20065.0	-26848.7	-26,207.1	-26,407.5	-28,029.4
Net Domestic Assets	63187.3	77807.7	82,447.5	90178.6	103,446.7
Net Domestic Credit	59560.2	70572.5	75,087.6	81984.1	85,594.3
Public sector	16084.2	17544.7	14,548.1	18,786.9	17,050.7
Government	4,794.4	4,373.2	1,722.8	6,588.0	4,587.0
SOEs	11,289.9	13,171.5	12,825.3	12,198.9	12,463.7
Private sector	43,476.0	53,027.9	60,539.4	63,197.2	68,543.6
Other items net	3,627.1	7,235.2	7,359.9	8,194.5	17,852.4
Reserve Money	21,130.5	20,835.1	22,812.4	23,872.6	27,325.3
Broad Money	59998.9	66539.4	74678.2	80,930.3	96,186.3
Currency in circulation	8,290.2	7836.9	8823.2	9200.2	10,990.1
Currency outside banks	5,879.7	5,534.3	6,638.2	7,148.9	8,581.4
Deposits	54119.2	61,005.1	68,040.0	73,781.4	87,605.0
Of which: Foreign currency	26633.3	31702.4	36,553.5	39,894.0	47,469.9
Of which: LCY currency	27485.9	29302.7	31,486.5	33,887.4	40,135.1

Source: BOL

Appendix 6. Data Adequacy for Surveillance Purposes: a Preliminary Assessment

Criteria/ Key Indicators for Surveillance	Availability (i)	Reporting Frequency/ Timeliness (ii)	Data Quality (iii)	Consistency (iv)	Others, if Any (v)
National Accounts	- GDP on the production side is the main approach, while the expenditure approach has yet to be made available. - Limited unemployment and labor market data, available mostly from IFIs.	Dissemination of GDP data is on an annual basis with a time lag of six months.	- In 2017, GDP was rebased to 2012 from 2002 using data from the 5th Lao Expenditure and Consumption Survey 2012/13. GDP compilation broadly follows System of National Accounts (SNA) 1993 and has also started to implement parts of SNA 2008. - Data collection techniques remain weak due to resource constraints.	-	Ongoing activities in GDP compilation include methodological and data upgrades to enable release of GDP by expenditure and a new quarterly GDP series.
Balance of Payments (BoP) and External Position	- Overall Balance of Payments (BoP) data have been published by the Bank of Lao PDR (BOL) and are publicly available on the BOL website. - Time-series data on international reserves and central government external debt are publicly available, while the breakdown into short-term and long-term debt has never been published.	- BoP data has been released on a quarterly basis with a time lag of one quarter. - External trade data has been released on a quarterly basis with a time lag of one quarter.	- A new time series in BPM6 format was published starting 2018. Further improvements in the compilation of merchandise trade, external debt data and the FDI survey is still work-in-progress. - External trade data is incomplete, especially on the import side, as it covers only major items where their values are based on a medium price classification specified by the authorities in the past.	- Trade data is often inconsistent among government agencies. - There is a large discrepancy between trade data from national sources and the IFIs, as well as the major trading partners, in particular for import data. - Large errors and omissions in several periods make the analysis and interpretation of the BoP data difficult (high levels of errors and omissions in different periods were very close to the differences in trade balances between national sources and key trading partners').	There are ongoing activities to enhance the coverage of exports and imports to narrow the data discrepancies between Customs, BOL and the Ministry of Industry and Commerce (MOIC).
State Budget and Government Debt	- Budget implementation data are released by the Ministry of Finance - Public debt and contingent government liability statistics are available upon request.	Publication of budget implementation statistics is on a bi-annual basis with a time lag from six months to one year.	The use of Government Finance Statistics (GFS) standards and procedures are weak. The data coverage is limited to the operations of the budget. Off-budget activities are not included in the fiscal data.	- Persistent off-budget expenditure - International practice in implementing the budget plan is limited and largely driven by local practices.	
Inflation, Money Supply and Credit Growth	- Inflations and Monetary statistics released by the BOL are publicly available on its website. - Data on credit, the breakdown into claims on government, credit to SOEs and credit to the private sector, are available.	- CPI data are released monthly with a time lag one to two months. - Food and non-food CPI data are publicly released with a time lag from two to three months. - Monetary and credit data are publicly released on a quarterly and yearly basis with a time lag of three months.	- In 2016 the CPI was updated to include all 18 provinces (extending the previous coverage of 12 provinces). The number of items was also expanded to 485 from 245 with weights generated from the 2012 Lao Social Indicator Survey (LSIS). - The actual amount of US dollars and other foreign currency-denominated bills circulating in the economy has not been captured in the official monetary statistics. The money supply data includes only deposits in banks (denominated in both local and foreign currencies) and bills in circulation (in local currency only).		
Financial Sector Soundness Indicators	- Compiled indicators for the financial soundness indicators (FSI)s are published on the BOL website.	Quarterly and yearly data are available at the BOL's website, usually with a time lag of six months.	FSI indicators are generally compiled based on the IMF FSI Guide.	-	-
State-Owned-Enterprises Statistics	SOE statistics have yet to be made available on a frequent basis.	-	-	-	-

Notes:

(i) Data availability refers to whether the official data are available for public access by any means.

(ii) Reporting frequency refers to the periodicity that the available data are published. Timeliness refers to how up-to-date the published data are relatively with the publication date.

(iii) Data quality refers to the accuracy and reliability of the available data given the data methodologies are taken into account.

(iv) Consistency refers to both internal consistency within the data series itself and its horizontal consistency with other data series of either same or different categories.

(v) Other criteria might also apply, if relevant. Examples include but are not limited to potential areas of improvement for data adequacy.

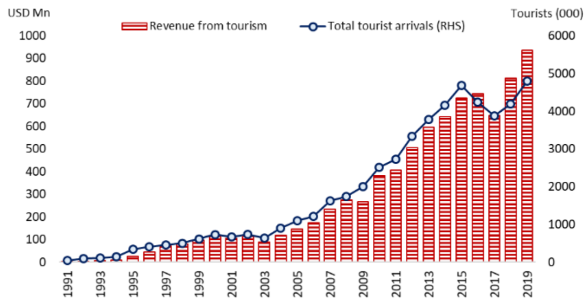
Source: AMRO staff compilations. This preliminary assessment will form the "Supplementary Data Adequacy Assessment" in the EPRD Matrix.

Annexes: Selected Issues

Annex 1. Development of Tourism Industry and Economic Impact [50]

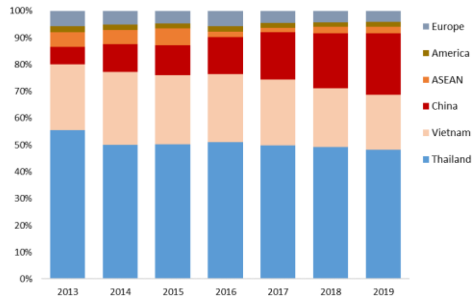
1. **Supported by the government's initiatives, the tourism industry has witnessed robust growth for the past two decades.** Lao PDR first opened up to international tourists in 1989 with its first National Tourism Plan. Since then, tourist arrivals have grown at about 31 percent per annum and revenue has also increased dramatically from USD 2.25 million in 1991 to USD 934 million in 2019 (Figure A1.1). Following the National Assembly's decision in 1995 on the tourism industry as one of the nation's eight priority development areas, Lao PDR launched its first global tourism promotion exercise in 1999, which has since been a regular feature (See Box A.1 Policy Efforts to Promote Tourism). With increased interest from international tourists, the tourism industry has quickly become a key contributor to Lao PDR's social and economic development, accounting for about 13 percent of GDP in 2019.[51]

Figure A1.1. International Tourist Arrivals



Source: Ministry of Information, Culture and Tourism

Figure A1.2. International Tourist Arrivals



Note: ASEAN excludes Thailand and Vietnam
Source: Ministry of Information, Culture and Tourism

Box A1. Policy Efforts to Promote Tourism

The Lao PDR government has paid special attention to the development and promotion of tourism. The first National Tourism Plan was published in 1989, emphasized only the small group of upper-market package tourists. This was expanded to four major types in the second plan published in 1998.[52] With the success of the second plan, the government launched the first promotion campaign that was called Visit Lao Year in 1999, and tourism quickly became the country's most important export industry. The third plan was published in 2001, and focused on promoting traditional culture, including archaeological and religious sites, as a way to reduce poverty and promote national development. The Lao PDR Tourism Strategy 2006-2020 focused on raising awareness about the significance and benefits of tourism by broadening the market while continuing to promote traditional culture.

