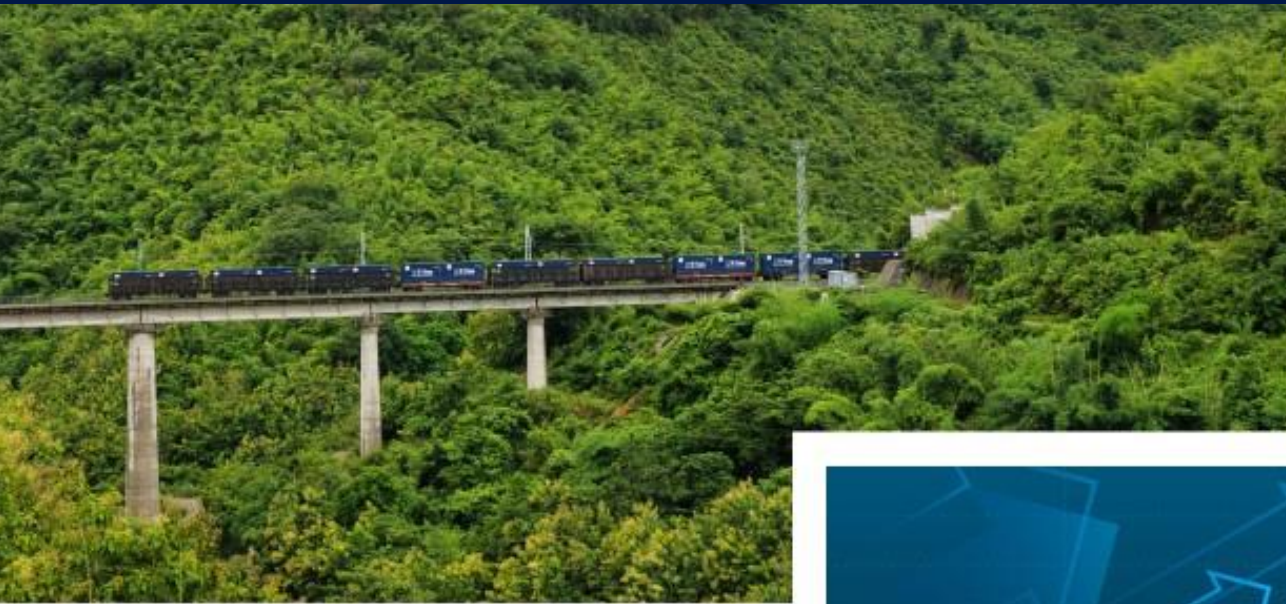




China-Lao People's Democratic Republic Opportunities for export expansion



China-Lao People's Democratic Republic

Opportunities for export expansion



International
Trade
Centre

About the paper

This report analyses the evolving trade relationship between Lao People's Democratic Republic and China, highlighting opportunities for export expansion in the context of LDC graduation, the Regional Comprehensive Economic Partnership (RCEP), and the China–Lao Railway. It identifies \$904 million in unrealised export potential to China, driven by both expected market growth in coming years and existing trade frictions. Priority sectors include horticulture, in particular cassava and its products, machinery and electronics, and select agri-food and manufactured products. The report underscores the transformative potential of the China–Lao Railway in reducing logistics costs and connecting rural producers to regional value chains. However, underutilised trade preferences, non-tariff barriers, and limited compliance capacity continue to constrain export performance. Recommendations focus on trade facilitation, and institutional support to enhance competitiveness and deepen integration into regional markets. A case study on cold chain banana exports illustrates the railway's practical benefits and potential for broader application across perishable and high-value goods.

Publisher: International Trade Centre

Title: China-Lao People's Democratic Republic: Opportunities for export growth

Publication date and place: Geneva, April 2025

Language: English

This report has not been formally edited.

Citation: International Trade Centre (2025). China-Lao People's Democratic Republic: Opportunities for export growth. ITC, Geneva.

For more information, contact: Cecilia Heuser (cheuser@intracen.org)

For more information on the ITC export potential methodology, see: <https://exportpotential.intracen.org>

ITC encourages the reprinting and translation of its publications to achieve wider dissemination. Short extracts of this paper may be freely reproduced, with due acknowledgement of the source. Permission should be requested for more extensive reproduction or translation. A copy of the reprinted or translated material should be sent to ITC.

Digital images: © iStock

© International Trade Centre (ITC)

ITC is the joint agency of the World Trade Organization and the United Nations.

Acknowledgements

The report is part of the project “Lao PDR: Enhancing business opportunities for SMEs of Lao PDR in China”, which aims to contribute to inclusive and sustainable economic growth, mitigation of vulnerability and job creation in Lao People’s Democratic Republic through the enhancement of export competitiveness of Lao micro, medium and small-sized enterprises (MSMEs) in China. In this two-year project, ITC is working with partners in China and Lao People’s Democratic Republic to focus on bottleneck problems, trade promotion activities, and to provide capacity building and business matchmaking opportunities to MSMEs in Lao People’s Democratic Republic.

The project is supported by the 2030 Agenda for Sustainable Development (2030 Agenda) Sub-Fund under the United Nations Peace and Development Trust Fund (UNPDF). We gratefully acknowledge the financial support from the UNPDF – 2030 Agenda, which made the research underpinning this report possible.

This report, prepared by the Trade and Market Intelligence (TMI) section at ITC, uses TMI tools and methodologies to present quantitative information on trade trends and export prospects between Lao People’s Democratic Republic and China.

Cecilia Heuser is the main author of the report. Lucas Ouriques Poffo provided valuable statistical analysis. The team worked under the leadership and supervision of Julia Spies (Chief, Trade and Market Intelligence, ITC). Chapters 3 and 4 were authored by Dr. Tiedong Wang, Professor of International Business and Entrepreneurship, Business School, University of International Business and Economics (UIBE).

The authors also acknowledge the support of the team led by Tianyu Mao, Senior Programme Manager, and Emilie Dairon, Programme Officer (both at ITC). Special thanks are extended to the team led by Alina Fetisova, Trade Facilitation Programme Officer (ITC) for their comments on this report and for the invitation to present it at the public-private dialogue event “Removing bottlenecks and advancing SME opportunities along the Lao-China-Thailand railway”, held on April 29, 2025, in Vientiane. Their analysis of trade bottlenecks between Lao People’s Democratic Republic, China and Thailand—particularly with a focus on railway trade—, conducted under the leadership of the Ministry of Industry and Commerce (MoC) of Lao People’s Democratic Republic, complements the present report and provides a valuable companion perspective.

Contents

About the paper	ii
Acknowledgements	iii
List of figures	v
Abbreviations	vi
Chapter 1 Overview of the bilateral trade landscape	2
Evolution of bilateral trade flows.....	3
Bilateral trade composition.....	5
Market access conditions	7
Chapter 2 Lao export potential to China	12
A data-driven approach to identifying export potential.....	12
Opportunities for export growth.....	13
Zooming in on China.....	14
Unleashing export potential	16
The China-Lao railway and export potential	17
Chapter 3 Overview of the China-Laos railway	20
Current status and achievements of the China-Laos railway.....	20
Analysis of future development opportunities for the China-Laos railway	22
Chapter 4 Case study: Lao Bananas on a special train to Beijing	28
Challenges.....	28
Solution.....	28
Results and benefits	29
Future development	29
Chapter 5 Conclusions	34

List of figures

Figure 1	Lao People's Democratic Republic total trade	3
Figure 2	China's share in Lao People's Democratic Republic trade	4
Figure 3	Bilateral trade between China and Lao People's Democratic Republic	4
Figure 4	Lao exports to China, by level of processing	5
Figure 5	Top 10 exports to China, by product	5
Figure 6	Lao imports from China, by level of processing	6
Figure 7	Top imports from China, by sector	6
Figure 8	Top imports from China, by sector	7
Figure 9	LDC preference utilization in exports to China	8
Figure 10	Top 10 exports to China, by product	9
Figure 11	Key concepts on export potential	12
Figure 12	Untapped export potential from Lao People's Democratic Republic, by market	13
Figure 13	Lao static and dynamic untapped export potential, by market	14
Figure 14	Export potential from Lao People's Democratic Republic to China, by sector	15
Figure 15	Untapped Lao export potential to China, main products	16
Figure 16	Static and dynamic untapped Lao export potential to China, key products	17
Figure A. 1	Share of unrealized export potential from Lao People's Democratic Republic to China, by sector	38

Abbreviations

ACFTA	ASEAN-China Free Trade Area
APTA	Asia-Pacific Trade Agreement
ASEAN	Association of Southeast Asian Nations
BRI	Belt and Road Initiative
EU	European Union
EPI	Export Potential Indicator
FTA	Free Trade Agreement
ITC	International Trade Centre
IoT	Internet of Things
LLDC	Landlocked Developing Country
LDC	Least Developed Country
LPI	Logistics Performance Index
MSME	Micro, Small and Medium-sized Enterprise
MFN	Most Favoured Nation
RCEP	Regional Comprehensive Economic Partnership
SPS	Sanitary and Phytosanitary
WTO	World Trade Organization
UIBE	University of International Business and Economics



CHAPTER 1

Overview of the bilateral trade landscape

CHAPTER 1

OVERVIEW OF THE BILATERAL TRADE LANDSCAPE

China is a vital economic partner for Lao People's Democratic Republic, playing an integral role in shaping the country's trade and development trajectory. Over the past few decades, bilateral trade between Lao People's Democratic Republic and China has expanded at an extraordinary rate, underscoring the increasing interconnectedness of the two economies, with Lao exports driving much of this trade. The scale of China's economy, its rapid urbanization, and the rising affluence of its population create vast opportunities for Lao producers. The evolving consumption patterns in China, driven by a burgeoning middle class, align with Lao People's Democratic Republic's increasing capacity to produce. This dynamic not only strengthens the economic partnership but also positions Lao People's Democratic Republic in regional supply chains, contributing to its broader economic growth and integration into global markets.

