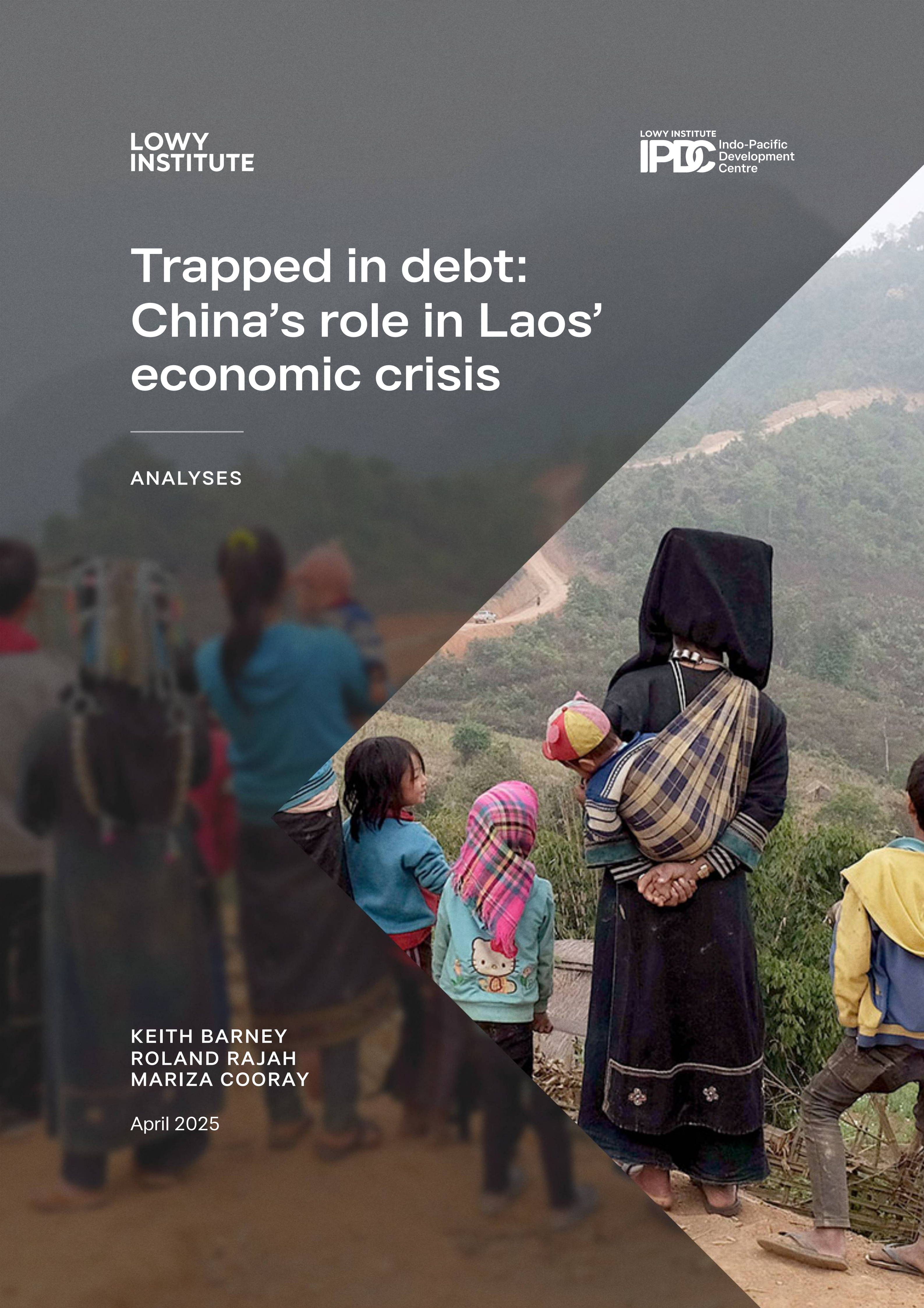

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Trapped in debt: China's role in Laos' economic crisis

ANALYSES

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Cover image: Villagers in the remote Akha Nuquie village of Ban Chakhampa watch construction traffic drive along the new road, Phongsaly province, Lao PDR. Photo by In Pictures Ltd./Corbis via Getty Images

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Key Findings

- Laos is trapped in a severe debt crisis with no resolution in sight, threatening a decade of economic and social malaise.
- Recent global shocks were key triggers. Yet a crisis was almost inevitable, driven by poor planning and over-investment in the domestic energy sector, financed mostly by Chinese loans and exacerbated by broader fiscal and governance problems.
- Exiting the crisis will require China to provide substantial debt relief. However, the politics appear unfavourable, as neither side wants to admit failure and accept the consequences.
- Whether by design or neglect, China has created a debt trap in Laos. The crisis illustrates some of the most troubling pathologies of Chinese lending under the Belt and Road Initiative, and its unwillingness to provide sufficient debt relief, despite the clear-cut need.

Executive summary

This Analysis examines the drivers of the Lao debt crisis and what will be required to get out of it, with a focus on China's role. Laos' debt crisis has received little international attention and scrutiny, reflecting the country's opacity and the minor exposure of international bond investors. Yet China's outsized role makes the Lao crisis a crucial case study in an era when China has become the world's largest bilateral creditor to developing countries.

What is clear is that China lent on a huge scale to a country with weak institutions and limited ability to productively absorb the investment. This has resulted in massive overcapacity in the Lao energy sector, unsustainable financial losses, and finally the takeover of its energy grid by a Chinese state firm. Regardless of China's motives, domestic Lao elites appear equally to blame for the poor decisions that ultimately led to the economic crisis. China and Laos have thus settled into a hierarchical creditor-debtor relationship, underpinned through a logic of power, influence, and economic insecurity.

Our analysis shows that, even under the most optimistic scenarios, Laos cannot escape the crisis in the absence of substantial debt relief. We assess that growing out of the crisis is unrealistic, even with the benefit of the Laos–China Railway or realistic reforms to boost growth and government revenue. The country also has little-to-no room to absorb any future shocks without suffering an even deeper crisis. Whether under a China-led bilateral deal or a multilateral IMF-led restructuring, Laos' need for debt relief is clear cut.

Introduction

Laos is suffering an acute debt crisis with no apparent way out. The Lao kip has lost half its value against the US dollar since the start of 2022, causing domestic prices to skyrocket and devastating household incomes. Hundreds of thousands of Lao citizens are experiencing new food insecurity or are being pushed into transnational labour migration.[1] Total public and publicly guaranteed (PPG) debt is estimated to exceed 100% of GDP.[2] Laos has not formally defaulted on its international debt obligations, but only due to repeated ad hoc debt deferrals from China, which holds nearly half of Laos' sovereign external debt.[3] More than half of domestic government revenues went to meeting debt servicing obligations in 2023 (even after large repayment deferrals granted by China), leaving little fiscal space for vital education and health spending.[4] On its current trajectory, the Lao debt crisis is likely to deliver a lost decade of sub-par growth and stalled poverty reduction — a dramatic reversal of the economic optimism of previous decades.

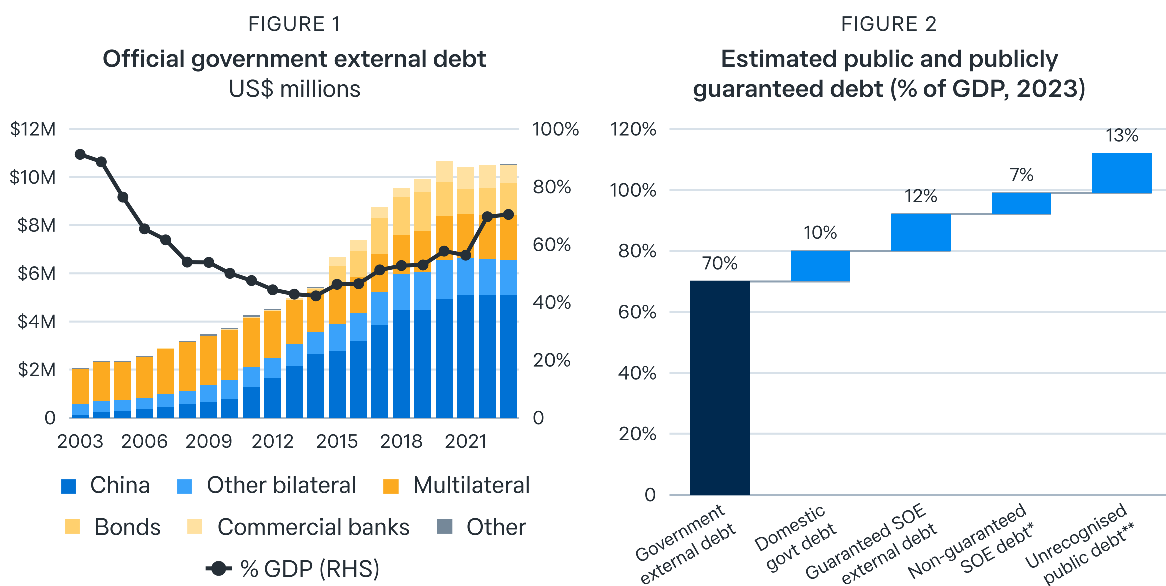
The build-up to the crisis

This is not the first time Laos has been engulfed by a sovereign debt crisis. In the early 2000s, public debt stood at more than 140% of GDP. Laos opted not to participate in the World Bank–IMF Heavily Indebted Poor Countries Initiative. Instead, Russia, Laos' largest creditor at the time, wrote down 70% of the face value of their bilateral debt and restructured the rest on highly concessional terms.[5] Laos made a strong recovery, with annual economic growth accelerating to around 7%. The economy was liberalised, facilitating investment inflows, and the country benefited from rising global mineral prices. Through the 2000s, Laos further integrated into the Western-led international financial and development architecture, secured substantial Japanese aid, and was able to borrow on highly concessional terms from Multilateral Development Banks (MDBs).[6]

Through the 2010s, Laos changed course, becoming one of the heaviest borrowers (relative to GDP) under China's Belt and Road Initiative (BRI), formally

launched in 2013.[7] The shift marked China's geopolitical quest for influence in Laos. In 2016, Laos became host to a signature BRI project, the Laos–China Railway, an immense $6 billion engineering initiative to connect the Lao capital Vientiane to China's Yunnan province. The enormous cost of the project relative to the small Lao economy attracted much international attention.[8] However, far larger has been the billions funnelled into hydropower and transmission projects loosely framed under the government's slogan of becoming the "Battery of Southeast Asia". Falling state revenues also saw the government increasingly borrow from international capital markets.

The result of this sea change in Lao public finances was a stunning re-expansion in sovereign debt. Lack of transparency and reporting inconsistencies cloud the overall picture.[9] Official figures nonetheless indicate external government debt more than doubled from less than $4 billion in 2010 to about $10 billion by 2019 and $10.5 billion by 2023 (Figure 1). China accounts for about half, at $5.1 billion. However, these figures substantially understate Laos' total debt liabilities. A more comprehensive measure of public and publicly guaranteed debt suggests a total figure of around $17 billion in 2023 or 112% of GDP (Figure 2).