The recent Visit Laos-China Year 2019 has been successful on bilateral activities and tourism promotion between Laos and China. Since the first Visit Laos Year in 1999, national wide tourism promotion were launched several times, which helped develop tourism infrastructure and enhance related regulations.[53] In 2019, local provinces undertook numerous activities, and tourism facilities

[50] This selected issue and the boxes are prepared by Tanyasorn Ekapirak.
[51] Tourism activities were Lao PDR's third largest source of export revenue in 2019. In 2018, tourism and related services generated more than 347,000 jobs and 3,102 accommodations were established.
[52] The second plan emphasized the value of four major types of tourism – conventional sightseers, special interest tourists, cross border tourists and domestic tourists.
[53] First Visit Laos Year campaign tried to focus on developing tourism related infrastructure such as road construction, improving hotels, restaurants, tourist sites and public utilities including electricity and water supply. Later campaigns focused on identifying key tourism activities and promote the convenience of travel. For example, to attract more foreign visitors, visa-exemptions to ASEAN tourists were introduced as a part of campaign initiatives in 2018.

were upgraded to welcome visitors. The countries held various activities throughout the year, including a Chinese Cultural Week and a Mid-Autumn Festival. In addition, the authorities encouraged restaurants to add Chinese dishes to their menus and some Chinese language signs were erected at popular tourist sites.

2. **The majority of international visitor arrivals continue to be from Thailand while the number of Chinese visitors is increasing significantly.** The number of visitors to Lao PDR increased by 14.5 percent in 2019, reaching around 4.8 million. Thai visitors formed the majority, accounting for about 45 percent of all international visitors, followed by Chinese and Vietnamese travelers, who accounted for 21 percent and 19 percent of international tourist arrivals respectively (Figure A1.2). While the number of Thai visitors has remained relatively stable at around 2 million, the number of Chinese visitors has been rising steadily. In 2019, the Visit Laos-China Year campaign successfully attracted 1.02 million Chinese visitors to Lao PDR, an increase of 27 percent from 2018.

3. **Economic implications of the growing tourism sector are analyzed by considering its linkages to other industries.** The rapid expansion of the tourism sector has contributed to economic growth, working through different economic sectors linked through value chains. To assess the economic impact of the tourism sector development, it is essential to consider the interlinkages between different industries in the Lao PDR. Using the Input-Output table, we analyze the tourism sector's linkages to other industries and assess the economic impact.[54] (See Box A2. Input-Output Analysis)

Box A2. Input-Output Analysis

An input-output (IO) table shows the inter-industrial flows of goods and services at the national or regional level. The IO table illustrates the transaction flows across industries between producers and consumers as well as interdependencies of industries for a given year. The rows represent the outputs by industry and the columns represent the destination of outputs for intermediate use or final use. The (i,j) cell under the Intermediate uses section shows the flow of i^{th} industry output for intermediate consumption by j^{th} industry. The Final Uses section accounts for the final demand by different economic sectors for goods and services outputs.

Table A2.1. Typical Structure of Input-Output Table

		Intermediate Uses				Final Uses						Total Output
		Industry 1	Industry 2	...	Industry n	Households	NPISH	Government	GFCF	CIIs	Export	
Domestic	1											
	2											
	…											
	n											
Imports												
Value-Added												
Total Inputs												

Source: Economic Indicators for Southeastern Asian and the Pacific Input Output Tables (ADB; December 2018)

For economic impact analysis, the IO table is transformed into an analytical model for output multipliers. The first step is to convert the inter-industrial transactions into a technical coefficient matrix (Matrix A). This is done by dividing each cell under Intermediate uses by the total input for each industry. Given A, the output multipliers are calculated by deriving Leontief inverse matrix. $L = (I-A)^{-1}$ where I is the Identity matrix. The (i,j) cell of Leontief inverse matrix shows how much of each industry i's output is needed, in terms of direct and indirect requirements, to produce one additional unit of the industry j's output.

[54] Calculation is based on Lao People's Democratic Republic: Input-Output Economic Indicators 2017 from ADB (https://data.adb.org/dataset/lao-pdr-input-output-economic-indicators).

Multipliers[55] are used to measure the economic impact caused by changing final demand. First, the output multiplier of a particular industry is defined as total output changes of all industries that are required to produce one additional unit of output of this particular industry. Second, the import multiplier is defined as the amount of imports of goods and services required to meet one unit of demand for the particular industry. Third, the value-added multiplier shows the impact on changes in salaries, operating surpluses and consumption of fixed capital due to a unit increase in expenditure on a specific industry.

Linkage analysis shows the industry's relative importance in value chains. Backward and forward linkages[56] are descriptive measures of economic interdependence of industries in terms of the magnitude and direction of transactions. Backward linkage shows the demand amount from other industries, while forward linkage shows how much an industry output is demanded by other industries.

4. **Tourism industry shows a strong dependence on the domestic food supply.** The output multipliers for tourism industry demonstrates the strong linkages of tourism industry to other industries. In particular, food, beverages, and tobacco industry is the most dominant supplier of inputs for tourism sector, followed by retail trade and agriculture.[57] However, the relative importance of the retail industry as a supplier has been rising while the other two industries' supply has gradually declined.[58] Import contents of total output of tourism industry remain relatively low at 6.1 percent of total output, substantially lower than the industry average of 17.8 percent.

5. **The impact analysis shows tourism industry expansion can greatly boost economic activities in other related industries.** The impact assessment focuses on direct and indirect impact of output, import and value added (Figure A1.3). Output multipliers show that the expansion of tourism industry (hotels and restaurants) has the second biggest impact (1.628) on output after food and beverages industry (1.698), where the industry average is only 1.31.[59] Import multiplier is relatively low at 0.113, lower than the industry average of 0.211, indicating that the increasing demand for tourism industry does not cause substantial leakages out of the economy to pay for imports of goods and services of related industries.[60] Value added multiplier shows the GDP contribution of an additional amount of tourist spending in Lao PDR. Despite its strong impact on the output, tourism industry's impact on the value added (0.771) is only slightly above the industry average (0.705), but the value added multipliers of related industries are relatively high.[61] With a low leak to external supply and high impact on other domestic industries, a robust expansion of tourism industry has been one of the key contributor to Lao PDR's strong economic growth.

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[55] The multipliers are often presented in terms of direct effects, where Type I multiplier covers direct and indirect effects, and Type II multiplier includes induced effects as well. Direct effect refers to the immediate effects of additional demand for tourism industry. Indirect effect is related to other industries linked to the tourism industry through value chains, such as food and beverages supplied to restaurants. Lastly, induced effect arises when jobs are created to produce additional output, and higher incomes create additional demand, thereby supporting other economic activities. Due to insufficient data, only direct and indirect effects can be calculated for Lao PDR.

[56] The backward (forward) linkages are calculated by summing the columns (rows) of the Leontief inverse matrix. (Rasmussen, 1956)

[57] Output multiplier for the tourism industry is highest for food, beverages, and tobacco (0.123), followed by retail trade (0.116), agriculture (0.094), construction (0.057), and financial intermediation (0.048).