This growing economic relationship comes at a pivotal moment, marked by significant shifts in Lao People's Democratic Republic's international trade and development landscape. Among them, the upcoming graduation from Least Developed Country (LDC) status represents both an achievement and a challenge for the country. While this milestone signals progress in the country's development, it also entails the gradual loss of preferential trade schemes and concessional support extended to LDCs. This transition necessitates proactive strategies to ensure that Lao industries can maintain their competitiveness in an increasingly liberalized global trading environment.

Concurrently, the entry into force of the Regional Comprehensive Economic Partnership (RCEP) in 2022 provides a counterbalance to these challenges. As the world's largest trading bloc, RCEP offers Lao People's Democratic Republic an unprecedented platform for deeper economic integration, creating opportunities to access larger markets, reduce tariff barriers, and simplify trade procedures. For Lao producers, particularly in the agricultural and light manufacturing sectors, RCEP opens pathways to diversify export markets, attract foreign investment, and enhance production capacity to compete effectively within the region. Additionally, if well utilised, the RCEP framework, offers Lao People's Democratic Republic additional tools to overcome some of the challenges posed by its LDC graduation, by providing access to streamlined trade procedures and tariff reductions.

In addition to these regional and bilateral developments, the adoption of the new LLDC Programme of Action for Landlocked Developing Countries (LLDCs) in 2024 marks a renewed international commitment to improving trade connectivity and sustainable development for landlocked economies.¹ The declaration calls for strengthened support in areas such as infrastructure investment, trade facilitation, digital connectivity, and resilience building. For Lao People's Democratic Republic, this renewed global attention reinforces the urgency and relevance of ongoing efforts to overcome geographical disadvantages. It also aligns with national priorities to enhance export competitiveness, improve logistics, and deepen regional integration—especially in the context of the China–Lao Railway and broader trade reforms.

The recent launch of the China–Laos railway adds a new dimension to the evolving trade relationship. This 1,035-kilometer railway, which connects Kunming in China to Vientiane, is a game changer for bilateral trade. Reducing travel time from 30 hours by road to just 10 hours by rail, the railway offers a faster, more efficient, and cost-effective means of transporting goods between the two countries. For Lao People's Democratic Republic, the railway serves as a gateway to enhance export competitiveness by facilitating the delivery of high-value products, particularly in agriculture. This infrastructure development aligns with China's growing demand for products, providing Lao producers with a unique opportunity to expand their offerings and capture a share of China's markets. Beyond facilitating exports, the railway is equally significant for supporting imports of essential goods, raw materials, and technology critical for industrialization and economic diversification in Lao People's Democratic Republic. By improving connectivity and

¹ General Assembly Resolution A/RES/79/233, Programme of Action for Landlocked Developing Countries for the Decade 2024–2034, <https://docs.un.org/en/A/RES/79/233>

reducing logistical bottlenecks, the railway can play a transformative role in boosting Lao People's Democratic Republic's economic prospects.

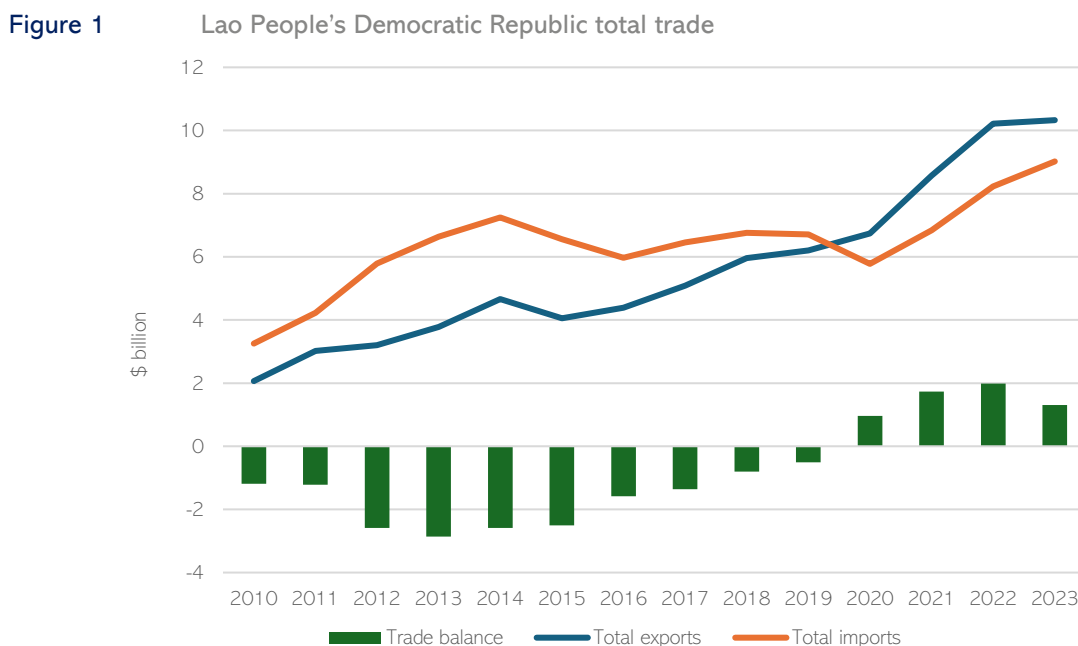
The combination of the transition away from LDC status, new market opportunities under RCEP, the renewed commitments under the 2024 LLDC Programme of Action, and enhanced connectivity through the new railway, presents Lao People's Democratic Republic with an opportunity to redefine its trade and development strategy. Realising these opportunities, however, requires sustained national and international efforts to address structural barriers, strengthen domestic capacity, and foster inclusive private sector growth—particularly among micro-, small- and medium-sized enterprises (MSMEs), which form the backbone of Lao People's Democratic Republic's economy.

China's role in this process extends beyond its importance as a trade partner. Its engagement through infrastructure investment, market demand, and development cooperation reinforces the conditions necessary for Lao People's Democratic Republic to expand its export base and attract investment. The evolving trade relationship between the two countries highlights the potential for deeper regional integration and economic resilience. To translate this potential into lasting gains, investment in competitiveness, institutional capacity, and a trade-supportive environment is needed. With targeted reforms and continued collaboration, the country can build a more diversified and robust economy while strengthening its partnership with China.

In what follows, these dynamics are explored in greater depth. The remainder of the chapter provides an overview of the evolving trade relationship between Lao People's Democratic Republic and China, examining historic trade flows, the composition of exports and imports, and market access conditions. Chapter 2 builds on this to present a data-driven assessment of Lao People's Democratic Republic's export potential to China, identifying sectors and products with the greatest opportunity for growth. Chapter 3 offers an overview of the China–Lao People's Democratic Republic Railway, describing its operational status and analysing its potential to support future trade and development objectives. Chapter 4 presents a case study focused on the cold chain train transporting bananas from Lao People's Democratic Republic to China, illustrating the practical benefits and logistical innovations made possible by the railway. Lastly, Chapter 5 reflects on the findings across the report and highlights key areas for further policy attention to support Lao People's Democratic Republic's trade expansion and structural transformation in the years ahead.

Evolution of bilateral trade flows

Between 2010 and 2023, total exports from Lao People's Democratic Republic increased almost fivefold, from \$2.1 billion to \$10.3 billion, reflecting a strong compound annual growth rate of 13% (Figure 1). Over the same period, imports grew by a factor of 2.8, rising from \$3.3 billion to \$9 billion, at an 8% annual rate. These divergent growth patterns resulted in a narrowing trade deficit, which transitioned into a surplus beginning in 2020.