Source: Authors based on Laos Public Debt Bulletins, World Bank International Debt Statistics database (covering 2003-2014), IMF Article IV 2024

Note: *Adjusted for government ownership share of each entity. Mostly related to EdL-Gen. Not included by the government as part of public and publicly guaranteed debt (figures from Government of Laos Public Debt Bulletin). ** Amounts not recognised in official debt statistics including US$1.2 billion unrecognised domestic arrears, US$484 million deferred interest owed to China, US$250 million drawdown on the PBoC swap (figures from IMF Article IV 2024 report).

The key lenders to Laos through the 2010s were China's policy banks — the Export-Import Bank of China (China Ex-Im Bank), and to a lesser degree China Development Bank (CDB). Much of this was on-lent to Lao state-owned enterprises (SOEs), largely the national power utility, Électricité du Laos (EDL).[10] In 2023, EdL's total debt load was US$5.4 billion, including US$1.8 billion in government guaranteed debt. A further US$1 billion in non-guaranteed debt was held principally by EdL-Gen (a majority owned subsidiary of EdL). [11] At over US$6 billion, the energy sector accounts for the lion's share of government debt exposure.[12]

Alongside its borrowing, the government ran increasingly profligate fiscal policies. Although Laos has persistently run large budget deficits, these widened substantially to reach 5% of GDP by the mid-2010s (Figure 3). Crucially, this was driven by a sharp decline in government revenue, falling from 20% of GDP in 2013 to 15.4% by 2019, reflecting investment incentives, tax exemptions, and weak compliance.[13] This saw the government increasingly borrow from international bondholders and commercial banks, adding a further $2.1 billion of debt by the end of 2019.

FIGURE 3

Laos budget finances

% of GDP

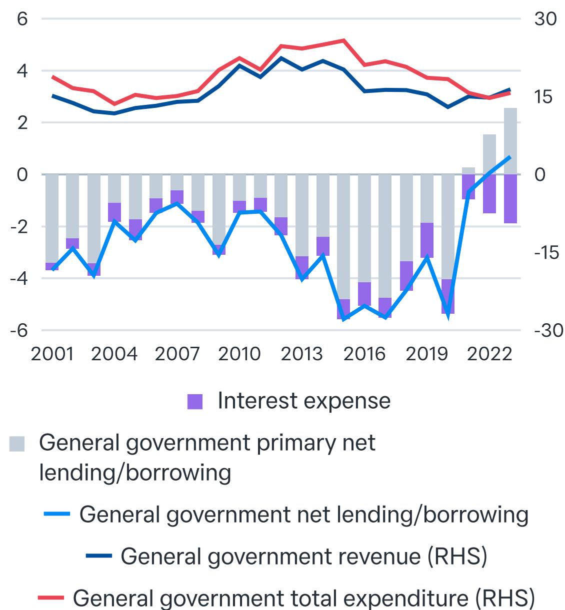
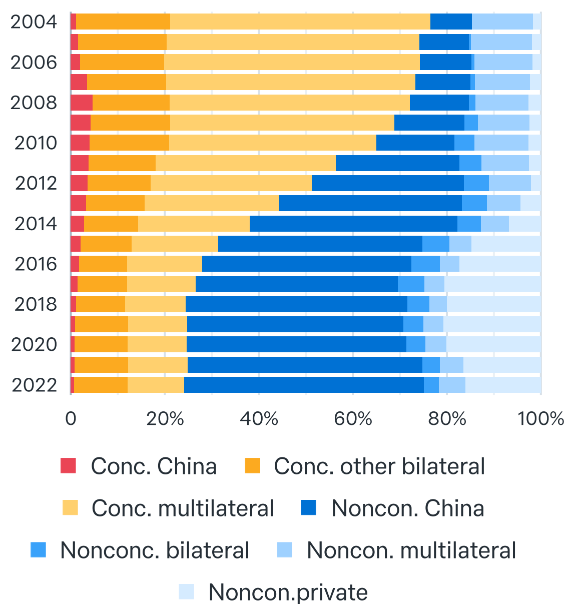


FIGURE 4

Government external debt by terms

% of total



Source: Source: IMF World Economic Outlook database and World Bank International Debt Statistics

In essence, the government took on large debts for resource and infrastructure projects with long and uncertain lead times, while simultaneously allowing

revenues to fall and the fiscal position to weaken. Heavy borrowing from China and commercial sources delivered a remarkable reversal in the structure of Laos' public debt. In 2004, three-quarters of debt was on highly concessional terms and only one-quarter non-concessional. By 2019, that ratio had flipped (Figure 4).[14]

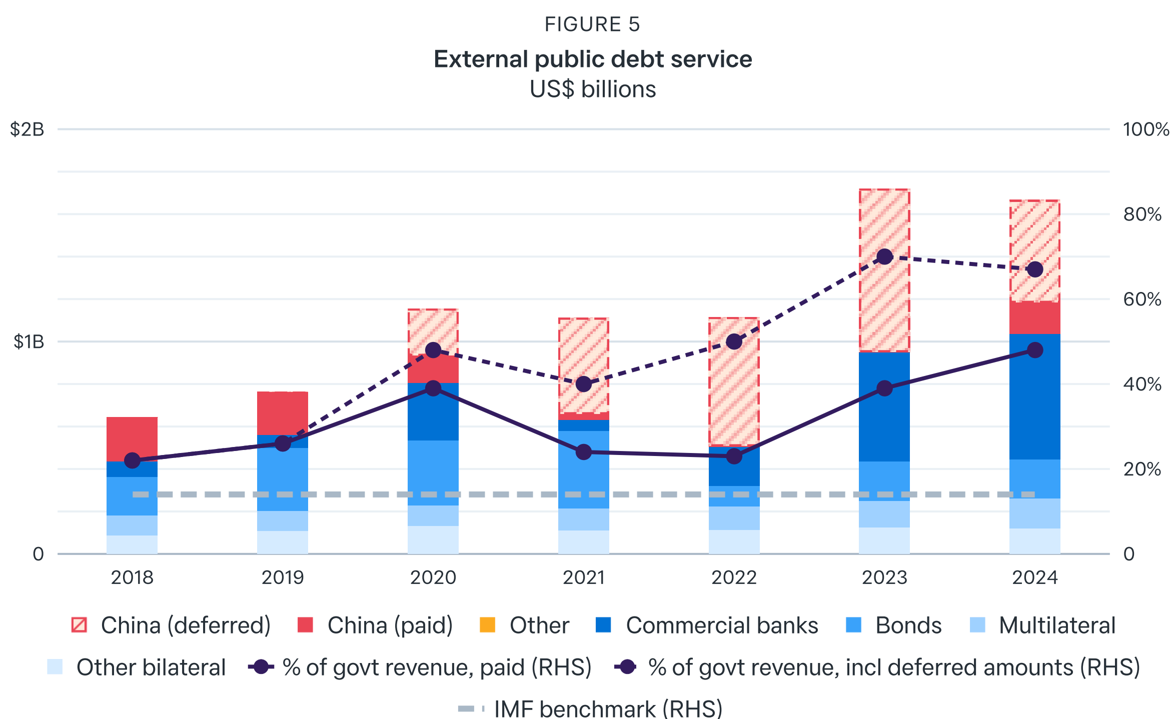
Higher interest rates, shorter repayment periods, and the expiry of grace periods on large Chinese loans produced a dramatic rise in debt servicing costs. Including amounts ultimately deferred by China, scheduled debt service payments increased over three-fold, from less than $375 million in 2016 to $1.2 billion in 2020 and $1.7 billion by 2023 (Figure 5). Roughly 40% of sovereign debt relates back to EDL.[15]

The collapse of the kip in mid-2022 made matters dramatically worse. Like many other developing countries, Laos' external debt is entirely denominated in foreign currencies, mostly US dollars. Borrowing in foreign currency means a country must earn or access enough foreign exchange to make good on its debt repayments. It also exposes the borrower to significant risks due to unexpected currency movements. When the kip lost half its value from late 2021 into 2022, Laos' debt-to-GDP ratio ballooned by more than 40 percentage points.

FIGURE 5

External public debt service

US$ billions



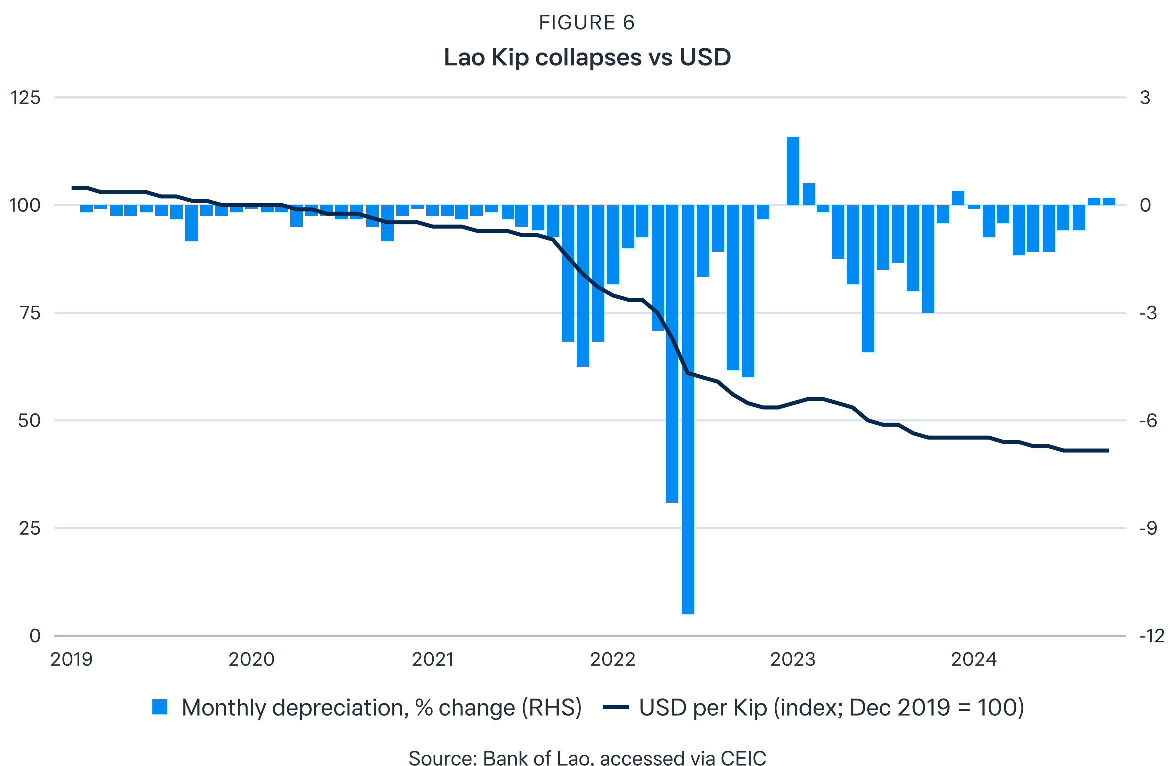
Source: Authors' calculations based on Laos Public Debt Bulletins and IMF World Economic Outlook database