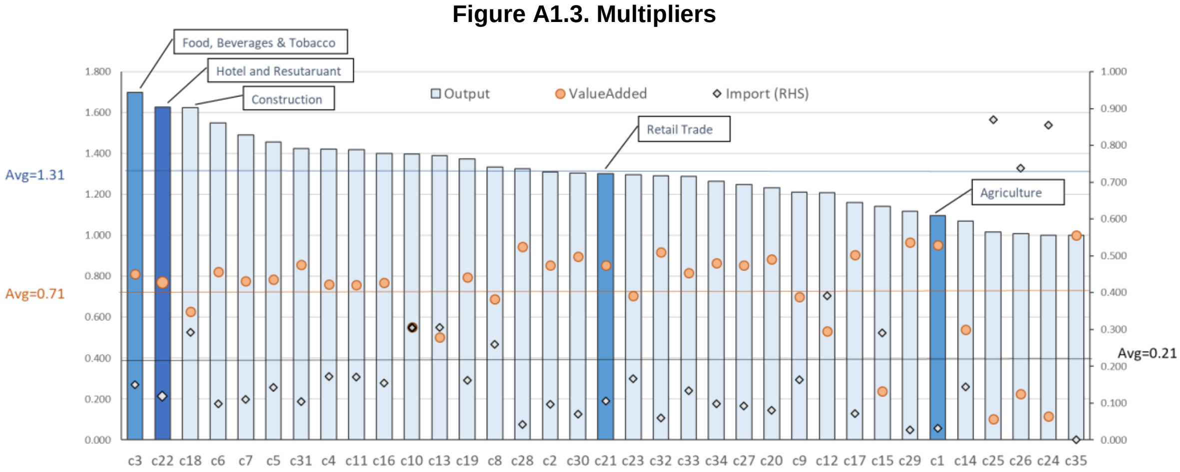
[58] The IO tables are available for 2010-2017, and most of multipliers in this study are based on the latest 2017 IO table.

[59] This implies that a USD1,000 increase of final demand in tourism industry will increase the overall output by around USD1,628.

[60] Import multipliers of closely related industries are also relatively low – food, beverage and tobacco (0.150), retail (0.105), and agriculture (0.032).

[61] Value added multipliers for food, beverages and tobacco (0.810), retail trade (0.854), and agriculture (0.953).

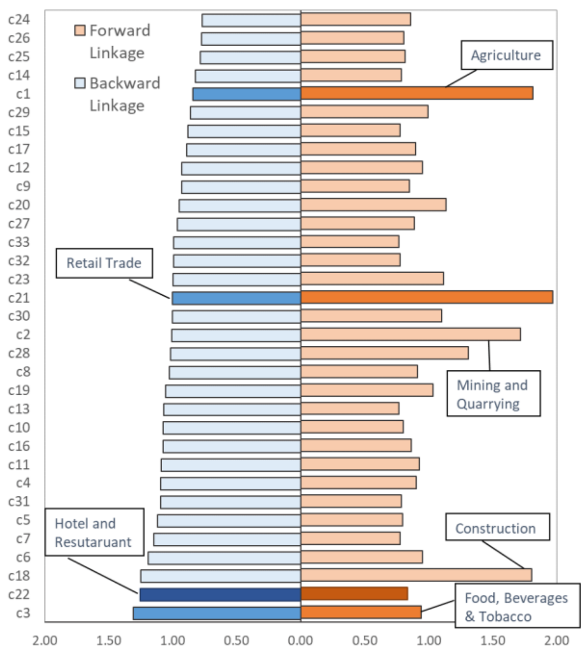
Figure A1.3. Multipliers



Note: Among 35 industries in the IO table, three most closely related industries are highlighted in addition to Hotels and Restaurants, (c22) – Food, Beverages and Tobacco (c3), Agriculture (c1) and Retail Trade (c21). Other key industries are Mining and Quarrying (c2), Electricity, Gas and Water Supply (c17), Construction (c18), Financial intermediation (c28), Real Estate Activities (c29), and Public Administration (c31).
Source: AMRO staff calculations; ADB

6. **The tourism industry shows strong backward linkages, with a positive impact on other industries.** Figure A1.4 shows the relative importance of different industries based on backward and forward linkages. The tourism industry exhibits strong backward linkage (1.252) along with food and beverages (1.307), and construction (1.250). The strong backward linkage of tourism industry implies that their expansion tends to depend on upstreaming supplies from other industries therefore has relatively stronger impact on the overall economy. Forward linkage of the tourism industry is relatively small (0.83) implying that the tourism industry is not very sensitive to the performance of the other industries. In Lao PDR, only a few industries exhibit very strong forward linkages, in particular, retail trade (1.971), agriculture (1.814), construction (1.806), and mining and quarrying (1.720), while most industries show relatively weak forward linkages.

Figure A1.4. Backward and Forward Linkages



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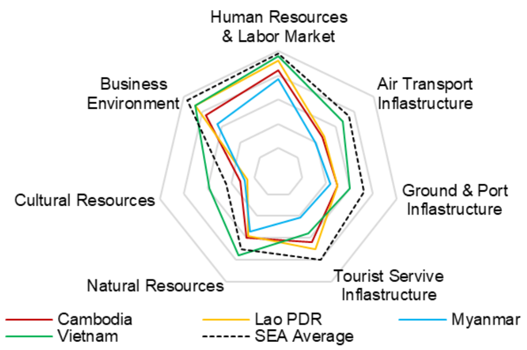
Source: AMRO staff calculations; ADB

7. **The tourism sector in Lao PDR is still bound by long-term structural constraints.** Despite recent progress, Lao PDR's infrastructure development is still at a nascent stage. Since its first appearance in the Travel and Tourism Competitiveness Index report, Lao PDR's

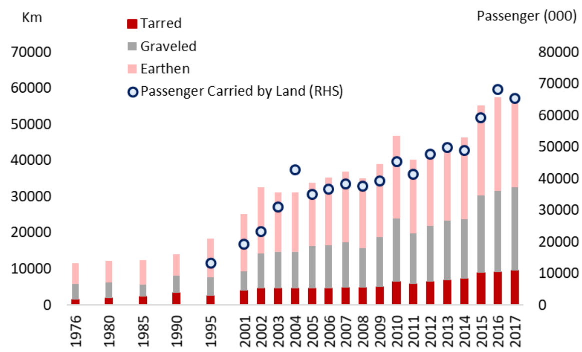
ranking has remained relatively low, starting from 96 in 2015, up two rankings to 94 in 2017 and down to 97 in 2019. In particular, tourism related infrastructure and natural and cultural resources are lagging behind[62] (Figure A1.5). In case of air transportation, there are only four international airports with direct international connections to 18 cities in seven countries as of December 2019.[63] Road transportation is also constrained by limited road linkages and the poor condition of roads. Although road construction has increased significantly over past 40 years, only 15 percent of total road are tarred (Figure A1.6). Lack of access to many tourist sites is one of the major challenges for the nation's tourism industry but the progress is slow compared to the fast expansion of tourism industry. Human resource has been identified as another key structural challenge where the supply of properly trained workers are constrained by insufficient educational institutions for tourism sector jobs.