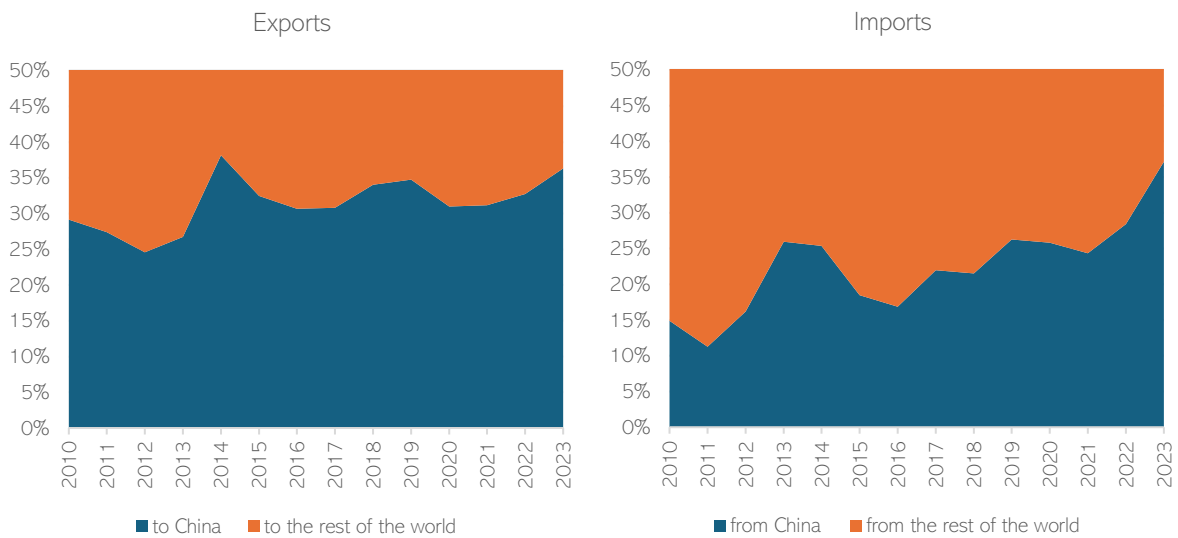


Source: Authors' calculations based on ITC Trade Map (2024).

Export growth in Lao People's Democratic Republic has demonstrated remarkable resilience, withstanding global economic slowdowns and maintaining upward momentum during the initial year of the COVID-19 pandemic—a stark contrast to the more sluggish pattern observed in imports. This suggests that Lao People's Democratic Republic's export sector is driven by factors beyond global trade cycles.

During this period, China emerged as a central trading partner. The share of Lao exports to China has consistently remained above 30% since 2014, fluctuating between a low of 25% in 2012 and a high of 38% in 2014 (Figure 2, left). On the import side, China's importance has steadily grown, with its share increasing from 11% in 2011 (Figure 2, right). By 2023, China was absorbing more than one-third of Lao People's Democratic Republic's exports and supplied nearly 40% of its imports, underscoring its strategic importance for the country's trade portfolio.

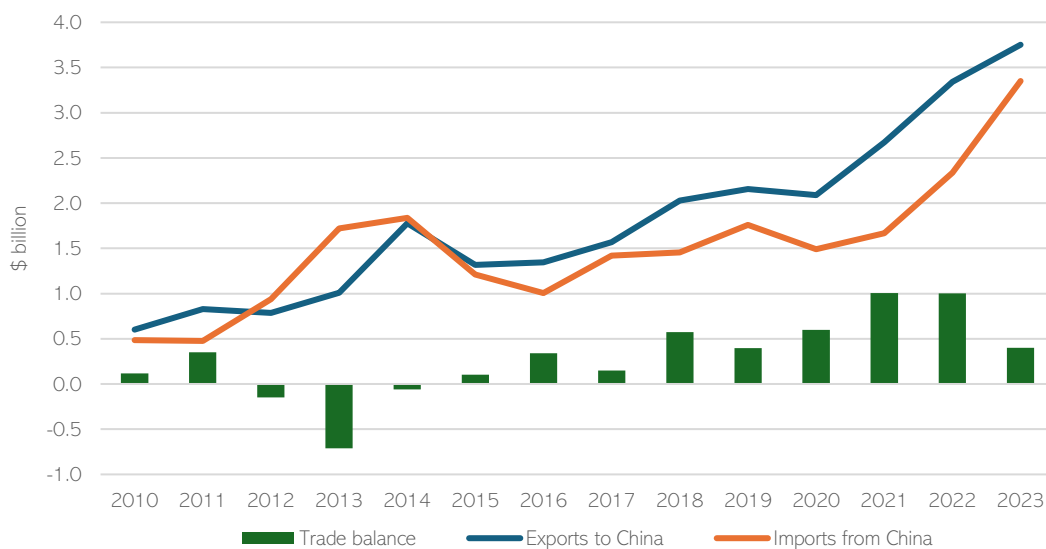
Figure 2 China's share in Lao People's Democratic Republic trade



Source: Authors' calculations based on ITC Trade Map (2024).

Trade flows between the two countries have expanded rapidly in the last decade (Figure 3). Exports to China grew more than sixfold, from \$601 million in 2010 to \$3.8 billion in 2023, achieving a compound annual growth rate of 15%. Imports from China increased nearly sevenfold in the same period, reaching \$3.4 billion, at a 16% annual rate. From 2015 onwards, Lao People's Democratic Republic has consistently registered a bilateral trade surplus with China, peaking at over \$1 billion in 2021 and 2022, although it has slightly declined thereafter.

Figure 3 Bilateral trade between China and Lao People's Democratic Republic



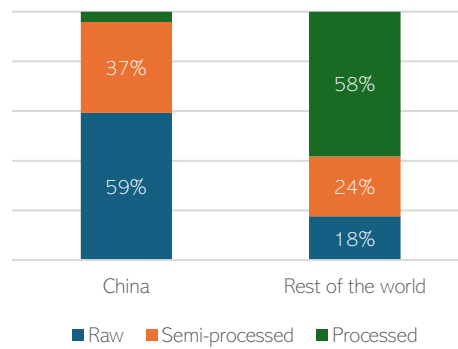
Source: Authors' calculations based on ITC Trade Map (2024).

Figures 1 to 3 show that China has played a pivotal role in shaping the trade dynamics of Lao People's Democratic Republic over the past decade. The rapid expansion of bilateral trade with China has been a principal driver of Lao People's Democratic Republic's overall trade growth, accounting for over one-third of the total increase in Lao exports since 2010, and nearly half of the import growth. This concentration suggests that fluctuations in Chinese demand or shifts in its trade policies could have outsized effects on Lao People's Democratic Republic's trade performance. Moreover, China's demand for Lao raw materials and semi-processed goods has not only propelled export volumes but also shaped the structural composition of Lao trade, reinforcing the country's role as a supplier of upstream inputs within regional value chains. As such, China's influence extends beyond volumes—it has also become a key determinant of the direction and structure of Lao People's Democratic Republic's trade integration.

Bilateral trade composition

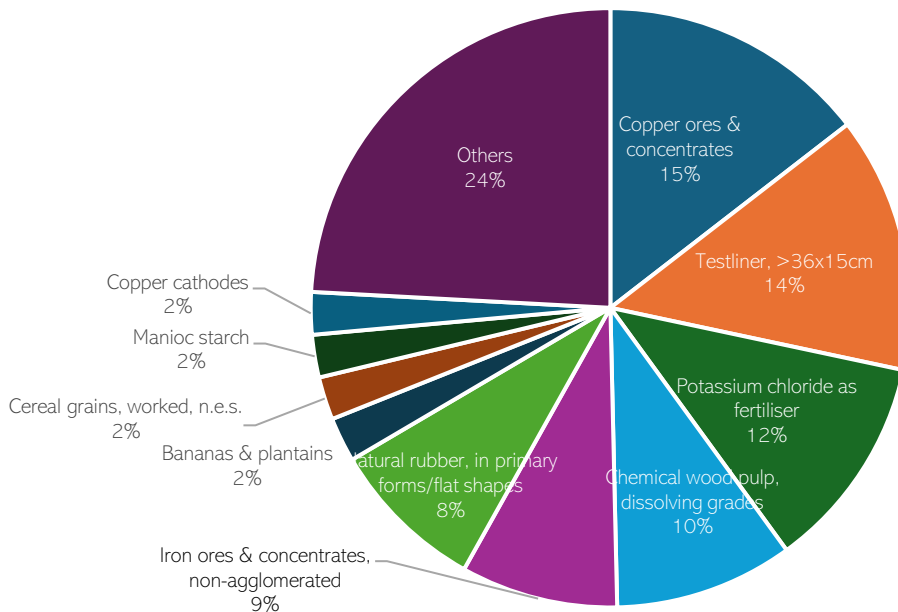
Lao exports to China remain heavily skewed toward raw and semi-processed materials. Raw products account for 59% of exports, followed by semi-processed goods at 37%, and a modest 4% comprising processed items. In contrast, Lao People's Democratic Republic's exports to the rest of the world show a markedly different profile, with processed products making up 58% of shipments. This can indicate a gap in value addition in Lao People's Democratic Republic's trade with China.

Figure 4 Lao exports to China, by level of processing



Source: Authors' calculations based on ITC Trade Map (2024).