Currency collapse and China’s role

It was the sharp depreciation of the kip beginning in mid-2022 that marked the arrival of an outright crisis (Figure 6). To understand the Lao debt crisis and China’s role in it, it is essential to trace what caused the collapse of the kip. The drivers of the currency crisis were complex, reflecting pre-existing vulnerabilities and the global economic shocks of the pandemic and Russo-Ukrainian War.[16]

FIGURE 6

Lao Kip collapses vs USD

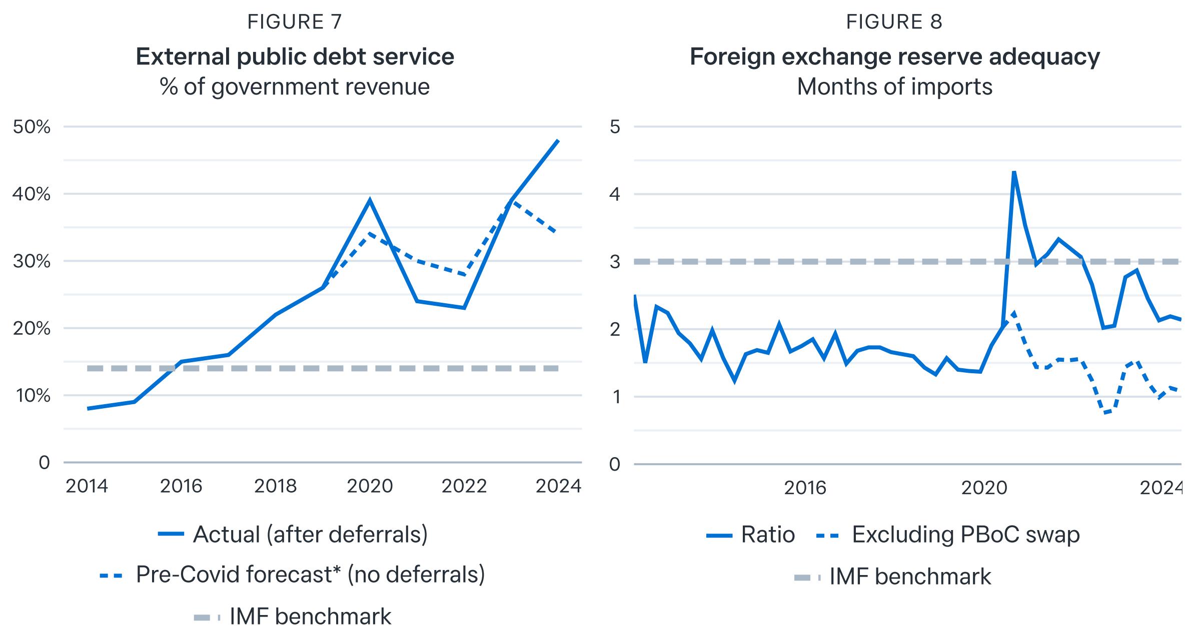


Source: Bank of Lao, accessed via CEIC

China’s role was multifaceted. On the one hand, it provided substantial financial assistance through the deferral of impending debt service payments (thus far $2.5 billion in total) along with the extension since 2020 of a RMB 6 billion ($900 million) currency swap line from the People’s Bank of China (PBoC).[17] Without these supports, Laos’ economic crisis would have been far deeper. Laos chose not to participate in the G20 Debt Service Suspension Initiative that

provided temporary debt service relief to the world's poorest countries during 2020 and 2021.[18] The duration of China's debt deferrals to Laos has been considerably longer than the G20's initiative, thus far extending into 2024. However, a lack of transparency — around the continuation and terms of debt deferrals, whether the PBoC swap line can be used for balance of payments purposes (i.e. to defend the kip), and when it will be concluded — has fed uncertainty, exacerbating Laos' crisis.[19]

Laos entered the current decade with substantial and mounting macroeconomic vulnerabilities. Even in the absence of global shocks, Laos would likely have faced significant difficulties in meeting its impending debt service requirements, most of which were owed to China. Based on pre-Covid economic projections by the International Monetary Fund (IMF), debt service payments would still have reached more than a third of government revenue — around 2.5 times the IMF warning threshold of 14% (Figure 7). Foreign exchange reserves held at the Bank of the Lao PDR were also perennially and increasingly inadequate (Figure 8).[20] At the end of 2019, reserves stood at just under $1 billion, equivalent to 1.4 months of imports — half the three-month international benchmark level and low compared to other developing countries that have subsequently experienced severe debt problems.[21] This was not remotely adequate to help meet the government's ballooning debt service payments.



Source: Authors' calculations based on Bank of Laos, IMF World Economic Outlook, Laos Public Debt Bulletins, and World Bank International Debt Statistics database

Note: *based on IMF forecasts from World Economic Outlook October 2019 database and total PPG debt service as reported in the World Bank International Debt Statistics database

Mounting debt servicing pressures combined with global economic shocks saw Laos experience sharp net financial outflows. While all developing countries faced financial pressures — due to capital outflows, sharp increases in US interest rates, and an appreciating US dollar — the results were far more severe in Laos' case. In 2020, Laos was downgraded by global credit rating agencies Moody's and Fitch and eventually also by the Thai credit rating agency in 2023 — largely closing off the country's access to the Thai bond market and leaving Laos unable to access fresh foreign currency financing to service its debts. Ballooning debt service payments and persistent unrecorded capital outflows combined to see around $700 million annually in net financial outflows (Figure 9). This left the Lao Kip vulnerable. When net exports and foreign investment inflows also dried up in 2022 after Russia's invasion of Ukraine, the kip duly collapsed (Figure 10).

FIGURE 9

Net financial flows

Quarterly, US$ billions

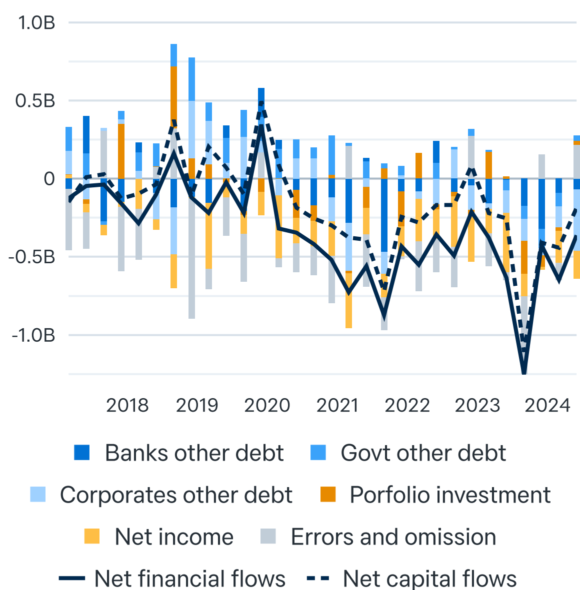
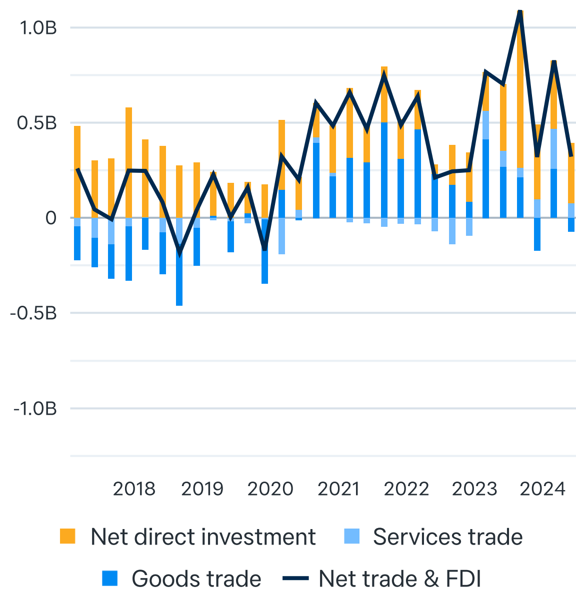


FIGURE 10

Net trade & FDI flows

Quarterly, USD billions



Source: Authors' calculations based on CEIC and Bank of the Lao PDR

Why Laos' big push investments haven't paid off

The government's program of energy sector investments notionally focused on making Laos the "battery of Southeast Asia", thereby generating the necessary export earnings to service its debts. Why did this fail? There were important problems with Laos' export-focused strategy. However, the larger factor was that a huge amount of debt, mostly from China, went into a dramatic expansion in hydropower aimed at serving the domestic energy market, not for export. The result was massive domestic overcapacity and financial losses for the state-owned utility, EDL.

Since Laos' 1975 socialist revolution, the energy sector has been an engine of economic development and nation-building.[22] Laos has tied its national fortunes to the vast hydro generation capacity of the Mekong River and its tributaries. Early dams completed in the 1990s were pioneering in terms of their complex financing structures, with loan guarantees provided by the MDBs and dedicated transmission lines exporting power to Thailand under long-term agreements. These early dams were a financial success, even if the benefits did not trickle down to local communities. The commissioning of the $1.2 billion World Bank-supported Nam Theun 2 project in 2010 provided another pivotal platform for investor confidence, with Thailand the key off-taker (a buyer who agrees to purchase a substantial portion of future output).[23]

After 2010, Lao authorities became more ambitious for rapid development, leading them to shift towards developers less beholden to international due diligence standards. This pivot may have been grounded in a legitimate aspiration to escape the confines of donor dependency to progress large energy projects. A surge in China-led financing through the BRI dovetailed with the statist ideology of Laos' socialist system, emphasising the role of leading SOEs, such as EDL, and infrastructure megaprojects in driving national progress.[24] However, the outcome of fast-tracking projects was the bypassing of effective planning, socio-environmental safeguards, and prudent borrowing standards while vastly increasing rent-seeking opportunities.

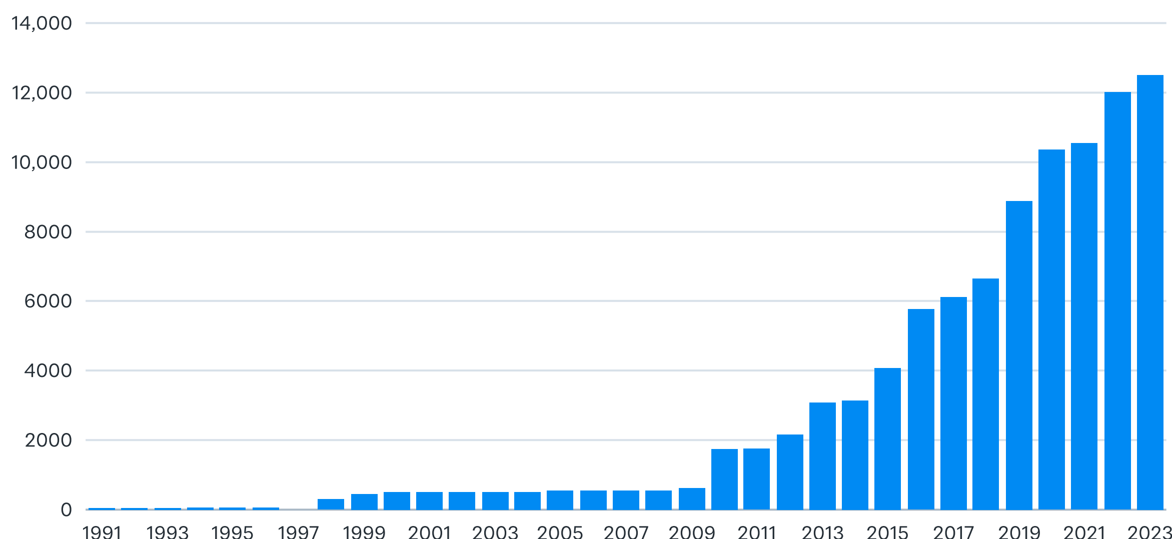
Conditions were thus set for a rapid expansion in infrastructure development backed by Chinese banking and construction groups.[25] Between 2009 and 2023, Laos experienced an extraordinary surge in hydropower development, ramping up installed capacity 14-fold with $23 billion in new investment (Figure 11). China was not the only sizeable investor; Thailand, Vietnam, Malaysia, South Korea, and the MDBs were also important players. Nonetheless, China was the

primary financier of domestic transmission infrastructure and dams contributing to overcapacity in the domestic energy market.