Figure A1.5. Travel & Tourism Competitiveness Index 2019



Note: Myanmar (Travel & Tourism Competitiveness Index 2015)
Source: World Economic Forum

Figure A1.6. Road Conditions



Note: Annually data is available since 2001
Source: Ministry of Public Works and Transport

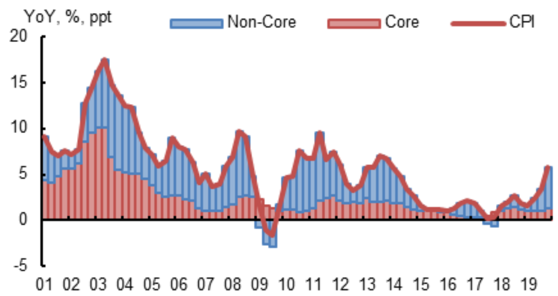
8. **Further actions are needed to ensure the sustainable development of tourism sector in Lao PDR.** Given the importance of the tourism industry, Lao government has continued various tourism promotion efforts**.** We encourage authorities to further strengthen cooperation between all related parties including regional neighbors, especially the two major tourism markets—Thailand and China—and immediate neighbors Cambodia and Vietnam. In terms of infrastructure development, we recommend the government should provide more courses and trainings at universities and vocational training schools to upgrade productivity and performance of tourism sector workers. Addressing the poor physical infrastructure is also important, where additional investment for better accessibility should be the key strategic priority. In terms of supply chains management, the government should ensure the readiness of upstream supplier industries, especially food and beverage productions and retail trade, to meet additional demand for tourist arrivals.

[62] In the Travel & Tourism Competitiveness Index 2019, Lao PDR ranked 95 (infrastructure), 90 (air transport infrastructure), 110 (ground and port infrastructure) and 67 in (human resources and labor market), out of 140 countries.
[63] The four international airports are located in Vientiane, Luang Prabang, Savannakhet, and Pakse, and have direct flights to Cambodia, China, Korea, Malaysia, Thailand, Singapore and Vietnam

Annex 2. Inflation Dynamics and Exchange Rate Pass-Through in Lao PDR[64]

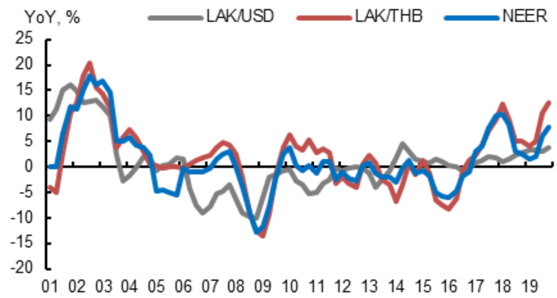
1. **Continued depreciation of the Lao kip has raised concerns amid rising consumer price index (CPI) inflation.** Historically, fluctuations in headline inflation in Lao PDR have been driven mainly by food and energy prices, where supply-side constraints often play a dominant role. For example, supply shortages due to drought, flood and swine flu raised domestic food prices, leading to a sharp increase in CPI inflation in H2 2019. In addition, a steady depreciation of the Lao kip has also added pressure on inflation as Lao PDR imports a wide range of goods from neighboring countries. This annex aims to identify the key drivers of inflation and to assess the degree of Exchange Rate Pass-Through (ERPT) in the country.[65]

Figure A2.1. Headline, Core and Non-core CPI



Source: Lao Statistics Bureau

Figure A2.2. Exchange Rate

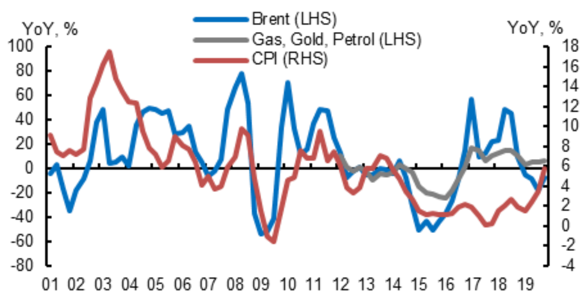


Note: Nominal Effective Exchange Rate (NEER) is computed following the method used by the BIS.
Source: Bank of Lao PDR, CEIC; AMRO staff estimates

Determinants of Inflation in Lao PDR: Stylized Facts

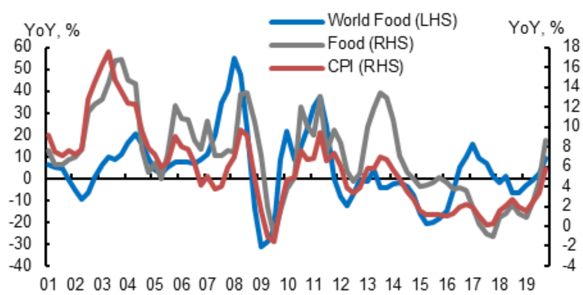
2. **Supply-side factors have contributed significantly to overall inflation.** Global oil and food prices are transmitted to consumer prices directly through imported goods and indirectly by affecting input costs for domestically produced goods and services. On the domestic side, relatively large fluctuations in food prices—particularly rice price—have made a significant contribution to overall CPI movements.[66] A wide range of factors have caused disruptions in domestic food supply and fluctuations in food prices—such as natural disasters, crop pests, livestock diseases, and damaged irrigations.

Figure A2.3. Global Oil Price and CPI



Source: Lao Statistics Bureau; World Bank

Figure A2.4. Global Food Price and CPI

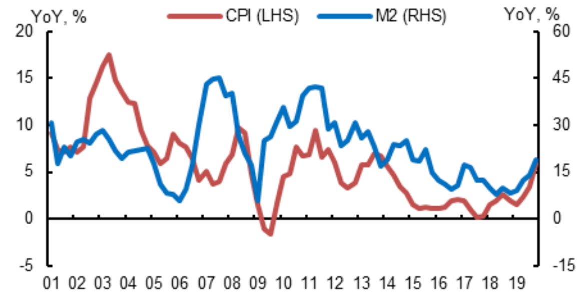


Source: Lao Statistics Bureau; FAO

[64] Prepared by Byunghoon Nam (Senior Economist).
[65] Exchange Rate Pass-Through (ERPT) measures how responsive prices are to changes in exchange rate. Here, we investigate how changes in exchange rate translate to domestic CPI inflation.
[66] Lao PDR has achieved self-sufficiency in rice production—which is one of the staple crops—since the late 1990s. The weight of rice in the CPI basket is 12.1 percent.

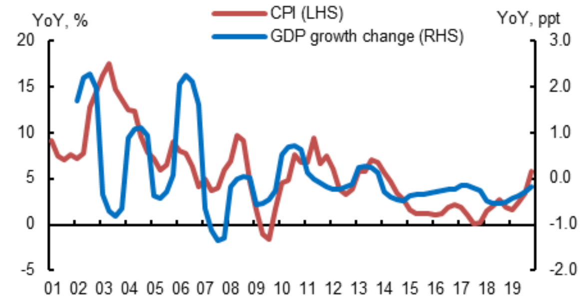
3. **Money supply and demand pressure show correlations with future CPI inflation.** As traditional economic theories explain, an increase in money supply—at a rate faster than output growth—has led to an increase in the average price of goods and services in the economy with a time lag, and vice versa. Demand pressure, measured by the change in GDP growth rate, is also linked to CPI movements, but the observed correlation has been relatively weak.[67] When correlations between CPI inflation and its key drivers are compared, supply factors such as global oil and food prices have a relatively immediate impact on CPI, while demand and money factors show weaker and lagged responses of CPI.