Figure 5 Top 10 exports to China, by product



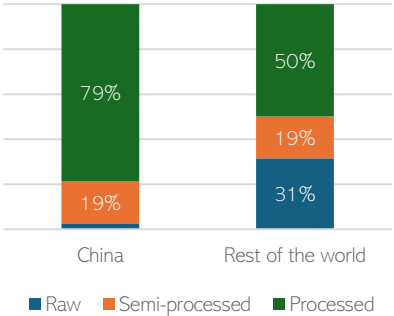
Source: Authors' calculations based on ITC Trade Map (2024).

The concentration of exports to China, as reflected in the equivalent number of products exported, is fairly similar to that of the country’s total exports, with 13.8 and 13.1 products respectively.^{2,3} However, the concentration of exports to China is notable: just five sectors account for 90% of total exports—wood, paper, rubber, and plastics (41%), mineral resources (26%), chemicals (14%), mineral and metal products (5%), and processed food and animal feed (4%). Even considering the more detailed product level, the top 10 products (

Figure 5)—led by copper ores, wood pulp, potassium, and bananas—represent over 75% of the total value.

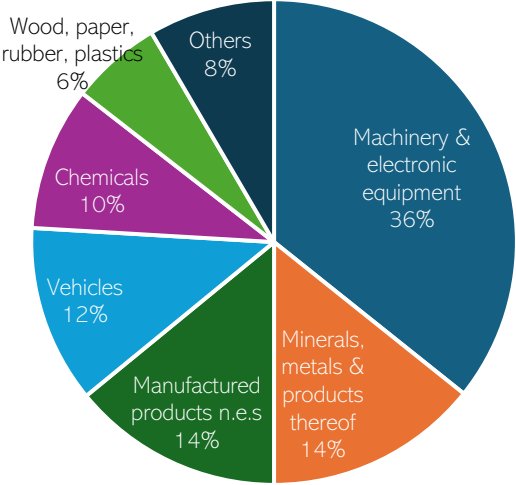
In contrast, Lao imports from China are biased toward processed goods, which represent 79% of imports, followed by semi-processed products with 19% and barely any imports of raw products (Figure 6). For comparison, Lao People’s Democratic Republic’s imports from the rest of the world are more balanced, with half in processed products, 31% in raw goods, and 19 in semi-processed products.

Figure 6 Lao imports from China, by level of processing



Source: Authors’ calculations based on ITC Trade Map (2024).

Figure 7 Top imports from China, by sector



Source: Authors’ calculations based on ITC Trade Map (2024).

Additionally, imports from China are significantly more diversified than its imports in general, with an equivalent product count of 65.1, compared to 39.3 for total imports. However, the top six sectors account for 92% of Lao imports from China, reflecting a relatively high level of concentration (Figure 7). These include machinery and electronic equipment (36%), minerals and metals (14%), manufactured products n.e.s. (14%), vehicles (12%), chemicals (10%), and

² The equivalent number of products is computed as the reciprocal of the Herfindahl-Hirschman index (HHI) that measures the concentration of the export basket with respect to products. It is the number of products that would generate the current concentration of exports, if they all had the same share in exports. The lower the equivalent number of products, the higher the product concentration.

³ In terms of the count of distinct types of products exported, exports from Lao to China are naturally less diverse than the country’s exports total exports, with 509 products exported to China from 2,094 distinct products in the country’s total exports.

wood, paper, rubber, and plastics (6%). At the product level, however, no single item dominates imports, with the top 10 products comprising just 28% of total imports—none exceeding a 10% share individually.

The relatively high diversification of imports compared to exports, coupled with the unprocessed nature of exports exchanged for processed imports, highlights an asymmetry that may constrain Lao People's Democratic Republic's ability to leverage bilateral trade for structural transformation. Policy efforts aimed at supporting domestic value addition could help rebalance this dynamic.⁴

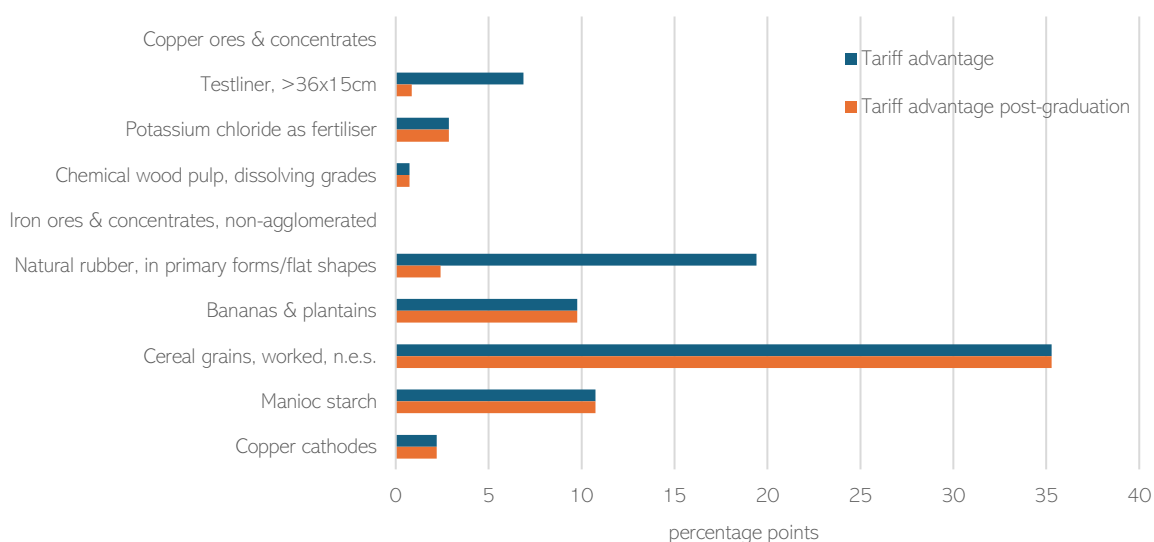
Market access conditions

Trade flows are shaped not only by demand and supply but also by market access conditions, including tariffs, non-tariff measures (NTMs) and transportation and logistics. These factors can either facilitate or constrain trade, particularly for landlocked economies such as Lao People's Democratic Republic.

Tariffs

Lao People's Democratic Republic exports to China benefit from a range of tariff regimes that shape their market access. Chief among these is China's unilateral LDC preferential scheme, which has gradually expanded in coverage and remains a key driver of tariff advantages for Lao exports. Under this scheme, Lao exporters have faced significantly lower tariffs than their competitors in many product categories, as indicated by the tariff advantage enjoyed by the main exported products to China (Figure 8). For example, Lao cereals enjoy a tariff advantage of 35 percentage points, i.e. a tariff 35 percentage points lower than the average tariff faced by competitors. Natural rubber benefits from a preferential margin close to 20 percentage points, and manioc starch and bananas from one of 10 percentage points.

Figure 8 Top imports from China, by sector



Note: the tariff advantage is the difference between the tariff faced by Lao exporters in China and the average tariff faced by other exporters to that market.

Source: Authors' calculations based on ITC Market Access Map (2024).

However, this regime is time-bound. With Lao People's Democratic Republic expected to graduate from LDC status in 2026, eligibility for these unilateral preferences will cease. Graduation marks a development milestone but introduces new trade policy challenges.⁵ Nevertheless, Lao exporters are not without alternatives. China also grants preferential access to Lao exports through other trade agreements, including the Asia-Pacific Trade Agreement

⁴ Note, however, that strategic processed imports may feed structural transformation and processing, depending on their nature.

⁵ The phasing out of LDC preferences could negatively affect the competitiveness of key exports. For an analyses of potential losses and mitigation strategies see *Lao People's Democratic Republic after LDC Graduation: New avenues for exports*, ITC (2023), available at: <https://www.intracen.org/resources/publications/Lao-PDR-LDC-graduation>

(APTA), the ASEAN-China Free Trade Area (ACFTA), and the Regional Comprehensive Economic Partnership (RCEP). These frameworks, in some cases, provide benefits comparable to those under the LDC scheme, depending on the product and rules of origin requirements.

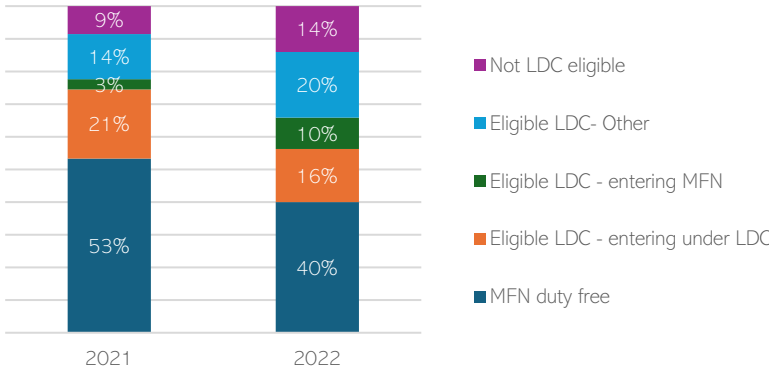
Notably, many of Lao People’s Democratic Republic’s key exports will retain their preferential margin post-graduation under these alternative arrangements (Figure 8). For instance, tariff advantages on products like bananas and manioc starch are expected to remain largely unchanged. In contrast, testliner paper and natural rubber will have a notable reduction in preferential margin.