FIGURE 11

Lao energy sector investments commercial operations date by installed capacity (MW)

Cumulative, 1991–2023



Source: Authors' calculations based on public sources

We identified 35 Chinese project loans extended to Laos from 2010 to 2018 with a total value of $9.77 billion in current dollars (the largest projects are highlighted in Table 1.). Of this lending, 60% was channelled through the China Ex-Im Bank, with China Development Bank accounting for almost all the remainder. Adjusting for minority government and SOE shareholdings, we estimate $5.25 billion in sovereign loan exposure to China through this period.[26]

Complex financial agreements allowed Laos to attract substantial foreign investment through Independent Power Producer (IPP), Build–Operate–Transfer (BOT), and Public–Private Partnership (PPP) arrangements.[27] Use of IPPs opened the energy generation market to foreign investors, while helping to contain risks through long-term purchase agreements made directly with foreign off-takers, or with EDL for domestic power. The BOT model pulled in foreign capital based on 25–30-year Concession Agreements, after which ownership of the asset would be transferred to the government. Extensive use of PPP vehicles allowed Lao SOEs to take minority equity stakes in large projects.

Table 1: Ten largest China loans to Laos, adjusted for Government of Lao PDR (GoL) project shareholding

Project	Year	Project loan (spent, US$)	GoL shareholding	Est. GoL loan exposure (current US$)	Lender	Sector	Data source
Nam Ngum 3 Hydropower Project	2016	$1,084 M	100% EDL	$1,084 M	China Ex-Im Bank	Energy	Lowy Institute Southeast Asia Aid Map
Nam Ngum 4 Hydropower Project	2015	$760 M	100% EDL	$760 M	China Ex-Im Bank	Energy	Lowy Institute Southeast Asia Aid Map
Vientiane-Boten Railway Project	2016	$480 M	100% Lao National Railway State Enterprise	$480 M	China Ex-Im Bank	Transport	Lowy Institute Southeast Asia Aid Map
Saravan-Xekong II Electricity Transmission Project	2016	$377 M	100% EDL	$377 M	China Ex-Im Bank	Energy	Lowy Institute Southeast Asia Aid Map
Banha-Banlaike-Sekong Power Transmission Project	2017	$321 M	100% EDL	$321 M	China Ex-Im Bank	Energy	AidData
Nam Ou Hydropower Phase 1 and 2 Projects	2012 2016	$1,040 M $1,700 M	15% EDL-Gen (of which 75% owned by EDL)	$308 M	China Development Bank (CDB); CDB, China Ex-Im Bank & China Construction Bank	Energy	Lowy Institute Southeast Asia Aid Map
Sekong 2 Substation Transmission and Transformation Project	2016	$270 M	100% EDL	$270 M	China Ex-Im Bank	Energy	AidData
Laos Telecommunication Satellite and Transformation Project	2012	$258 M	100% GoL	$258 M	China Ex-Im Bank	Comms	Lowy Institute Southeast Asia Aid Map
Northern Province Power Grid Project	2014	$257 M	100% EDL	$257 M	China Development Bank	Energy	AidData
Nam Chian Hydropower Project	2014	$317 M	100% EDL Gen (75% owned by EDL)	$238 M	China Ex-Im Bank	Energy	Lowy Institute Southeast Asia Aid Map
GoL sovereign exposure from top 10 loans				$4,353 M			

Export-oriented hydropower projects, with secure off-takers making payments in foreign currency and with a reputation as a “low carbon” energy source, should be largely profitable.[28] But in Laos, there was a disjuncture between the timing of scheduled debt repayments and revenue inflows. The bulk of state revenues were deferred into the future, while the government also extended generous tax-free periods and corporate tax exemptions to attract investment. As a result, state revenue from even profitable hydropower projects has remained low, with power sector royalties remaining only 0.3% of GDP during 2010–22.[29] In Figure 12, we present an original dataset for the schedule of power plant transfers to the government by investment value, versus EDL’s debt

repayment profile. We estimate it is not until 2035, and more substantively in 2040, that significant hydropower assets are transferred to full government ownership, while EDL's debt repayments remain elevated from 2022–29.[30]

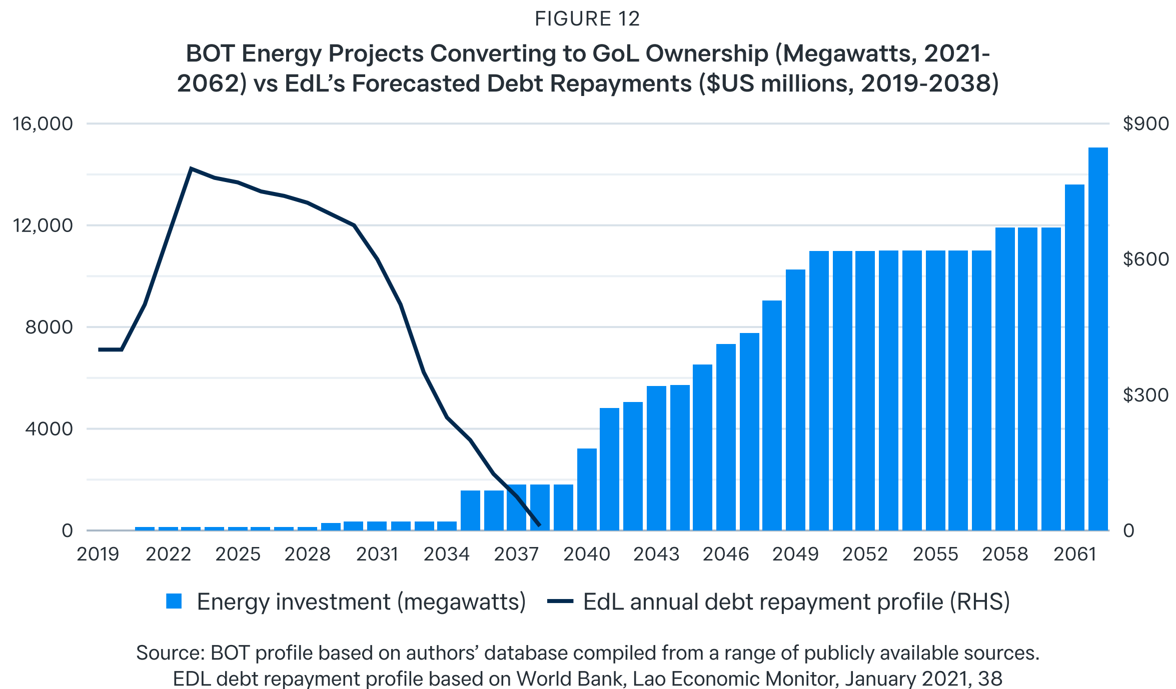


FIGURE 12

BOT Energy Projects Converting to GoL Ownership (Megawatts, 2021-2062) vs EdL's Forecasted Debt Repayments ($US millions, 2019-2038)

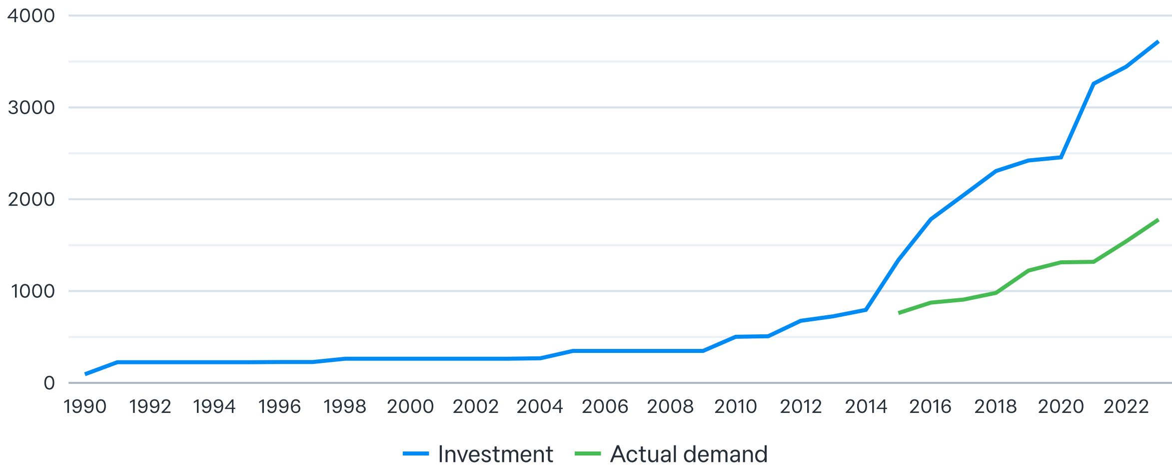
Source: BOT profile based on authors' database compiled from a range of publicly available sources. EDL debt repayment profile based on World Bank, Lao Economic Monitor, January 2021, 38

It was in the domestic power sector where the largest debt vulnerabilities were growing. With "take-or-pay" contracts, EDL is required to purchase power output from project owners, or pay financial penalties, regardless of the actual level of electricity demand.[31] The result was to transfer much of the financial risk onto EDL. Combined with the practice of recycling China policy bank financing back to Chinese construction companies through Engineering, Procurement, and Construction (EPC) contracts, this helps explain the incentives behind China's willingness to engage in this huge lending program.[32] In Figures 13 and 14, we estimate that up to 2022 EDL was the guaranteed off-taker for 3,720 Megawatts of installed capacity, representing more than $6 billion in investment.[33] About $5.3 billion of this investment, or 85%, was financed by China. Chinese policy banks have also financed all of EDL's fully owned dams since 2005, which largely focus on the domestic market.[34]

FIGURE 13

Lao energy sector investment with EdL as offtaker, versus actual domestic peak energy demand