Figure A2.5. Broad Money (M2) and CPI



Source: Lao Statistics Bureau; Bank of Lao PDR

Figure A2.6. GDP Growth and CPI



Note: GDP growth change is the difference in yoy GDP growth rate compared to the same period in the previous year.
Source: Lao Statistics Bureau; AMRO staff estimates

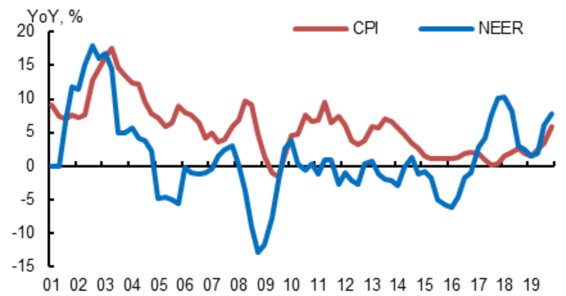
Table A0.1. Correlation Between CPI Inflation and its Determinants

	m=0	*m=1*	*m =2*	*m=3*		*m=0*	*m=1*	*m=2*	*m=3*
$Corr(\,Brent_t, CPI_{t+m})$	0.287	0.329	0.211	0.035	$Corr(\,M2_t, CPI_{t+m})$	0.120	0.226	0.241	0.133
$Corr(\,Global\ Food\ Price_t, CPI_{t+m})$	0.393	0.374	0.251	0.059	$Corr(\,\Delta GDP\ growth_t, CPI_{t+m})$	0.016	0.017	0.256	0.032

Note: Seasonally adjusted qoq changes have been used to compute the correlation between variables.
Source: AMRO staff estimates

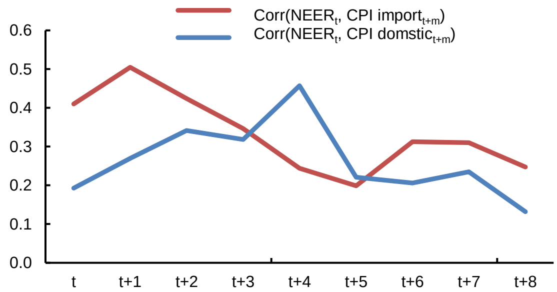
4. **Exchange rate movements are also closely related to CPI inflation of both imported and domestic goods.** Exchange rate directly affects the prices of imported goods, and indirectly affects the prices of domestic goods and services through input costs and expectations in a dollarized environment. Since the transmission channel is obviously longer for the latter, the correlation function shows an immediate response of CPI for the imported goods to NEER and a delayed feedback of CPI for the domestically produced goods to NEER.

Figure A2.7. NEER and CPI



Source: Lao Statistics Bureau; CEIC; AMRO staff estimates

Figure A2.8. Correlation between NEER and CPI Components

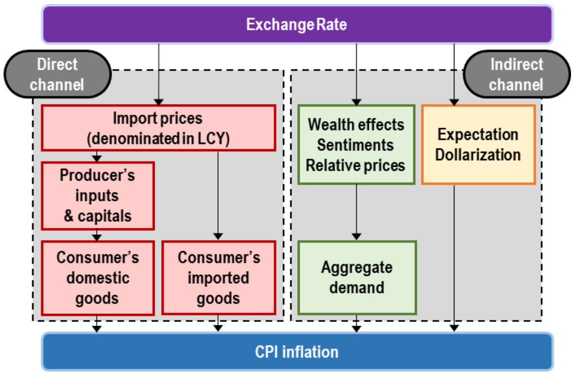


Note: Seasonally adjusted qoq changes have been used to compute the correlation between variables.
Source: AMRO staff estimates

[67] The weak correlation may be due to poor measurement of demand pressure. Conventionally, the GDP gap gauges demand pressure. However, Lao PDR does not have enough data to adequately estimate the GDP gap, and the change in GDP growth rate is used as an alternative measure of demand pressure. Higher value, faster economic growth, indicates higher demand pressure.

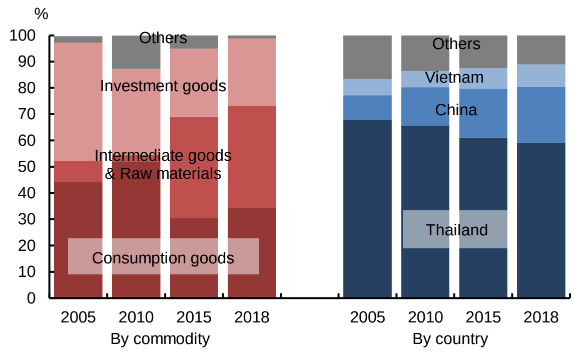
5. **Exchange Rate Pass-Through (ERPT) to domestic prices is expected to be high in Lao PDR, considering its reliance on imported goods and multi-currency environment.** ERPT literature has highlighted various channels through which currency movements impact domestic price changes. First, the import of consumption goods forms one key direct channel as Lao PDR imports a wide range of such goods from neighboring countries – mainly Thailand.[68] Second, intermediate goods, raw materials, and investment goods affect domestically produced goods and services through production costs. Third, there are indirect effects coming from expectations and sentiments of economic agents. In the multi-currency environment where consumers hold foreign currencies and use them in the transactions,[69] domestic currency depreciation can affect inflationary expectations even for goods that are neither directly imported nor produced using imported inputs.[70]

Figure A2.7. FX Rate Pass-Through to Prices



Source: AMRO staff analysis, based on BIS (2018)[71]

Figure A2.8. Import structure in Lao PDR



Source: Bank of Lao PDR

Inflation Dynamics and Exchange Rate Pass-Through: Empirical Analysis

6. **The results from the vector auto-regression (VAR) estimation suggest that global oil and food prices, money supply, demand pressure and exchange rate can jointly explain a large part of the variation of CPI inflation.** In order to explore the inflation dynamics, a VAR system with CPI and its key drivers was estimated.[72] Estimation results confirm our observations in the previous section that supply and demand factors, money aggregates and exchange rate are important determinants of inflation (*adjusted* R^2 is *0.45*) with mostly expected signs of coefficients.

7. **Exchange rate shocks have a more persistent effect on inflation, while the impacts of global oil price shocks on domestic prices are relatively short-lived.** The response of CPI to NEER peaks in the third quarter after the initial shock, and gradually dissipates over more than three years. Global food prices and money supply shocks contribute to higher inflation for

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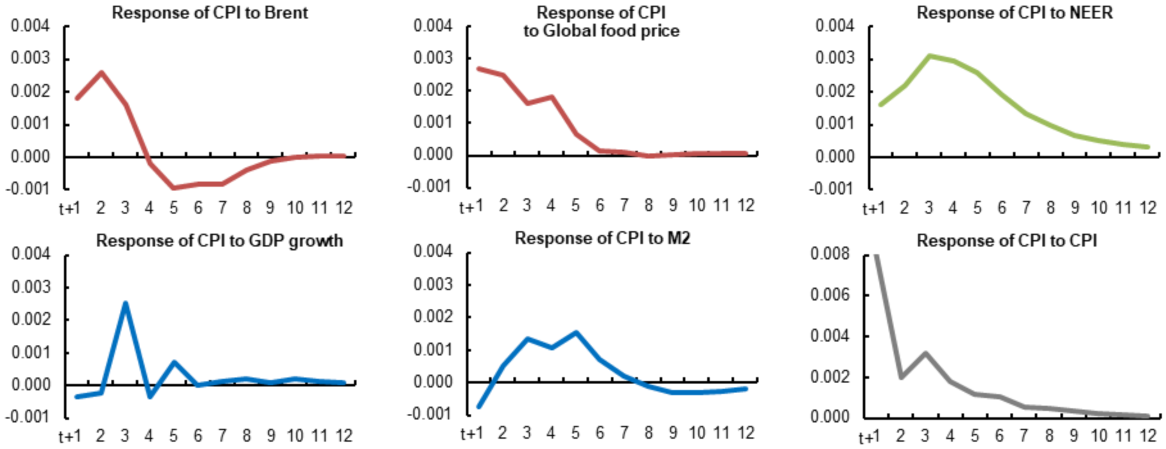
[68] The weight of imported items in the CPI basket is 32.2 percent.
[69] The foreign currency-to-total deposit ratio, which is often used as a measure of dollarization, stood at 57.6 percent in 2019.
[70] The prices of some luxury goods are often indexed to foreign currencies, in particular USD.
[71] Rincon, H. and Rodríguez-Niño, N., 2018. "Nonlinear state and shock dependence of exchange rate pass through on prices."
[72] The model specification of the reduced-form VAR is as follows: $Y_t = A_0 + A_1 Y_{t-1} + \cdots + A_p Y_{t-p} + e_t$, where $Y_t = [dln(brent)_t, dln(global\ food\ price)_t, dln(NEER)_t, d^2 ln(GDP)_t, dln(M2)_t, dln(CPI)_t]'$. All variables are quarterly and seasonally adjusted. The sample period is from Q1 2000 to Q4 2019. Unit root tests reveal the log of variables are I(1), while the first differences are I(0). A lag length of 2 was chosen based on the Lag order selection criteria. Granger causality tests suggest ordering is appropriate.

up to six to seven quarters, while the money supply shock produces a more lagging effect. The effect of global oil prices on CPI is strong in the short-term, but fades relatively fast.