The actual impact of these changes will depend not only on the change in nominal tariff rates or the change in tariff advantages but also on current preference utilisation rates—an area where challenges remain.

A significant share of exports from Lao People’s Democratic Republic enters China under Most Favoured Nation (MFN) duty-free treatment—53% in 2021 and 40% in 2022 (Figure 9). Of the remaining exports, a large portion is eligible for preferential access under the LDC scheme, which offers the most favourable terms. These accounted for 38% of total exports in 2021 and 46% in 2022. However, LDC preferences are not fully utilised. In 2021, only slightly more than half of eligible exports made use of them—equivalent to 21% of total exports. In 2022, utilisation was lower, with just over a third of eligible exports using LDC preferences, representing 16% of total exports. The remainder of eligible exports entered either under other, less favourable, preferential arrangements or, in some cases, under MFN conditions despite eligibility for better terms.

The underutilisation of preferences suggests that Lao exporters may face constraints that prevent them from taking full advantage of available schemes. These may include limited awareness, procedural complexity, documentation requirements, or difficulties in meeting compliance standards. Understanding these barriers is essential to designing effective trade support measures. Although LDC preferences will be phased out following graduation from LDC status, improving preference utilisation remains relevant. This is particularly important in the context of RCEP, where similar challenges may arise. Enhancing the capacity of exporters to access and benefit from RCEP preferences and other existing schemes will be critical to ensuring that Lao exporters continue to benefit from available market access opportunities after graduation.

Figure 9 LDC preference utilization in exports to China



Source: Authors’ calculations based on WTO’s Preferential Trade Arrangements Database (2024).

Non-tariff measures

In addition to tariffs, NTMs represent a critical component of market access conditions. NTMs encompass a wide range of policy instruments that can affect trade, including technical regulations, sanitary and phytosanitary (SPS) measures, licensing requirements, pre-shipment inspections, customs documentation, and labelling standards. These measures, while often legitimate tools to protect human, animal, or plant health and ensure product quality, can pose significant compliance challenges for exporters—especially for MSMEs in developing and landlocked economies such as Lao People’s Democratic Republic.

Unlike tariffs, NTMs are often difficult to quantify due to their qualitative nature and the variability in their application. While ITC conducts NTM business surveys to better understand these trade-related frictions from the perspective of

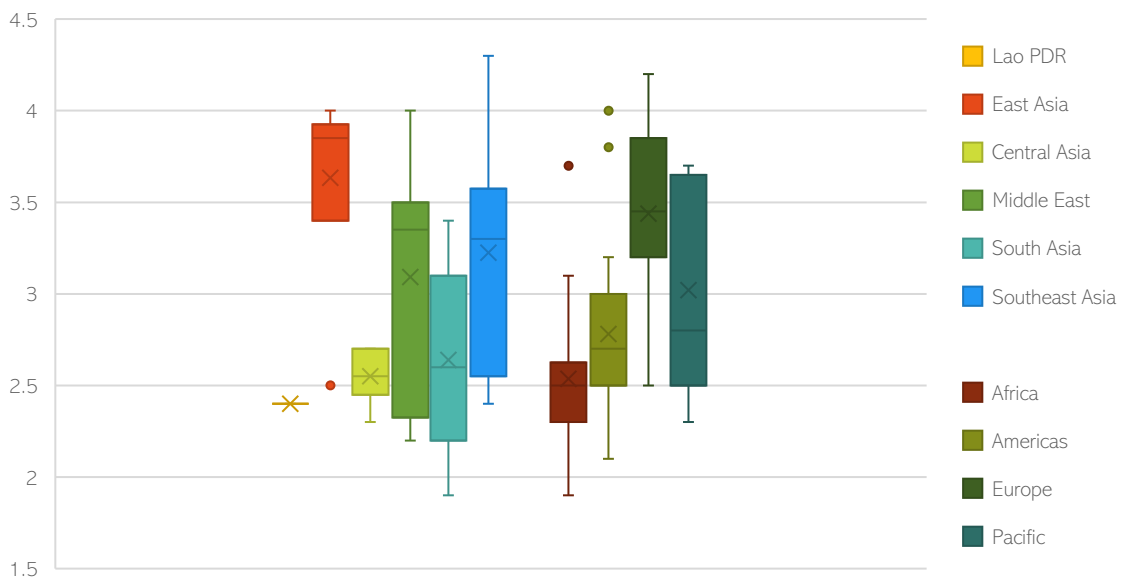
exporters, such surveys have not yet been carried out for Lao People's Democratic Republic or China.⁶ As a result, NTMs are not examined in detail in this section. However, these barriers are addressed more comprehensively in the second analytical component of this project, which focuses on identifying specific trade bottlenecks through field-level information gathering. That analysis highlights concrete obstacles to trade, including those arising from regulatory compliance and procedural inefficiencies.

Transportation

As an LLDC, Lao People's Democratic Republic faces persistent transportation and logistics challenges that raise trade costs and limit export competitiveness. In the World Bank's 2023 Logistics Performance Index (LPI), Lao People's Democratic Republic scored 2.4—below the global average, and lower than most neighbouring regions (Figure 10).

The LPI captures several dimensions of transportation and logistics: the efficiency of customs and border management clearance, the quality of trade and transport infrastructure, the ease of arranging competitively priced international shipments, the competence and quality of logistics services, the ability to track and trade consignments and the frequency with which shipments reach consignees within the scheduled or expected delivery times. Lao People's Democratic Republic scores in the lower quartile across dimensions. The most pressing weaknesses, relative to global standards, are found in the areas of international shipments, logistics competence and quality, and infrastructure. Besides raising costs, these bottlenecks can reduce the timeliness and reliability of shipments, impeding the ability of Lao exporters to meet market standards and delivery requirements—particularly for time-sensitive or perishable goods.

Figure 10 Top 10 exports to China, by product



Source: Authors' calculations based on the World Bank's Logistics Performance Index (2023).

Overall, bilateral trade between Lao People's Democratic Republic and China has expanded significantly over the past decade, with China emerging as the country's largest trading partner. This trade relationship is currently marked by a surplus on the Lao side, driven by exports concentrated in unprocessed and semi-processed goods, while imports from China consist largely of diversified intermediate and capital goods essential for development. Although tariff preferences and regional trade agreements provide a framework for improved market access, actual utilisation remains below potential. Moreover, non-tariff measures and transport-related constraints continue to hinder export performance. Against this backdrop, the next chapter explores the specific opportunities for export growth.

⁶ For more information on ITC NTM Business Surveys visit: <https://ntmsurvey.intracen.org/en/home>



CHAPTER 2

Lao export potential to China

CHAPTER 2

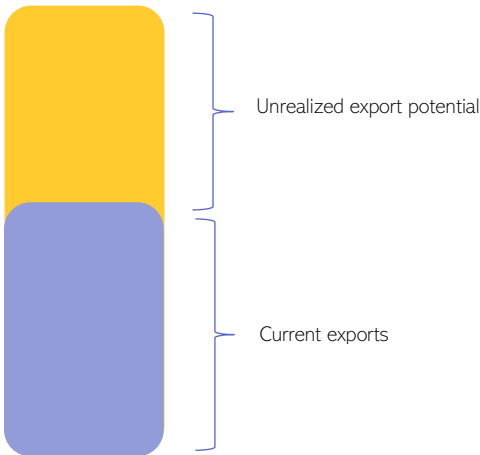
LAO EXPORT POTENTIAL TO CHINA

As the economic relationship between Lao People's Democratic Republic and China deepens, identifying opportunities to diversify and expand exports becomes increasingly important. This chapter uses a data-driven approach to evaluate how Lao People's Democratic Republic can better capitalise on its trade potential with China by identifying sectors and products where export growth is under-realised. This analysis becomes particularly salient in the context of Lao People's Democratic Republic's graduation from LDC status and the need to sustain economic momentum beyond preferential market access.

A data-driven approach to identifying export potential

ITC developed an export potential indicator (EPI) to identify opportunities for growth of existing exports and market diversification. The EPI quantifies the export potential of a country across products and markets through an assessment of detailed information on trade, tariffs, and other factors.

Figure 11 Key concepts on export potential



The EPI computes potential values of trade for each exporter-importer-product combination, including markets currently not served, based on:

- the supply capacities in the exporting country,
- the demand conditions in the target market, and
- the ease of trade between the two trading partners.

The difference between the export potential of a country and its current exports is interpreted as an opportunity for export growth, referred to as “unrealized export potential” (Figure 11).⁷

Results are computed on a time horizon of three to four years to account for expected changes and projected trends, and to provide space for actors to realize the opportunities identified.

Source: ITC Export Potential Map (2025).