MegaWatts, 1990–2023

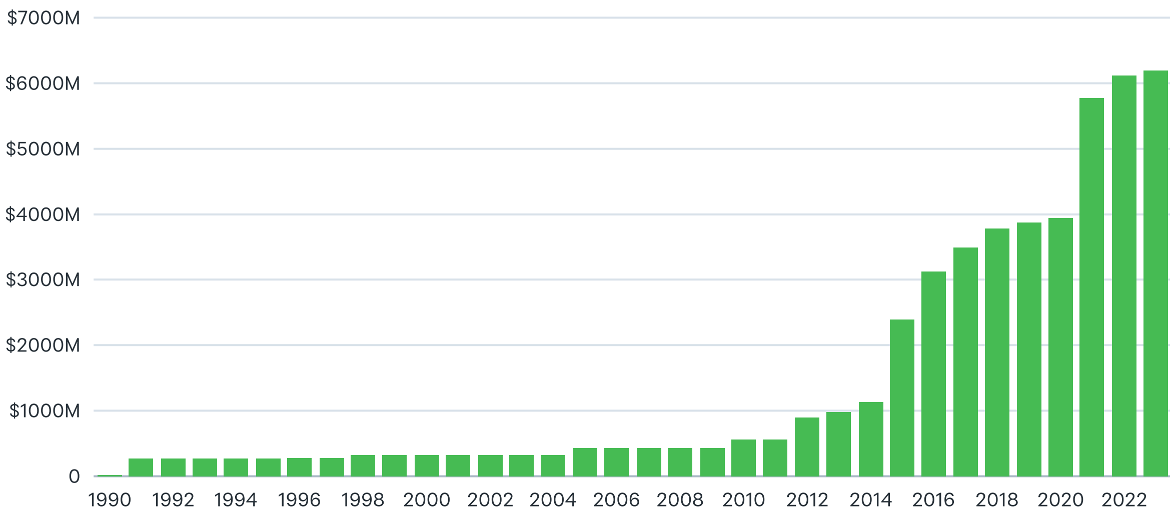


Source: Investment into installed capacity compiled from a range of publicly available sources. Actual domestic energy demand figures from EdL (2024)

FIGURE 14

Energy sector investment commerical operations date with EdL as offtaker, by project value

US$ millions, cumulative 1990–2023



Source: Authors' calculations based on public sources

By 2019, it also became clear that government planners had significantly over-estimated domestic energy demand.[35] The World Bank[36] has estimated surplus domestic power at 8,100 GWh in 2021 (or 925 MW) increasing to 16,900 GWh (1,930 MW) by 2025.[37] This suggests about $3.9 billion in idled

domestic hydropower plants in Laos by 2025.[38] The results of such unchecked expansion have been not just needlessly damaged rivers and displaced communities, but large financial losses for EDL.[39] China Development Bank financing for the $2.7 billion Nam Ou Cascade Phase 1 and 2 megaprojects in 2012 and 2016, led by Power Construction Corporation of China (PowerChina) in majority partnership with EDL, is an exemplar.[40] The installed capacity of these seven huge dams in northern Laos of 1,270 MW was equivalent to peak power demand for the entire country in 2021. As one report notes, "a structured approach to energy planning was not taken."[41]

Other problems in the domestic energy sector have added to EDL's woes. Low dry season river flows reduce electricity generation just as domestic consumption surges, requiring EDL to re-import large amounts of expensive electricity from Thailand priced in Thai baht or US dollars.[42] In 2023, a drought year, Lao energy imports from Thailand[43] reached $240 million, according to one source.[44] Energy consumption by cryptocurrency miners has added to dry season supply pressures.[45] The government also set domestic electricity prices below EDL's cost recovery without a compensatory mechanism. EDL frequently faces payment arrears from government agencies[46] while itself missing payments to its subsidiary EDL-Gen,[47] creating "circular debt" between entities.[48] Kip depreciation has piled on balance sheet pressure, while the government lacks the US dollars to support recapitalisation.[49] Finally, a planning mismatch has emerged between the location of new hydropower dams, including the Nam Ou Cascade, and the lack of high voltage transmission lines needed to deliver electricity to domestic demand centres — worsening the idled capacity problem. Given its financial constraints, EDL is currently struggling to maintain an aging low voltage domestic distribution system, which now delivers power surges and blackouts.[50]

The main outcomes for the Lao energy sector have been negative. Between 2015 and 2019, EDL experienced $998 million in operational losses whilst investing $5 billion in new assets.[51] Although its publicly listed subsidiary EDL-Gen releases annual reports, since 2019, EDL has been unable to produce public financial statements,[52] despite the passing of the 2022 Decree on State-Owned Enterprises, which requires this. A draft unpublished bilateral report was forthright, identifying "an insatiable appetite for capital to fund electricity expansion goals … without a basis grounded in sound energy planning".[53]

A crisis foretold but not forewarned?

Laos' slide into crisis seems to have been almost inevitable. Why were the risks not more obvious to Laos and its creditors at the time key decisions were taken? Though concerns over debt sustainability were raised by some as early as 2012, these appear to have been swept aside in the momentum of the boom years.[54]

Examining the detailed economic surveillance reports of the IMF over the preceding decade provides important insights as to what went wrong. Figures 15–17 chart the evolution of actual and projected key economic variables, according to the IMF's Article IV reports for Laos since 2011. Note that these reports are generally conducted in close consultation with governments, often involving access to data not otherwise publicly available. In the case of Laos, however, it seems IMF access was highly imperfect.

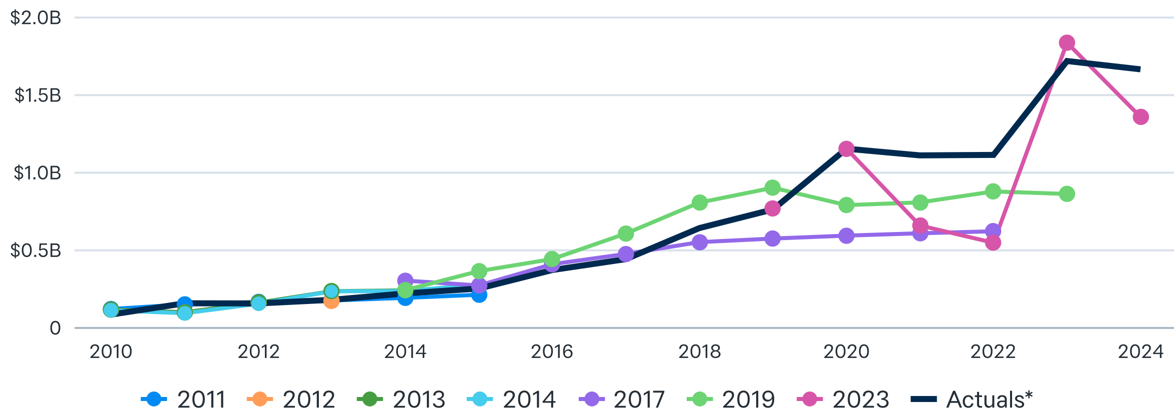
Figure 15 shows that the scale of debt service payments as captured by the IMF reports was substantially underestimated towards the latter part of last decade when the grace periods on Chinese loans began to expire. As recently as 2017, the IMF was still expecting annual public debt service payments to be a little more than $600 million during the early 2020s. Instead, the actual amounts were $1.1–1.7 billion, with the largest increases since 2017 related to long-term loans from China. Even in 2019, there was little clarity as to the true scale of impending debt service requirements, with the IMF reporting that about $860 million would be due in 2023 compared to an actual figure double this size, at $1.7 billion. Given future debt service requirements largely depend on the repayment profile of existing debts, especially long-term Chinese loans, this can be taken as evidence of the lack of transparency and poor debt and data management by the Lao government. Indeed, these problems are repeatedly noted in the IMF reports as hampering its surveillance work.

Another key variable is government revenue, which weakened substantially last decade. As Figure 16 shows, the deterioration in revenue was unexpected by the IMF. Until 2014, the IMF was projecting government revenue to stay above 20% of GDP, whereas the actual number fell dramatically from 2016 onwards to just 16%. Even in 2017, the IMF was too optimistic, expecting tax revenue to be 1–2 percentage points of GDP higher than what eventuated. The IMF was arguably too optimistic in persistently misidentifying this problem.

FIGURE 15

IMF forecasts vs actual public external debt service

US$ millions



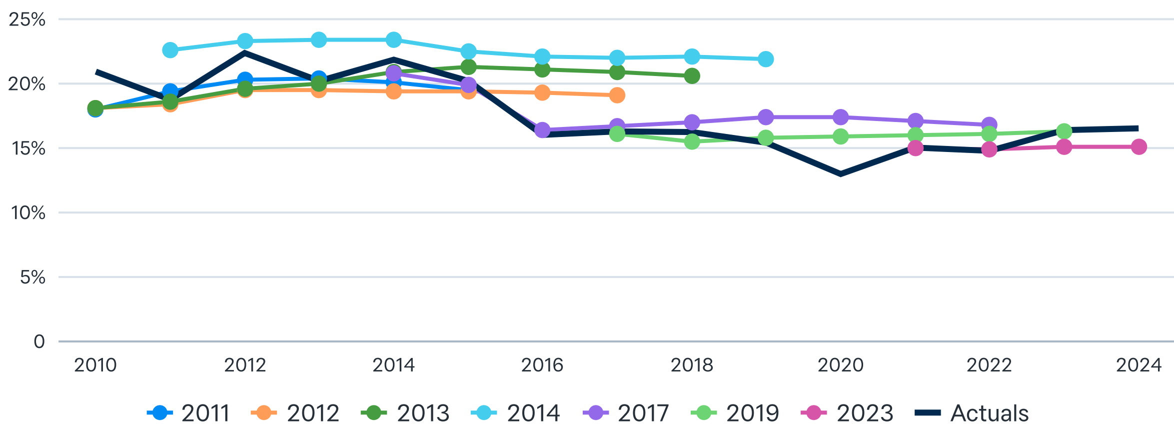
Source: IMF Article IV reports for cited years, Government of Laos Public Debt Bulletins, World Bank International Debt Statistics

Note: *Inclusive of amounts ultimately deferred by China

FIGURE 16

IMF forecasts of government revenue vs actuals

% of GDP



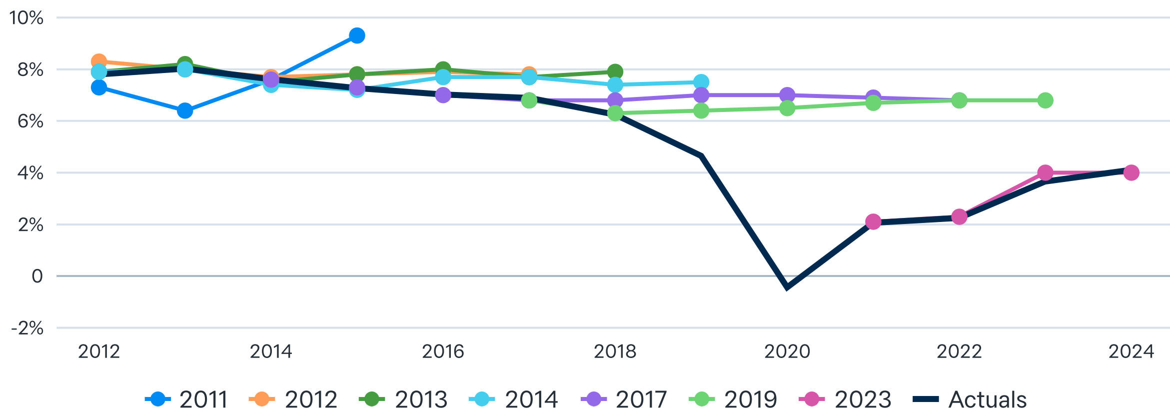
Source: IMF Article IV reports for cited years, IMF World Economic Outlook database