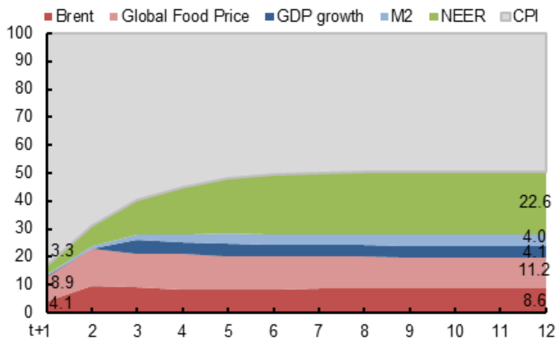
Figure A2.11. Impulse Responses



Source: AMRO staff estimates

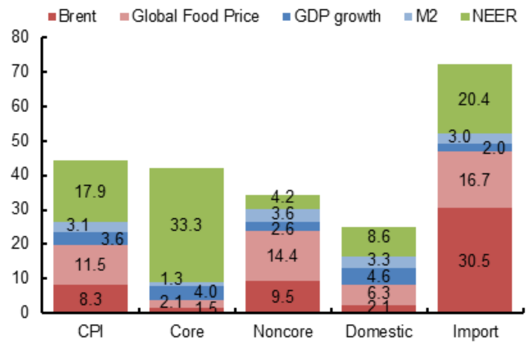
8. **A substantial proportion of inflation variations is explained by supply-side factors and the exchange rate**. Supply shocks explain a greater portion of the CPI movements in the short-run, but the contribution of exchange rate increases over time. The share explained by demand pressure and money supply is much smaller, suggesting inflation dynamics in Lao PDR are dominated by supply and exchange rate shocks. Variance decomposition of CPI sub-indices suggests different key drivers across sub-indices. Core inflation is mostly explained by currency movements, while non-core inflation is more subject to supply-side factors. Meanwhile, global commodity prices and the exchange rate together determine the CPI of imported items, but demand pressure and money supply matter relatively more for the CPI of domestic items. However, the proportion the exchange rate can explain tends to be significant for CPI as well as all CPI sub-indices.[73]

Figure A2.12. Variance Decomposition of CPI Over Time



Source: AMRO staff estimates

Figure A2.13. Variance Decomposition of CPI Sub-indices

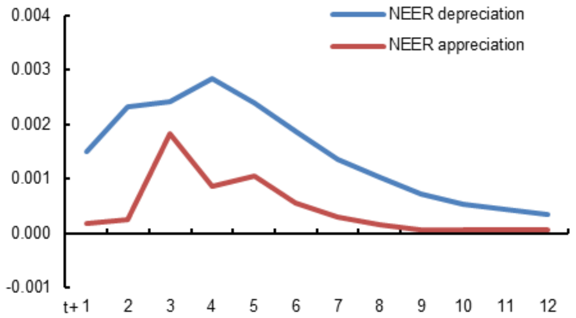


Note: Averages of variance decomposition results from t+1 to t+12 quarters are presented for each measure of CPI.
Source: AMRO staff estimates

[73] For the robustness check, NEER is replaced by LAK/THB and LAK/USD in the VAR system. The results are qualitatively the same.

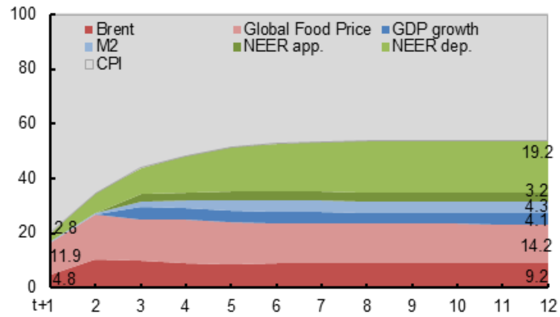
9. **Depreciation of the Lao kip shows more significant and persistent impact on CPI inflation than appreciation.** To check whether the ERPT is asymmetric, the VAR model is re-estimated with dummy variables for depreciation and appreciation.[74] Impulse response functions reveal the response of CPI to NEER depreciation is stronger and more persistent than the response to NEER appreciation. Variance decomposition also confirms that depreciation explains more of domestic price movements, while appreciation does not matter much.[75]

Figure A2.14. Impulse Response of CPI to NEER Depreciation and Appreciation



Source: AMRO staff estimates

Table A2.15. Variance Decomposition of CPI



Source: AMRO staff estimates

10. **The impact of ERPT on the inflation is significant and persistent.** The empirical results confirm that supply-side factors and the exchange rate affect the headline inflation more than demand pressure and money supply. Natural disasters and global commodity prices have induced high volatility in food and energy prices, while the exchange rate has affected overall domestic prices through various ERPT channels. The impact of the exchange rate shocks on domestic prices was found to be persistent and asymmetric between appreciation and depreciation.

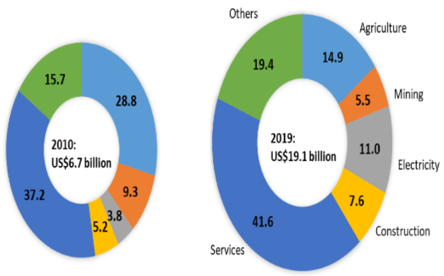
11. **Inflation pressure is expected to remain high in H1 2020.** Recalling that high inflation in 2019 was mainly driven by supply shocks in the agricultural sector, the prices of agricultural goods—especially rice price—are likely to stay high until the harvest season in April. Considering the empirical study results, the continuing depreciation of the Lao kip will exert inflationary pressure through 2020. As a result, the economy will see high rates of CPI inflation in the first half of 2020 before stabilizing in the second half, assuming no major natural disasters and moderate currency movements.[76]

[74] NEER depreciation = NEER x dummy for depreciation, NEER appreciation = NEER x dummy for appreciation.
[75] One plausible explanation is that under a monopolistic or oligopolistic market structure, importers tend to pass the cost increase due to depreciation to consumers, but not cut their prices proportionately when the currency appreciates.
[76] The VAR model forecasts a 6 – 7 percent (yoy) increase in CPI in Q1 and Q2 2020.

Annex 3. Development and Reform of Electricity Sector in Lao PDR [77]

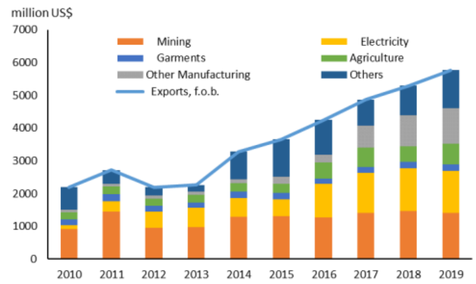
1. **The Lao government has targeted to develop the electricity sector in Laos as a major driver of growth and development for the country.** Given its unique geographical features as a land-locked and mountainous country with abundant water resources, the government has set out to develop hydropower electricity sector and to export to neighbouring countries in line with the goal to be the Battery of Asia.[78] Electricity sector nearly tripled as a share of the economy in the last 9 years, accounting for 11 percent of GDP in 2019, from less than 4 percent in 2010 (Figure A3.1). The share of electricity export out of total exports has increased from 5 percent to 22 percent between 2010 and 2019 (Figure A3.2).