The findings presented in this brief are, therefore, estimates of the export potential by 2028.⁸ These results can then be compared to the current export values to identify growth opportunities. Note that, for any given product, the unrealized export potential may refer to opportunities to increase exports to an existing partner or, importantly, to opportunities to diversify into new markets. Additionally, the unrealized export potential may be associated to changes expected in coming years, such as growth trends or tariff changes, or to currently existing frictions.

Unrealised export potential can be decomposed into two broad categories: static, where current frictions (e.g. certification barriers or trade costs) are the primary constraint; and dynamic, where demand in the target market is expected to grow rapidly in the near future.

⁷ For details on the methodology, see: Decreux, Y. & Spies, J. (2023). Export Potential and Diversification Assessments. ITC, Geneva, 2023. Available at: https://umbraco.exportpotential.intracem.org/media/cklh2pi5/epa-methodology_230627.pdf.

⁸ Estimations assume LDC preferences have been completely phased out in 2028, and the next best tariff regime applies.

Recognising the nature of unrealised potential—static versus dynamic—can help policy makers prioritise interventions. Static gaps require export facilitation and compliance strategies, while dynamic opportunities call for investment in productive capacity and trade infrastructure.

Importantly, a set of products that are not deemed promotable for exports are excluded from the export potential calculations, among them hazardous products, antiques, etc.⁹

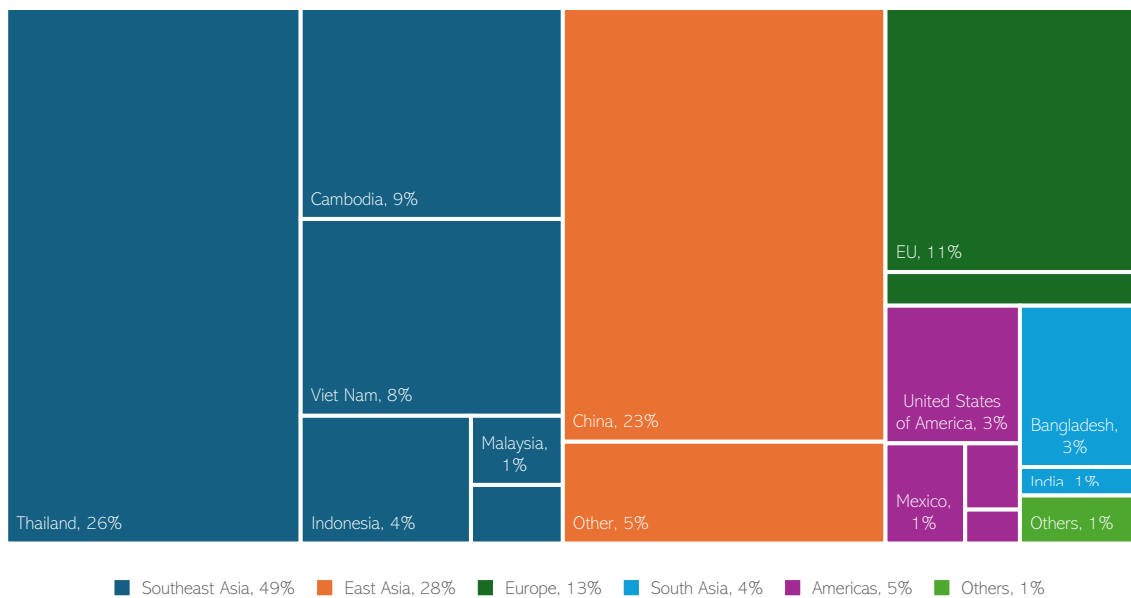
Opportunities for export growth

The findings show that Lao People’s Democratic Republic exported an average of \$8.6 billion between 2019 and 2023, of which \$6.8 billion falls within the scope of EPI calculations. For these products, the estimated export potential by 2028 is \$8.6 billion, indicating room for substantial growth. The unrealised export potential stands at \$3.9 billion—or 46% of the total potential. This points to significant untapped opportunities, especially in nearby markets (Figure 12). Nearly half of this untapped potential lies within Southeast Asia, highlighting the strategic importance of regional integration for a landlocked developing country like Lao People’s Democratic Republic.

China alone accounts for 23% of the country’s total untapped export potential, making it the single most important market for Lao People’s Democratic Republic in terms of opportunities for export growth.

This concentration of untapped potential in Southeast Asia and China underscores the importance of strengthening connectivity and regional trade facilitation mechanisms. Moreover, it suggests that market familiarity and geographic proximity offer Lao People’s Democratic Republic a natural competitive edge, which can be reinforced through infrastructure investments and streamlined trade procedures.

Figure 12 Untapped export potential from Lao People’s Democratic Republic, by market



Source: Authors’ calculations based on ITC Export Potential Map (2024).

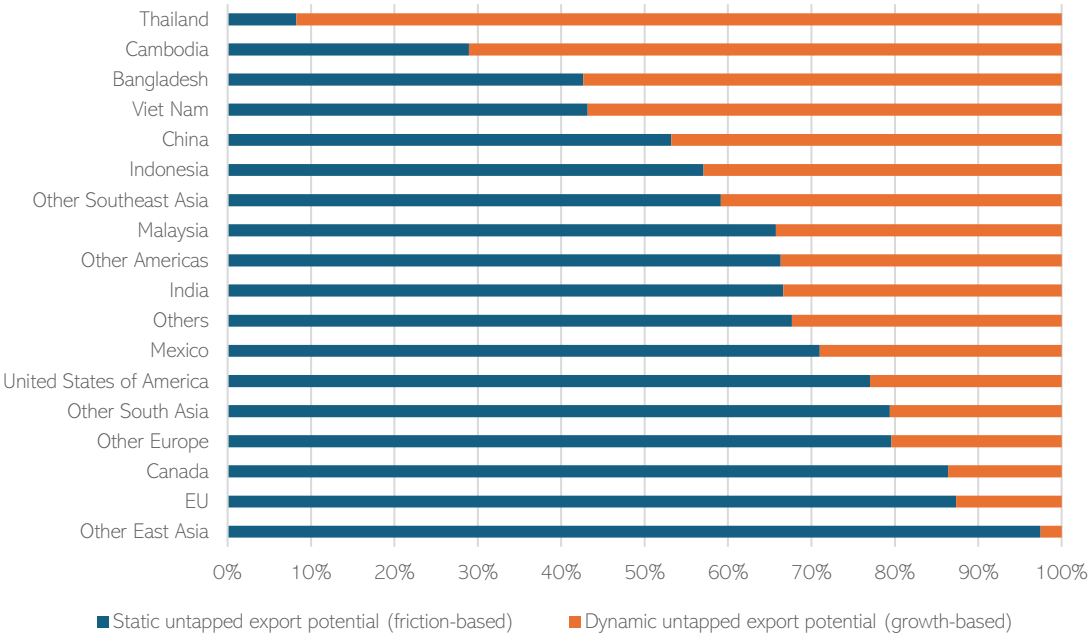
In other major economies such as the European Union and the United States, most of Lao People’s Democratic Republic’s untapped potential is static in nature (Figure 13). This indicates that targeted trade promotion—such as simplifying procedures, meeting quality standards, or enhancing product visibility—may be effective in boosting exports.

⁹ For a detailed list of excluded products, see <https://umbraco.exportpotential.intracen.org/media/ec5fw2yf/exclusion-list-epm-oct-2023.pdf>.

Conversely, in regional markets such as Thailand, Cambodia, and Bangladesh, unrealised potential is more dynamic. These are fast-growing economies where Lao People’s Democratic Republic could benefit from the projected increased demand, provided it scales up its production and logistics capacity accordingly.

China represents a mixed case, with little over half of Lao People’s Democratic Republic’s untapped potential categorised as static, but still with a significant share of dynamic unrealised potential. This indicates that while market growth is anticipated, addressing non-tariff barriers and upgrading export readiness will be key to unlocking export growth now and in years to come.

Figure 13 Lao static and dynamic untapped export potential, by market



Source: Authors’ calculations based on ITC Export Potential Map (2024).

Zooming in on China

China is both Lao People’s Democratic Republic’s largest trading partner and its largest source of unrealised export potential. Between 2019 and 2023, Lao People’s Democratic Republic’s average exports to China reached \$2.7 billion, of which \$2.5 billion fall within the EPI scope. By 2028, the potential is estimated at \$2.6 billion, leaving \$904 million in untapped export potential.

A large share of the export potential in more traditional sectors for Lao exports to China—such as wood, paper, rubber and plastics; mineral resources; chemicals; processed foods; cereal products; and mineral and metal products—has already been realised (Figure 14). The most promising opportunities for export growth to China now lie in somewhat less traditional export sectors for Lao People’s Democratic Republic, particularly in horticulture, machinery and electronics, and a selection of diverse manufactured and agri-food products.