Finally, Figure 17 shows projected economic growth according to the IMF compared to the actual rates achieved. Again, the actual numbers were considerably worse than predicted. In each of its updates, the IMF essentially projected economic growth to remain steady. In reality, growth weakened and dropped sharply by 2019. Here, the evidence again points to substantial optimism bias on the part of the IMF. That considerable debt-financed investment had gone into domestic energy overcapacity and was therefore likely to yield low economic dividends does not seem to have been factored in.[55]

FIGURE 17

IMF economic growth projections vs actuals

% pa



Source: IMF Article IV reports for cited years, IMF World Economic Outlook database

What can we conclude about whether Laos and its creditors should have known a crisis was likely at the time key decisions were taken? First, a lack of transparency and weak data and debt management meant key decision-makers on both the Lao and creditor sides may not have appreciated the full scale of debt obligations being taken on by various parts of the Laos state. Second, key decision-makers likely did not anticipate declining revenue from 2016 onwards, or the lack of corrective action by government as it instead shifted to borrowing even more. Finally, expectations of future rapid growth (and associated energy demand) seem to have been based on central ministry targets and extrapolations from recent performance, with little consideration of the risk of malinvestment.

Notably, the role of the IMF in providing effective external surveillance and advice was muted. The IMF repeatedly warned about the risks associated with Laos' heavy borrowing plans, including around specific large projects such as the Laos–China Railway.[56] This advice evidently did not persuade either Lao officials or key creditors. Yet even the IMF substantially understated the debt risks involved. IMF analysis also suffered from considerable optimism bias, a well-documented problem afflicting IMF forecasts.[57] Problems with the methodology of the IMF debt sustainability framework also appear to have played a role. This includes the low emphasis placed on the inadequacy of foreign exchange reserves and high sensitivity to minor changes in the assessment of underlying debt-carrying capacity, especially the quality of governance.

Debt trap or debt bungle?

Is Laos an example of Chinese “debt trap diplomacy”, the accusation that China purposely over-lends to developing countries to create a debt crisis, from which political and economic concessions can be leveraged?

The pattern of heavy Chinese policy bank lending into the Lao energy sector resulting in massive overcapacity, financial losses, and finally the takeover of its energy grid by a Chinese state firm, may be the closest evidence to date of such a strategy.[58] China has played a far more central role in the accumulation of debt problems in Laos compared to other purported cases of debt trap diplomacy. Even in the case of the Hambantota Port in Sri Lanka — from which the debt trap narrative emerged — China was a minor player, only accounting for about 9% of the country’s debt compared to around 50% in Laos.

The Lao economy is now almost entirely dependent on annual debt deferrals by China. While Laos retains its longstanding policies of balancing its external relations between its powerful neighbours Vietnam and Thailand, and of leveraging development cooperation with Russia, Japan and other Western countries, China has achieved dominant infrastructural power and geoeconomic influence over Laos in the space of 20 years.[59]

Nonetheless, the evidence that Laos has been ensnared in a Chinese debt trap is limited. Domestic Lao elites appear equally to blame for the poor decisions that ultimately led to crisis.[60] They approved the projects undertaken with Chinese loans, and they made matters substantially worse by overseeing a sharp decline in government revenue collection, relying on fickle international sovereign bond investors to plug the gap.

Even the takeover of the national power grid by China Southern Power Grid (CSG) must be placed in fuller context. The Lao domestic power grid was largely built with Chinese financing, by Chinese firms, using Chinese technology. The sale to CSG can be seen as a marginal strategic gain in a situation where China already held substantial influence. Selling off state assets is in any case a key part of the Lao government’s strategy for muddling through the crisis — and energy grid privatisation, including to foreign owners, is common in many jurisdictions. In addition, CSG is likely to experience challenges with managing Laos’ complex high voltage transmission system; it is hardly an unalloyed strategic gift to China.[61]

China’s political influence has also been growing in ways well beyond its overbearing role as a creditor. Chinese political influence in Laos can be traced

through joint Chinese–Lao security patrols operating along the Mekong River in northern Laos, the creation of extra-territorial Special Economic Zones with security modelled on China's law enforcement units,[62] and coordinated extradition policies targeting dissidents.[63] Recent announcements point to Laos moving more tightly into China's geoeconomic and political orbit.[64] Pinning these dynamics specifically to Laos' debt relationships with Chinese policy banks seems inadequate. More compelling is how China's role as a dominant lender and creditor aligns with Beijing's ambition to achieve an "infrastructural sphere of influence" in Laos.[65] Others have referred to a multidimensional form of "encompassing accumulation" in which investments by the Chinese party-state extend well beyond economic gain into political influence and secure access to natural resources.[66]

Regardless of motive, many criticisms can be made of China's lending practices. China lent on a huge scale to a country with weak institutions and limited ability to productively absorb the investment. For most of the period covered by China's lending spree, Laos did not hold an international credit rating. Lao agencies negotiated energy deals from a stance of sovereign agency and considerable ambition, but also a relatively subordinate position characterised by institutional weakness. Governance limitations were misrecognised or ignored, not least by China's policy banks, which placed large bets on Lao energy. Given the degree of malinvestment and poor coordination in the Lao energy sector, it is hard to argue that meaningful planning or due diligence was conducted. To the extent that the risks were recognised, Chinese project developers and policy banks were adept at shifting these risks onto EDL and the Lao state through "take-or-pay" contracts. Recycling of benefits through EPC contracts likely sweetened the appeal for Chinese state actors and enterprises, despite the dubious overall merits for Laos.

China's policy banks should have seen that the scale of planned lending would create significant risks of debt distress, especially as the grace periods on their loans expired and scheduled debt service payments spiked. The Lao government did, however, add fuel to the fire by allowing revenue to decline precipitously, leading to further short-term external borrowing and a reduced capacity to service its debts. Perennially inadequate foreign exchange reserves should have been a particularly clear indicator that the scope to safely take on additional foreign currency debt was limited, not expansive. Meanwhile, the opacity of Chinese lending rendered outside monitoring and advice, such as by the IMF, ineffective. Nor does it seem that such analysis was undertaken by either the Chinese policy banks or Lao authorities.

By China's own standards, however, there can be little doubt that Laos today warrants debt relief. In 2019, China's Ministry of Finance released its own BRI debt sustainability framework (BRI-DSF), designed to guide its approach.[67] The BRI-DSF closely follows that of the IMF, utilising the same key thresholds to signal when debt is problematic. While such assessments are sensitive to the

specific economic assumptions made, our analysis in the next section shows that even in an overly optimistic scenario, Laos would remain in acute debt distress for at least the rest of this decade. It would also have little-to-no room to absorb any future shocks without suffering an even deeper crisis.

Debt relief or bust

The Lao government is seeking to manage the crisis through a range of measures. To stabilise the currency, the authorities have imposed foreign exchange controls and tightened monetary policy. Unable to raise fresh foreign capital to help meet impending debt service payments, the government has resorted to borrowing domestically, selling state assets, increasing tax revenues, and imposing harsh budget cuts. In the medium term, the hope is that Laos will grow its way out of debt, especially given the recent completion of the Laos–China Railway. However, the most important measure, by far, keeping Laos afloat is the continued ad hoc deferral of near-term debt service payments to China.

In the energy sector, EDL established a Reform Committee in January 2023 to improve the financial sustainability of its operations. Key reform priorities include: (i) raising domestic tariffs; (ii) expanding energy exports; (iii) revising demand scenarios; (iv) enhancing corporate risk management; (v) streamlining costs; (vi) renegotiating terms of existing PPAs; and (vii) pursuing asset sales.[68] EDL has been following a number of these strategies, although their effects to date are uncertain. On the positive side, energy consumption increases of 15% per year between 2022 and 2024 seem to be narrowing surplus capacity, while new private investment in renewable energy could help address seasonal shortfalls. Some hydropower projects are nearing the end of their tax-free periods,[69] and EDL has sought to renegotiate prices and Concession Agreements, particularly “take-or-pay” contracts, to reduce contingent liabilities[70] and to upfront revenue. However, the scope of these measures is likely limited due to contractual obligations. New hydropower projects under construction, including the Luang Prabang mainstream dam, will boost power exports and generate taxes and foreign exchange earnings.[71]

In 2020, China Southern Power Grid (CSG) signed an agreement to purchase a 90% stake in the national grid operator, Électricité du Laos Transmission Company (EDL-T), through a 25-year lease valued at $625 million.[72] In January 2024, Lao state media announced the formal commencement of CSG-EDL-T operations, led by China Southern Power Grid Yunnan International Company.[73] Making the required upgrades to the Lao backbone high voltage electricity grid, estimated at $1.2–1.7 billion,[74] will now fall to the new lessee. While the sale provided EDL with a crucial upfront leasing fee, it comes at the cost of foregone SOE revenues for national electricity transmission and distribution charges over the coming 25 years.[75]

In addition to the grid sale, EDL offloaded an 80% stake in the huge 480 MW Nam Ngum 3 dam to Laos-based CS Energy (Chaleun Sekong) and Thailand’s

EGATi, only to lose its export power purchase agreement with EGAT.[76] EDL-Gen has also sold its 20% equity stake in the Don Sahong dam for $85 million to an undisclosed buyer and EDL-Gen Solar Power Company.[77] Finally, there is the reported sale of major Lao energy assets held within EDL-Gen to a new joint venture enterprise with the Thai firm Energy Absolute, under terms that do not appear entirely plausible and which again underscore the lack of transparent and open bidding processes in the Lao energy sector.[78] Shortly after the announcement of this collaboration, Energy Absolute was placed under investigation by the Securities and Exchange Commission of Thailand for alleged fraud involving an unrelated transaction. After this, the deal went quiet.[79]

Other energy sector reforms include the passing of a new Decree on Public–Private Partnerships requiring competitive tendering, and tax reform to increase revenue. An independent energy regulator enabled through a revised Law on Electricity currently being discussed could support improved governance, although the degree to which such a body would truly be "arm's length" from the party-state is a key issue. Even with a new National Power Development Strategy, Laos requires a comprehensive least-cost financial management plan covering the entire energy sector.

Notwithstanding these reforms, the current approach falls far short of a realistic strategy for exiting the crisis. Selling additional state assets holds little attraction, given the overall SOE portfolio is estimated to be insolvent,[80] while a fire sale of profitable state assets effectively implies trading long-term solvency for short-term liquidity. Borrowing domestically to meet external debt repayments helps the government but shifts the need for sourcing hard currency onto the domestic financial system, exerting pressure on the banking sector. Rising dollarisation and large financial outflows highlight that the underlying problems plaguing the kip remain unresolved. With foreign exchange reserves low, the risk of a renewed liquidity crunch and sharp kip depreciation that would further worsen debt sustainability is very high.