Figure A3.1. Share of GDP by Sector



Source: Lao Statistics Bureau, AMRO staff estimates

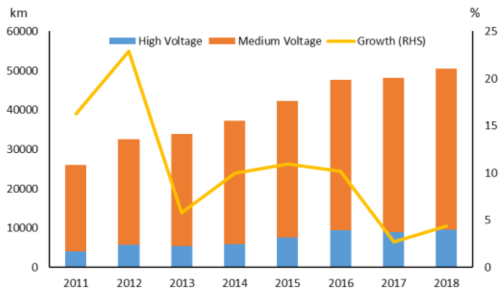
Figure A3.2. Exports by Major Commodity



Source: Lao Statistics Bureau, AMRO staff estimates

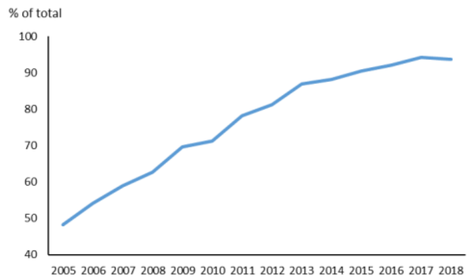
2. **Major hydropower plants completed in 2019 are set to ramp up production and export of electricity from 2020.** As of end-2018, 80 power plants were in operation with installed capacity of 7,153 MW. This has increased significantly towards the last quarter of 2019, when 12 hydropower plants were completed, including 4 major projects such as Xayabury, Nam Ngiep 1, Xepian-Xenamnoy and Don Sahong, increasing the number of operational plants to 92, and increasing installed capacity to 9,500 MW that can generate 45,000 million kWh a year.

Figure A3.3. Length of Transmission Lines



Source: Ministry of Energy and Mines (MEM)

Figure A3.4. Electrification of Households in Laos



Source: Ministry of Energy and Mines (MEM)

3. **Electrification across the country has increased with rising electricity capacity and installation of additional transmission lines.** The network of electricity transmission wires have steadily increased, growing rapidly until 2016, but has since moderated (Figure A3.3).

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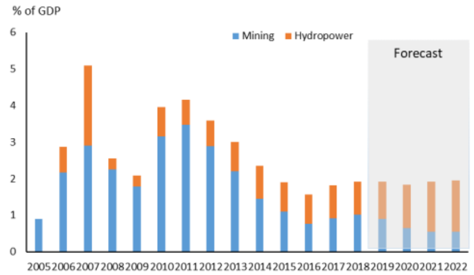
[77] Prepared by Paolo Hernando and Takashi Yonemura

[78] In addition, under the Energy Sector Plan, the target is to increase electrification to 98 percent by 2025, enabling greater access to households to improve living conditions, improve the health and education of the people, and enhance human capacity development.

This is consistent with the steady rise in electrification across the country, which rose to above 90 percent of households in 2015 before plateauing in recent years (Figure A3.4).

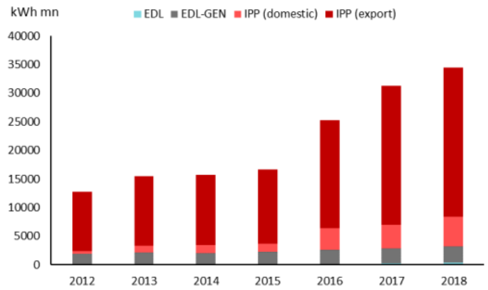
4. **Contribution of hydropower to government revenues has increased gradually.** As the Power Purchase Agreements (PPAs) ensure a steady flow of receipts and revenue by exporting the generated electricity, the government is estimated to have collected about USD189 million (1.0 percent of GDP) in 2019 from various taxes, royalties and dividends (Figure A3.5). However, considering the rapid increase in installed capacity and export, the rise in government revenue from the hydropower sector has been relatively slow, which can be attributed to numerous tax exemptions, long concession period, and high debt repayment related to hydropower projects.

Figure A3.5. Fiscal Revenues from the Resource Sector



Source: MEM, AMRO staff estimates

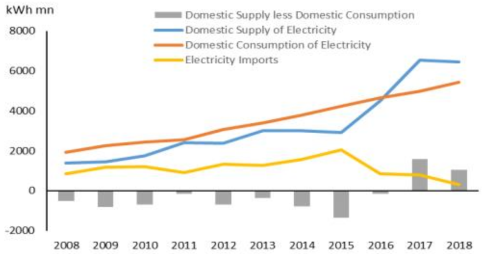
Figure A3.6. Electricity Production by Supplier



Note: EDL is the public electric utility company, EDL-GEN is a subsidiary of EDL taking over the generation capacities of EDL, IPP's are typically large power plants.
Source: MEM, AMRO staff estimates

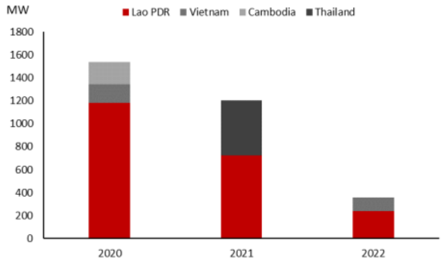
5. **Electricity for exports dominates production but electricity for domestic users has significantly increased in the past 3 years.** Electricity production has been mostly for export, accounting for three-quarters of the total in 2018. Meanwhile, electricity production for domestic use has been steadily increasing as a share of the total, from 3 percent in 2012 to 15 percent of total electricity production in 2018, recording notable increases since 2016 (Figure A3.6). Electricity consumption has been rising as well, in particular industrial consumption of electricity. However, the increase in domestic demand has not been fast enough to keep pace with the rapid rise in domestic supply, leading to an oversupply of electricity in the domestic market since 2017 (Figure A3.7).

Figure A3.7. Domestic Power Demand and Supply



Source: MEM, AMRO staff estimates

Figure A3.8. Additional Electricity Output by Target Market

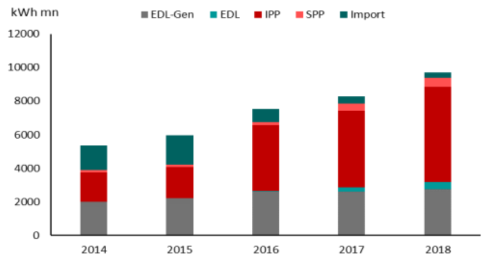


Source: MEM, AMRO staff estimates

6. **The oversupply of electricity for the domestic market is projected to increase further in the future.** With several projects under construction, the total installed capacity is set to continue to increase to 12,632 MW by 2022 from 9,531 MW in 2019. The oversupply of electricity in the domestic market is expected to become more acute, with almost 70 percent of the new generation capacity coming online in the next 3 years targeting at the domestic market (Figure A3.8).

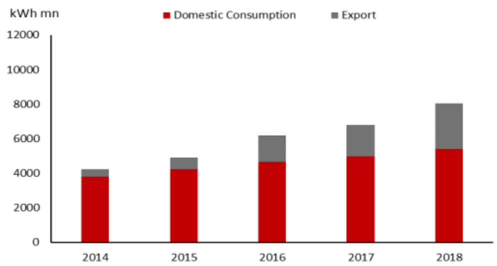
7. **Overly optimistic domestic electricity demand projection has led to the oversupply of electricity in the domestic market.** Very optimistic demand forecast amid the overarching policy to expand electricity access resulted in a rapid increase in the number of power plant constructions for domestic use. As more power plant constructions are completed, EDL's electricity purchase from independent power producers (IPPs) has increased substantially since 2016 (Figure A3.9). However, the growth of domestic electricity consumption has remained weaker than expected, and EDL has not been able to sell electricity as much as it purchases from the IPPs (Figure A3.10). In addition, the take-or-pay PPAs signed by EDL with IPPs effectively guarantee the purchase of electricity produced by upcoming power projects for the domestic market.