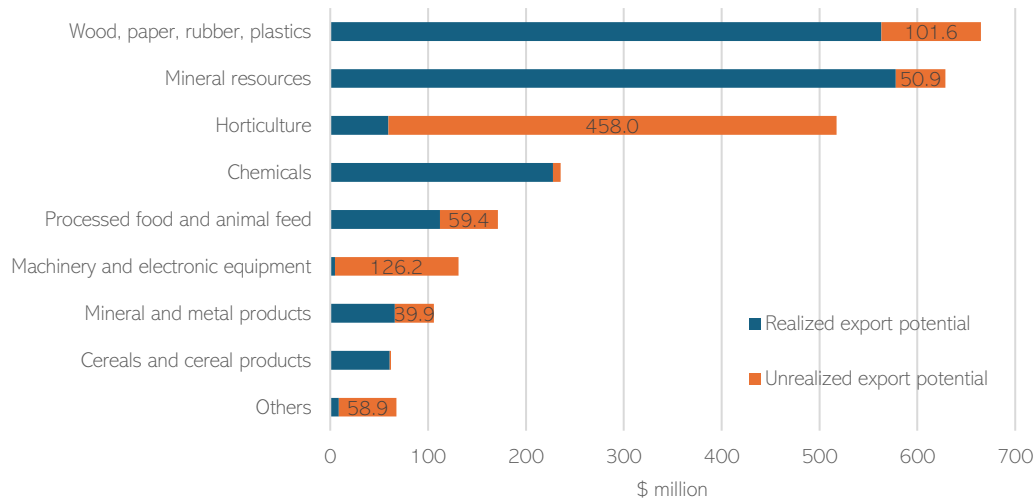
Key opportunities in horticulture

Lao People’s Democratic Republic’s agro-climatic conditions and existing agricultural base provide an advantage in meeting China’s rising demand for fruits and vegetables. Products with high potential include:

- fresh, chilled, frozen or dried roots and tubers of cassava,
- fresh fruits like tamarinds, jackfruit, lychees, passion fruit, pitahaya, and carambola,
- dried fruits such as tamarinds and papayas, and
- to a lesser extent, fresh or dried guavas, mangoes, and mangosteens

Capturing this potential will require improving cold chain infrastructure, compliance with extensive SPS standards, and obtaining market access approvals through bilateral protocols. Technical assistance and public-private partnerships in horticultural value chains can facilitate this transition.

Figure 14 Export potential from Lao People’s Democratic Republic to China, by sector



Source: Authors’ calculations based on ITC Export Potential Map (2024).

Key opportunities in machinery and electronic equipment

Lao People’s Democratic Republic also holds untapped potential in select electronic and electrical components, including:

- parts for telecommunications and broadcasting equipment,
- insulated electric conductors and connectors,
- LED lighting systems, and
- electrical energy

While Lao People’s Democratic Republic’s stage of industrial development does not currently allow for full local value chain development in this sector, regional value chains offer entry points for component assembly or subcomponent manufacturing, often under regional branding. While assembly operations can provide an initial foothold in higher-technology sectors, they are sometimes associated with limited value addition and weak linkages to the domestic economy. To ensure long-term benefits, it will be important to actively monitor opportunities for functional upgrading, such as moving from basic assembly to testing, design, or packaging. Establishing special economic zones with targeted incentives, infrastructure support, and skills development initiatives can help facilitate this process and create the conditions for deeper industrial integration over time.

Other key products

Beyond horticulture and machinery, several additional product areas offer untapped export potential for Lao People’s Democratic Republic in the Chinese market. In the paper sector, this includes pulps of fibres derived from recovered waste and scrap paper or paperboard, as well as chemical wood pulp of dissolving grades. These products benefit from China’s strong and sustained demand for intermediate paper inputs used in packaging, printing, and textiles. Strengthening capacity in these segments may require investment in quality control and traceability to meet technical requirements for industrial processing in China.

In the wood sector, opportunities exist in processed wood and sheets for veneering. These products align with China’s demand for semi-finished materials used in construction and furniture manufacturing. Ensuring consistent supply, certification for legal and sustainable sourcing, and compliance with Chinese import regulations will be important to maintain competitiveness in this area.

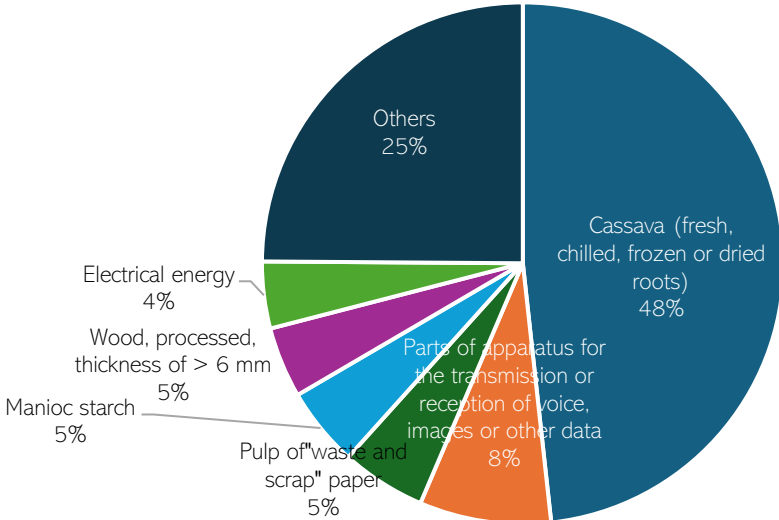
Within mineral resources, potential lies in tin ores and non-agglomerated iron ores. Similarly, in the mineral and metal products category, copper cathodes and Portland cement have scope for further export growth. While Lao People's Democratic Republic already exports significant quantities of these commodities, improvements in transport infrastructure and logistics—particularly bulk handling and storage—could help reduce export costs and expand volumes. For value retention, downstream processing options could also be explored over the longer term.

In the processed food category, manioc starch stands out as a product with rising demand, especially as an input in food manufacturing and industrial applications. Ensuring food safety certification and production consistency will be key to expanding exports of this product to China.

A more diverse set of products also features untapped potential—listed under “Others” in Figure 14. Optical products, and measuring instruments are niche but growing sectors that may benefit from integration into regional value chains, particularly in component manufacturing and assembly. Apparel and footwear remain labour-intensive industries where Lao People's Democratic Republic may build further export capacity. Agricultural commodities such as coffee and oilseeds offer natural advantages, but that require scaling up. Finally, sugar, while already a known export, retains some potential that could be leveraged.

Overall, Figure 15 presents the leading products with untapped export potential to China, spanning a range of sectors.

Figure 15 Untapped Lao export potential to China, main products



Source: Authors' calculations based on ITC Export Potential Map (2024).

Unleashing export potential

As outlined earlier, the untapped potential can be static—related to existing trade frictions—or dynamic—related to expectations of growth.

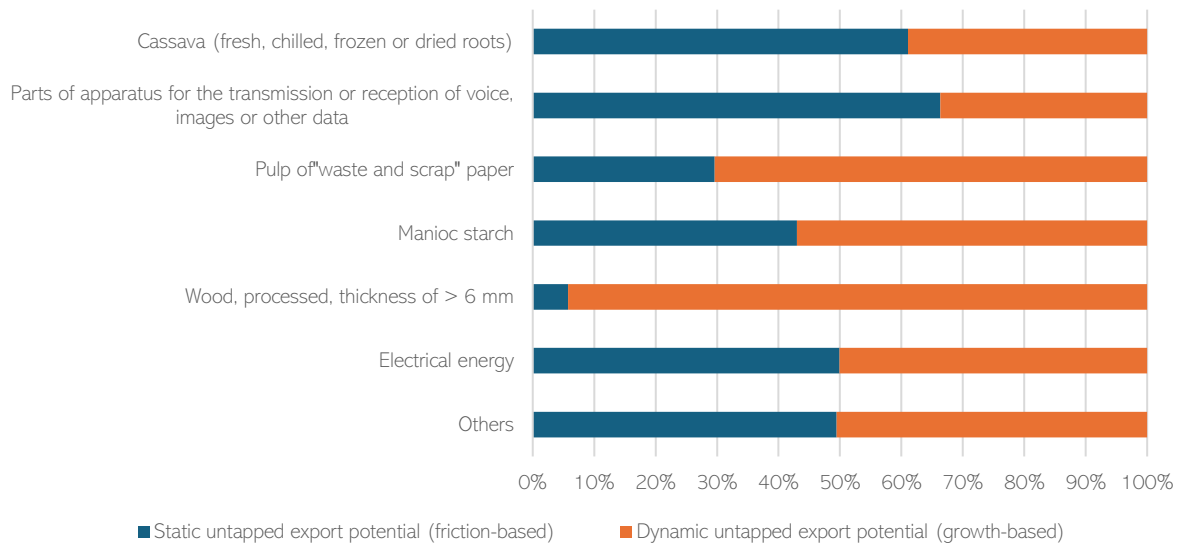
In the case of Lao exports to China, a substantial share of the untapped potential for key products remains linked to existing frictions (Figure 16). One notable exception is the wood sector—particularly processed wood—which is already being traded at levels broadly aligned with economic models. In this case, the remaining potential primarily stems from the projected growth for Chinese demand over the coming years, rather than from unaddressed barriers.