Laos also remains highly vulnerable to any cessation of debt deferrals by China, which would likely trigger an immediate liquidity crisis. Debt service payments to China are around $700 million each year until 2028, assuming already deferred amounts are not also due before then. If Laos were required to start making these payments, total debt service would be $1.7 billion in 2025, equal to about 90% of total foreign exchange reserves inclusive of the full PBoC swap line (or about two times reserves if the swap is excluded). The fiscal costs would also be virtually unmanageable, with external debt repayments consuming two-thirds of government revenue or around 90% once domestic debt repayments are also factored in.

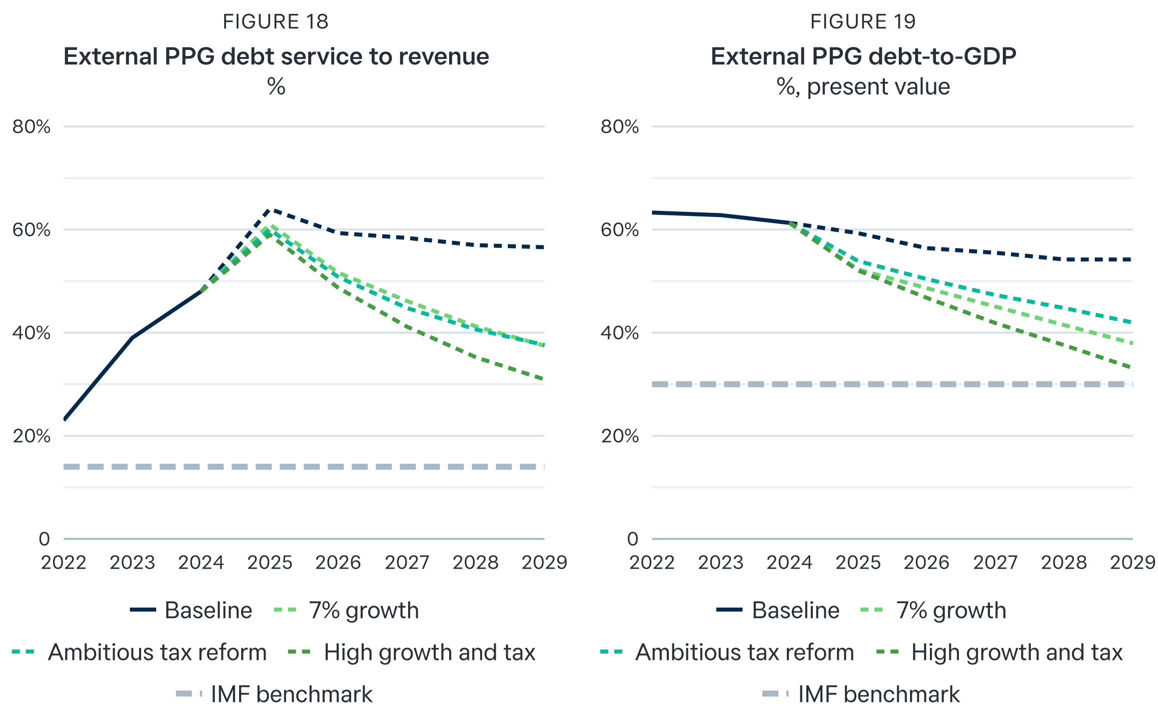
We assess that growing out of the crisis is unrealistic, even with the benefit of the Laos–China Railway or realistic reforms to boost growth and government

revenue. Laos cannot escape crisis in the absence of substantial debt relief, even under the most optimistic scenarios.

The latest IMF projections expect Laos' economy to expand by about 4% in 2024 but to decelerate thereafter to annual growth of just 2.5% by 2029.[81] These are dire numbers, reflecting the IMF assessment that Laos' debt problems, under an assumption of no further debt deferrals from China, will see continued kip depreciation, double-digit inflation eroding household incomes,[82] rising outmigration to Thailand resulting in domestic labour shortages, and greatly reduced public and private investment, with the latter crowded out by heavy domestic borrowing by government to meet its financing needs.

Even under the most optimistic economic assumptions, it would not be possible for Laos to restore public debt sustainability. For instance, a return to 7% annual economic growth would be in line with Laos' pre-Covid historical growth and consistent with studies by the World Bank conducted in 2018 extolling the large potential benefits of the Laos–China Railway, assuming these are complemented by trade reforms and improvements in other forms of transport connectivity.[83] The government might also optimistically lift revenue back to 20% of GDP by 2029 compared to 16% at present, with the additional revenue split equally between achieving a larger budget surplus and restoring core spending. We assume annual currency depreciation and inflation slow to 5% from the current double-digit rates while the government is able to borrow externally and domestically on similar terms to the past.[84]

Yet even these unrealistically rosy assumptions would not be enough to put Laos on a path to exiting the crisis. As Figures 18 and 19 show, without additional and sustained Chinese debt deferrals, impending debt service payments would remain at highly problematic levels under any scenario, and above the IMF warning threshold until the early 2030s. The overall stock of debt would also remain at unsustainable levels at 60–80% of GDP. In present value terms — which adjust for the fact that much of Laos' debt is concessional — debt would be above the IMF warning threshold into the 2030s.



Source: Authors' calculations and IMF Article IV Staff Report 2024

What would it take in debt relief for Laos to exit the crisis? One useful guidepost is the conditions the IMF would require as part of a debt restructuring involving its own financial support. According to the latest IMF guidance, such restructurings should aim to restore sustainability within five years such that key debt indicators are below their respective IMF warning thresholds.[85]

A full debt restructuring scenario is beyond the scope of this paper. However, we construct an illustrative scenario to give a sense of the scale of debt relief required. We suppose that a comprehensive debt restructuring program — including complementary economic reforms — allows annual growth to remain at 4% per year, with currency depreciation and inflation stabilising at 5%, and revenue rising to 18% of GDP by 2029. Revenue gains are assumed to be split evenly between higher government spending and a larger fiscal surplus, which rises to 4% of GDP. As before, we focus on two key debt indicators, the ratio of external debt service to state revenue and the present value of external public debt relative to GDP.

Based on this, restoring debt sustainability in Laos would require a sharp reduction in external debt service payments, equivalent to more than 60% of average payments over the rest of this decade. Furthermore, at least a one-third reduction in the present value of external public debt is required (excluding debt owed to MDBs, as this is typically only included as part of multilateral debt

relief initiatives). This should be considered a minimum degree of debt relief, since it assumes no buffer to absorb further shocks.

Typically, debt restructurings seek to achieve “comparability of treatment”, with all creditors required to provide a similar degree of debt relief.[86] Applying this guideline, China would have to offer debt relief at the upper end of what it appears to have provided in other debt restructuring cases. Information on Chinese debt restructurings is limited, with evidence of significant “hidden defaults”, according to one comprehensive study.[87] That same study concludes that China has mostly relied on debt rescheduling through extending maturities and/or grace periods. In a handful of cases, China has accepted lower interest rates. Only in exceptional cases has China accepted a reduction in loan face value.

In Laos’ case, restoring sustainability would require a comprehensive approach. Relying solely on rescheduling would require China extending the maturity on its Ex-Im Bank loans by 40–50 years and more than 100 years for CDB loans. This is unlikely. Alternatively, a combination of sharply reduced interest charges to 1% (Ex-Im) and 1.5% (CDB), 15-year extensions of maturity, and new five-year grace periods for both Ex-Im and CDB loans would be within the upper bounds of what China has provided in other cases and achieve the required degree of debt relief.[88]

Conclusion: Where to from here?

The impasse over Laos' debt seems to reflect the political agendas of both China and Laos, as each seeks to avoid an intractable problem. For Laos, accepting a bailout from China would underscore the failure of the party-state's development policy over the last two decades. The People's Republic of China would be forced to admit that the "China model" failed badly in Laos and that the BRI program has led to increased poverty and economic hardship. For China's policy banks, operating under a dual and fuzzy logic as both party-state "policy" banks and market-based institutions,[89] debt forgiveness would cement losses at a time of significant financial stress in China's domestic financial system[90] while setting a precedent for numerous other highly indebted BRI borrowing countries.

A Chinese debt restructuring offer does not appear forthcoming. This likely reflects governance fragmentation in China, involving the gap between the BRI's high-level strategic intentions and directives, and the financial institutions that extended project financing.[91] The Laos–China bilateral discussion remains focused on short-term fixes, particularly through annual deferments of impending debt service payments. The recent filing of a $555 million lawsuit by PowerChina against EDL with the Singapore International Arbitration Centre underscores the depth of EDL's predicament, as well as the strong desire of Chinese banks and firms to recoup their loans to Laos, with interest.[92]

China's approach to managing Laos' sovereign debt crisis replicates the "extend and pretend" approach of Western countries to the developing country debt crises of the 1980s and 1990s, before the unsustainability of debt, and the civil-society-led Debt Jubilee Campaign, eventually forced rich country governments to provide proper debt cancellations. There is no corresponding domestic civil society in China exerting pressure for debt forgiveness to developing countries; only China's international reputation as a responsible creditor, and how it perceives its interests in the sustainable economic development of Laos.

Meanwhile, both Laos and China appear wary of involving the IMF in resolving the debt crisis under the G20 Common Framework established for this very purpose. Laos may fear that an IMF-led process would impose politically painful reforms, with an unpleasant level of required transparency. China is participating in other IMF-led restructurings involving BRI lending, including in Zambia and Sri Lanka, so there are precedents. But this could reflect the fact that China is only one of many creditors in these countries, therefore increasing the value of coordination compared to Laos, where China is by far the dominant creditor. China and Laos have thus settled into a hierarchical creditor-debtor

relationship, underpinned through a logic of power, influence, and economic insecurity. A “community of shared destiny”, perhaps — but at the discretion of China.

The current approach will only draw out Laos’ crisis. We recommend that Laos and China engage with the IMF, of which China is a leading shareholder. This would offer numerous advantages, such as independent technical analysis of the required debt restructuring, policy conditionalities to rectify key governance gaps, and complementary economic reforms that would improve the chances of success. As Laos’ largest creditor by far, China would play a key role in the negotiations, befitting its claim as a leading and responsible international stakeholder. An IMF-led process would also ease the financial burden on both Laos and China by requiring all bilateral and commercial creditors to provide debt relief, rather than China alone, while unlocking concessional financing from the IMF, MDBs, and other donors. This would increase the likelihood of ending the crisis and putting Laos back on a more positive development path.[93]

Whether under a China-led bilateral deal or a multilateral IMF-led restructuring, Laos’ need for debt relief is clear cut. A solution to the impasse is now imperative.

Note: All currency is quoted in US dollars.

Notes

1 World Bank, Lao Economic Monitor: Reforms for Stability and Growth: Key Findings, October 2024, 5, https://thedocs.worldbank.org/en/doc/5c2594a0cc6846465fe3bafda50ad993-0070062024/related/LEM-October-2024-Final.pdf.