Figure A3.9. EDL Electricity Purchases



Note: SPPs are small power producers with installed capacity of not more than 15MW.
Source: MEM, AMRO staff estimates

Figure A3.10. EDL Electricity Sales



Source: EDL, AMRO staff estimates

8. **EDL financial situation has deteriorated in recent years due to a combination of factors.** The unit cost structure of EDL shows that the largest cost component is the purchase of electricity, at around 600 kip/kWh, and personnel cost has averaged around 158 kip/kWh. With the average tariff on a declining trend at around 700 kip/kWh, EDL has already been operating at a loss. The situation is aggravated by rising financial costs like interest expenses and exchange rate loss (Figure A3.11). The inability to recover operational costs and rising financial expenses is expected to worsen with the further lowering of electricity tariff rates in May 2020.[79] Compared to neighbouring countries, tariff rates in Lao PDR are relatively lower, particularly at the upper end of consumption (Figure A3.12). The combination of rising electricity purchases due to PPAs, rising financial costs, below cost recovery tariff, and slow pace of increase of electricity demand, has exacerbated the financial situation of EDL.[80]

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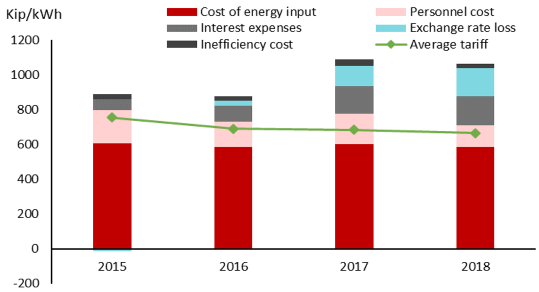
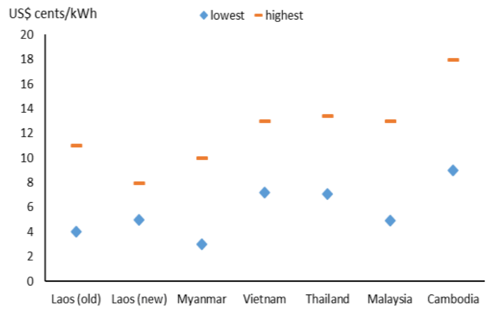
[79] The new tariff schedule indicates that average tariff for low electricity consumption households was lowered by 7 percent, while the average for higher consumption households was reduced by 22 percent. Commercial users and business establishments saw tariff reduced by an average of 13 percent. Meanwhile, industrial users have tariff reduced by 11 percent.
[80] Losses reached LAK1,671 billion in 2017, and narrowed a bit to LAK1,576 in 2018 but remains sizeable.

Figure A3.11. Average Tariff and Cost Components of Electricity



Source: EDL, AMRO staff estimates

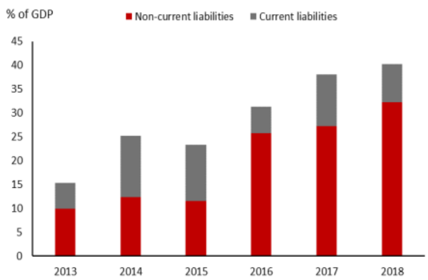
Figure A3.12. Range of Electricity Rates (Selected Countries)



Source: EDL, AMRO staff estimates

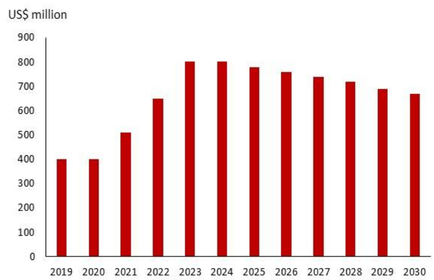
9. **EDL's large debt burden has been rising rapidly, and increasing the losses of EDL.** Non-current liabilities, when taken on a consolidated basis,[81] has significantly risen from 5.5 percent of GDP in 2013 to 32.3 percent of GDP in 2018. Meanwhile, current liabilities[82] are also sizeable at around 8 percent of GDP in 2018 (Figure A3.13). The payment of principal and interest for outstanding debt is set to rise in the coming years, to US$800 million in 2023, and is projected to gradually decline from 2024 onwards (Figure A3.14). As the operating loss is expected to continue, effective and decisive policy interventions are needed to improve EDL's finances, in order to contain contingent liabilities of the government.

Figure A3.13. Consolidated Liabilities



Source: EDL, AMRO staff estimates

Figure A3.14. EDL Debt Service



Source: EDL, AMRO staff estimates

10. **Raising domestic tariff and expanding exports will help to improve EDL's finances.** Although the electricity tariff has been reduced to promote investments in the industrial sector, the effectiveness of such a tariff cut could be limited.[83] As long as the unit cost of production is higher than the tariff, larger electricity sales will only increase the operating loss of EDL and further worsen EDL's financial situation. With the tariff in Lao PDR set lower compared to ASEAN peers, there is room to raise the electricity tariff to reflect the unit costs of production. In addition, the possibility of expanding electricity exports to neighbouring countries should be actively pursued. Fully utilizing existing MOUs with Thailand and Vietnam, as well as expanding MOUs

[81] Consolidation of subsidiaries of EDL such as EDL-Gen. EDL's non-current liabilities consist mostly of loans while EDL-Gen's consist mostly of bonds.
[82] Current liabilities consist mostly of principal repayments, interest expenses and other payables
[83] The price elasticity of electricity demand is relatively low for the existing establishments, and for a new investment project, electricity cost is only a small part of investment decision and other investment environments could be more important.

with Cambodia and Malaysia[84] will be helpful in the medium to long run. However, expanding electricity exports needs to be carefully evaluated since it requires additional capital investments to build transmission lines.[85]

11. **Efforts to streamline the cost are also essential and need to cover the whole range of EDL's business.** The government should review the new power project plan in light of domestic oversupply of electricity where demand projection should be revised to a more realistic level.[86] In addition, EDL needs to improve the efficiency of its operation by reducing labour costs, and enhancing financial risk management. EDL should also renegotiate the terms of existing take-or-pay PPAs, some of which should be made more reasonable and subject to cost reduction.

12. **Selective asset sales could be considered in order to reduce the high debt burden.** Given the size and the speed of accumulating debt, EDL will be exposed to the risk of defaulting on its payments for an extended period, unless there is a sharp improvement in its profitability. Therefore, reducing the size of debt is also important while EDL makes an effort to strengthen its profitability, and all possible options should be considered, including the sales of its assets and using the proceeds to reduce debt.

[84] Currently Lao PDR has MOU with Thailand to export 9000 MW of electricity (of which 7000 MW has been utilized), 3000 MW with Vietnam (of which less than 1,000 MW has been utilized). Meanwhile, Lao PDR has increased in 2019 its MOU to export to Cambodia to 2900 MW (from 2000 MW) as the plans for hydropower projects and coal-fired power plants in Laos to supply electricity to Cambodia have commenced. Malaysia has also expanded its agreement to purchase electricity from Laos to 300 MW (from 100 MW) utilizing the energy exchange trade in ASEAN, wherein Laos sells electricity to Malaysia via Thailand's power grid.

[85] In January 2020, a new high voltage 500kV transmission line was inaugurated that will enable power to be transmitted from the Don Sahong hydropower plant in Laos to the Stung Treng electricity station in Cambodia.

[86] The forecast of MEM for domestic electricity demand to increase by more than 2.5 times to 14,200 GWh from the current level of 5,400 GWh may need to be reviewed.