2 International Monetary Fund, Lao People's Democratic Republic: 2024 Article IV Consultation — Staff Report and Statement, 15 October 2024, 6, https://www.elibrary.imf.org/downloadpdf/journals/002/2024/319/002.2024.issue-319-en.pdf .

3 Lao PDR Ministry of Finance (MoF), Public and Publicly Guaranteed Debt Statistics Bulletin, 2024, 15. World Bank, Forging Ahead: Restoring Stability & Boosting Prosperity, Public Finance Review, 2023, 19, IBRD/World Bank, http://documents.worldbank.org/curated/en/099120123031014987.

4 World Bank, 2024. p. vii.

5 Though the deal included exporting large volumes of Lao tropical timber to Russia in lieu of cash repayments, driving deforestation. World Bank, Lao PDR- Debt Profile, Sustainability and HIPC Risks, May 17, 2024, 4, 13.

6 Souksakhone Vaenkeo, "Laos Strives for Upper Middle Income Country Status by 2030," The Nation (Thailand), January 19, 2016, https://www.nationthailand.com/international/30277247.

7 Representing two of five remaining Communist regimes in the world, China and Laos have developed a robust relationship since their re-normalisation of diplomatic relations in 1988, following the Third Indochina War.

8 E.g. Scott Morris, The Kunming-Vientiane Railway: The Economic, Procurement, Labor, and Safeguards Dimensions of a Chinese Belt and Road Project (Centre for Global Development, 2019), https://www.cgdev.org/publication/kunming-vientiane-railway-economic-procurement-labor-and-safeguards-dimensions-chinese.

9 New York Times, "US Seeks Transparency on China's Loans to Struggling Countries," October 3, 2024, https://www.nytimes.com/2024/10/01/us/politics/china-loans-currency-imf.html#:~:text=The%20United%20States%20is%20raising,turned%20to%20China%20for%20help.

10 World Bank, 2023, p. xvii

11 EDL-Generation Public Company, a public company listed on the Lao Securities Exchange, is 75% owned by EDL.

12 Asian Development Bank, Lao People's Democratic Republic: Enhancing Debt Management and Transparency, September 2022, 2, https://www.adb.org/sites/default/files/project-documents/55068/55068-001-tar-en.pdf.

13 World Bank, 2023, p. 17.

14 Most lending to Laos from China Ex-Im Bank appears to have carried loan terms with interest rates of 2-3%, 20-year maturity, and 5-year grace period. The average terms of the China Ex-Im Bank loans to Laos for the Laos-China Railway project are: 2.3% interest rate, 5-year grace period, 25-year maturity. While less favourable than highly concessional MDB loans (1-2% interest, 5-10 year grace periods, 30-40 year maturities), China's loan terms were still somewhat concessional and below market rates (Lao PDR Ministry of Finance, 2024: Table 9, p. 19). By contrast, commercial borrowing has been far more expensive, on average carrying an interest rate of 6.9%, 2-year maturity, and 1-year grace period (IMF, Lao People's Democratic Republic Staff Report for the 2023 Article IV Consultation. Debt Sustainability Analysis, 2023a, Text Table 5, 14, April 6, 2023). file:///Users/u5217575/Downloads/1LAOEA2023001.pdf

15 World Bank, 2023 p.91.

16 For an econometric investigation of these dynamics, see Mariza Cooray and Rolando Martinez, "Tracking the Hidden Forces Behind Laos' 2022 Exchange Rate Crisis and Balance of Payments Instability" (2025), https://doi.org/10.48550/arXiv.2503.13308.

17 Xu We, "China Welcomes PM of Laos," China Daily, January 7, 2020, https://www.chinadaily.com.cn/a/202001/07/WS5e13dc1aa310cf3e35582d59.html.

18 This decision by Laos may have been due to the exclusion of private bondholders, the China Development Bank, and potentially the Export-Import Bank of China, who combined hold most of Lao debt, from the list of participating creditors. See Toshiro Nishizawa, "Claims of Default in Laos are Bankrupt," East Asia Forum, August 25, 2022, https://eastasiaforum.org/2022/08/25/claims-of-default-in-laos-are-bankrupt/.

19 For instance, Fitch ceased providing a credit rating for Laos in October 2022 based on insufficient information and noting "limited clarity on the terms of these deferrals [from China] and the impact on the medium-term debt repayment profile." FitchRatings, "Fitch Affirms Laos at 'CCC-', Withdraws Ratings," October 10, 2022, https://www.fitchratings.com/research/sovereigns/fitch-affirms-laos-at-ccc-withdraws-ratings-10-10-2022.

20 One caveat is that a large share of Lao imports is linked to investment projects with their own associated external financing. Yet, Laos' reserves were already inadequate at the start of the decade prior to the ramp up in investment and increased only minimally thereafter, despite a decade of rapid economic growth.

21 In 2019 Laos had the second lowest reserve import coverage ratio amongst Djibouti, Ghana, Maldives, Pakistan, Sri Lanka, and Zambia (Source: World Development Indicators database).

22 The approach mirrored the logic of "big push" economic development first popularised in the 1950s and receiving a resurgence in the 2000s whereby large upfront investment is seen as the critical ingredient to countries breaking out of poverty. William Easterly, Reliving the '50s: The Big Push, Poverty Traps and Takeoffs in Economic Development (Centre for Global Development, 2005), Working Paper No. 65, https://www.cgdev.org/sites/default/files/3486_file_WP_65_1_0.pdf.

23 Pon Souvannaseng, "Liquidated: US/Japan-Chinese Rivalry, Financial Crises, and Explaining Shifts in Hydropower Finance Regimes in the Mekong," Asian Perspective 46,

no. 1 (2022): 49-75.10.1353/apr.2022.0002.

24 Simon Creak and Keith Barney, “The Role of Resources in Regime Durability in Laos: The Political Economy of Statist Market Socialism,” Communist and Post-Communist Studies 55, no. 4 (2022): 35-58. https://doi.org/10.1525/cpcs.2022.1713051 .

25 Ben Otto, “Foreign Money Pours into Laos: Neighboring Countries Jostle for Work in Resources and Hydropower, Western Companies Also Step In,” Wall Street Journal, January 29, 2013, https://www.wsj.com/articles/SB100014241278873238742045782 20013585429702.

26 Sources: Pre-2015 projects: S. Custer, A. Dreher, T.B. Elston, B. Escobar, R. Fedorochko, A. Fuchs, S. Ghose, J. Lin, A. Malik, B.C. Parks, K. Solomon, A. Strange, M.J. Tierney, L. Vlasto, K. Walsh, F. Wang, L. Zaleski, and S. Zhang, Tracking Chinese Development Finance: An Application of AidData’s TUFF 3.0 Methodology (Williamsburg, VA: AidData at William & Mary, 2023). Post-2015 projects: Lowy Institute, Southeast Asia Aid Map, 2024, https://seamap.lowyinstitute.org. Data based on “spent” figures for China loan disbursements to Laos, in current dollars.

27 Carl Middleton, Nathaniel Matthews, and Naho Mirumachi, “Whose Risky Business?” in Hydropower Development in the Mekong Region, ed. N. Matthews and K. Geheb (Routledge, 2015), 127-152.

28 Although there are questions on methane releases from reservoirs. Variable rainfall and sedimentation of reservoirs under climate change could also affect the long-term financial performance of Lao hydropower.

29 World Bank, 2023a, p. 47. Hydropower projects also generate share dividends and small amounts of other tax revenue. See Khaosan Pathet Lao, “Laos Aims to Become Electricity Source of Southeast Asia,” November 21, 2023, https://kpl.gov.la/En/detail.aspx?id=78337.

30 See also AMRO, Annual Consultation Report Lao PDR — 2023 (ASEAN+3 Macroeconomic Research Office, November 9, 2023), 44, https://amro-asia.org/wp-content/uploads/2023/11/2023_SVL_LA_03-Laos-ACR-1103_public.pdf.

31 These are an investor preference in large energy projects, as developers upfronting large capital outlays typically base their own financing on the assurance of a buyer and price for their output. See Keith Barney and Kanya Souksakoun, “Credit Crunch: Chinese Infrastructure Lending and Lao Sovereign Debt,” Asia & the Pacific Policy Studies 8 (2021): 94-113, https://doi.org/10.1002/app5.318.

32 Amy Trandem, Offloading Risks & Avoiding Liabilities: How Financial Institutions Consider Hydropower Risks in Laos (Focus on the Global South, February 2019), https://focusweb.org/wp-content/uploads/2019/03/Offloading-Risks-Avoiding-Liabilities-1-1.pdf.

33 These are conservative figures, excluding projects with uncertain off-takers. Installed capacity should be modified by the capacity factor of each hydroelectric operation to establish actual annual electricity output. However, capacity factors in Lao hydropower are often approximately 60%.

34 Barney and Souksakoun, 2021. Some of these projects have since been transferred to EDL-Gen.

35 JICA, 2020, focus on a key 2016 Power Development Plan (PDP) which forecasted rapid increases in domestic energy demand, before its replacement with a new PDP in 2019. See JICA, The Study on Power Network System Master Plan in Lao People's Democratic Republic Final Report (2020), https://openjicareport.jica.go.jp/pdf/12328027_01.pdf. EDL's energy forecasting may have exerted less influence over investment decisions compared to more direct elite rent seeking interests.

36 World Bank, Project Appraisal Document: Lao PDR Power Distribution Improvement Project, May 10, 2023b, 12, https://documents1.worldbank.org/curated/en/099051223145529934/pdf/BOSIB17be6586202618d0c1fb0866be8d71.pdf.

37 Megawatt figures derived through dividing by 8,760 hours per year. For similar estimates of domestic surplus capacity, see EDL (2024). Overview of Power Sector and Strategy of Lao PDR. Presentation Sep. 2024. A reserve margin of about 10-15% over seasonal peak demand is considered reasonable.

38 Assuming cost of hydropower construction at US million per MW. An unreleased donor report in 2020 arrived at a similar estimate, pointing to a recurring annual liability for EDL of some USfoot30 million Anonymous Bilateral Report, 2020.

39 David J. H. Blake and Keith Barney, "Impounded Rivers, Compounded Injustice: Contesting the Social Impacts of Hydraulic Development in Laos," International Journal of Water Resources Development 38, no. 1 (2021): 130-151, https://doi.org/10.1080/07900627.2021.1920373.

40 JICA, 2020; Barney and Souksakoun, 2021. For a useful overview of this megaproject, see International Rivers, "The Nam Ou Cascade Hydropower Project," March 24, 2022, https://www.internationalrivers.org/news/nam-ou-river-cascade-hydropower-project/.

41 Anonymous Bilateral Report, 2020: 25.

42 AMRO, Annual Consultation Report Lao PDR — 2022 (ASEAN+3 Macroeconomic Research Office, September 12, 2022), 46, https://amro-asia.org/wp-content/uploads/dlm_uploads/2022/09/AMRO-ACR-Lao-PDR-2022_.pdf.

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