For other key products, including cassava and parts for telecommunications and broadcasting equipment, existing frictions continue to play a central role in limiting exports. These constraints inhibit the full realisation of export potential despite existing demand and supply capacity.

As discussed before, distinguishing between static and dynamic sources of unrealised export potential is important to design effective support measures. Realising dynamic potential often requires investments that align with projected growth. In contrast, unlocking static potential requires addressing specific constraints. These may include a myriad of different types of constraints, among them challenges related to technical and safety compliance, high logistics costs and transit times—especially for perishable or time-sensitive goods—weak product branding and limited recognition

in target markets, gaps in marketing and promotion strategies, insufficient access to trade finance, and regulatory complexity, such as burdensome certification and customs procedures, and others.

Figure 16 Static and dynamic untapped Lao export potential to China, key products



Source: Authors' calculations based on ITC Export Potential Map (2024).

Fully leveraging export opportunities to China will require understanding the nature of the barriers behind untapped export potential and designing corresponding targeted interventions—whether through investment or financing support, trade facilitation, capacity building, or regulatory cooperation.

The China-Lao railway and export potential

The launch of the China–Lao Railway represents a transformative development for trade facilitation between the two countries. It can offer faster, more reliable access to Chinese markets—especially for perishable products like fruits, flowers, and fresh food—through reduced transit times and improved logistics coordination. It can also lower trade costs for bulky or time-sensitive industrial goods, making it easier to connect remote producers in Lao People's Democratic Republic to regional value chains. Looking ahead, future integration of railway operations with digital logistics systems and cross-border customs procedures will be essential to maximise the railway's trade impact. Ensuring multimodal connectivity, particularly with regional road and river corridors, can extend the benefits of the railroad beyond major urban centres to rural export hubs.

The introduction of this railway, which can fundamentally change the conditions of market access between the two countries, in turn changes the export potential between them. In terms of the methodology applied in this section, the new railway changes the ease of trade component of the calculations—it does not affect the supply capacity, in the sense of production, nor does it affect the demand, but rather the bilateral link between the two countries. However, capturing these changes quantitatively would require additional data on how the railway affects logistics performance and trade flows—data that is not yet fully available. In the absence of such data, the analysis that follows provides a qualitative assessment of the railway's observed effects since its introduction and its expected future impact, to be complemented by further analytical work as more information becomes available.



CHAPTER 3

Overview of the China-Laos railway

CHAPTER 3

OVERVIEW OF THE CHINA-LAOS RAILWAY

The China-Laos Railway is a flagship cooperative project between China and Laos under the framework of the Belt and Road Initiative (BRI). It represents a significant manifestation of deep cooperation in infrastructure between the two countries. This railway not only connects China and Laos but also plays a pivotal role in advancing the development of their strategic partnership. As an important part of the Trans-Asian Railway network, it provides a convenient transportation corridor for personnel, goods, and cultural exchanges between the two nations, fostering economic connectivity.

The total length of the railway is approximately 422 kilometres, starting from the Mohan/Mouddin border port in China's Yunnan Province and passing through key cities in Laos, ultimately reaching the Laotian capital, Vientiane. The northern section of the railway is connected to China's Yuxi-Mohan Railway. Designed as a single-track electrified railway, with a planned speed of 160 kilometres per hour, the project aims to enhance passenger and freight transportation efficiency between the two countries and stimulate regional economic development.

The project is a joint venture between China Railway International Co., Ltd. and the Laos National Railway Company, with the Laos-China Railway Co., Ltd. responsible for its operation and management. Since the official groundbreaking on December 25, 2016, and after five years of construction, the railway was officially opened on December 3, 2021, marking a new milestone in China-Laos cooperation under the BRI framework.

The completion and opening of the China-Laos Railway not only provide a convenient means of travel for the people of both countries but also offer strong support for economic and trade cooperation, cultural exchanges, and social development. As a key node of the "Silk Road on Land," it has profound significance in deepening cooperation between China and Southeast Asia, promoting regional economic integration, and facilitating international trade.

Current status and achievements of the China-Laos railway

As of December 3, 2024, the China-Laos Railway has been in operation for three years. Since its opening, the railway has cumulatively carried over 43 million passengers and transported 48.3 million tons of freight, including 10.6 million tons of cross-border goods. The types of cross-border goods have expanded from fewer than 10 to more than 3,000, including products such as electronics, photovoltaic panels, communication equipment, and automotive parts, significantly enhancing the industrial development along the route and promoting international economic exchanges.

Promoting robust growth in passenger traffic

The passenger volume on the China-Laos Railway has steadily grown from 600,000 passengers per month at the start to 1.6 million passengers per month, demonstrating the railway's increasing importance for daily travel between the two countries. The number of international passenger trains between Kunming South and Vientiane has increased from 8 to 86 daily, with expanding coverage. On the Laotian section, the daily number of passenger trains has grown from 4 to 16, with train formations increasing from 5 to more than 10 cars, significantly improving the ease of cross-border passenger flow.

To meet the needs of cross-border tourism and business, the railway authorities have also introduced several special trains and services. For example, additional temporary trains are added during traditional Laotian holidays such as Songkran and Boun Pi Mai to ensure the availability of travel options during peak periods. With the implementation of an internet-based ticketing system and the collaboration with local Laotian banks and payment platforms, purchasing tickets has become more convenient. Moreover, the railway company has launched "Gastronomic Train Delights" and the "One Route Coffee" China-Laos Friendship Coffee brand, enriching the travel experience.

Facilitating cross-border freight flow

Cross-border freight transportation is another major highlight of the China-Laos Railway. Since its opening, the railway has continuously increased its freight capacity. The number of cross-border freight trains operating daily has expanded from 2 to 18, with train tonnage increasing from 2,000 tons to 2,500 tons. By introducing innovative logistics models, the railway has launched several cross-border freight services, such as the "Lancang-Mekong Express" and "Jing-Dian Lancang-Mekong Line," enhancing trade flow between China and Laos and strengthening connectivity with Southeast Asia and other international markets.

For instance, the "Lancang-Mekong Express" significantly shortened the transportation time for goods between China and Laos, improving logistics efficiency. The variety of goods transported via rail has expanded from over 500 items initially to more than 3,000, spanning sectors such as electronics, home appliances, machinery, automotive parts, and agricultural products. Additionally, the China-Laos Railway has strengthened interoperability with the rail systems of other Southeast Asian countries, launching multiple international freight services that link with the China-Europe Railway Express and Southeast Asia's railway network. This has made cross-border logistics more efficient and further promoted regional economic cooperation.

The ongoing upgrading of Laos' railway logistics infrastructure has provided robust support for freight transportation. The expansion and modernization of the Mohan Railway Port have reduced customs clearance times from over 40 hours to less than 5 hours, greatly improving the efficiency of freight clearance. Since February 20 of this year, Laos-China Railway has also launched an express delivery service through regular passenger trains, further supporting the development of Laos' e-commerce and logistics sectors. To date, the railway has transported 940,000 parcels, becoming an essential pillar for the growth of Laos' e-commerce and logistics systems.

Boosting the tourism economy along the railway

The opening of the China-Laos Railway has not only facilitated logistics but also significantly boosted the tourism economy along the railway route. The railway has attracted a large number of tourists to popular destinations such as Xishuangbanna, Luang Prabang, and Vientiane, stimulating the development of local industries such as hotels, restaurants, and tourist attractions. The railway authorities, in collaboration with tourism departments from both countries, have launched several cross-border tourism routes, creating a new model of "railway + tourism."

Cities in China, including Beijing, Harbin, and Shenyang, have successfully organized multiple cross-border tourism groups to Laos through a new model of "domestic tourism trains + international passenger trains," attracting a large number of Chinese tourists to Laos. With the growing volume of tourist traffic, business activities along the railway have also boomed. It is anticipated that as the China-Laos Railway network continues to improve, the tourism economy between the two countries will experience even greater growth.

Promoting employment and social development

The construction and operation of the China-Laos Railway have created numerous employment opportunities in Laos, particularly in areas such as railway construction, passenger and freight transport, and equipment maintenance. Since the project's inception, thousands of Laotian trainees have participated in specialized training programs, including locomotive operation, vehicle maintenance, passenger service, freight transport, and shunting. As of 2024, Laotian employees account for 61.3% of the total workforce of the China-Laos Railway Company, and this percentage is expected to continue to grow in the coming years. By 2026, it is estimated that Laotian employees will make up 80% of the workforce.

This change has significantly improved the professional skills of Laos' labour force and provided a continuous source of momentum for local economic development. Laotian employees play an increasingly important role in railway safety management, passenger and freight transport, equipment operation, and maintenance. The China-Laos Railway has created over 100,000 jobs in Laos, becoming a key factor in driving local economic growth and social development.

Promoting regional connectivity and economic integration

The opening of the China-Laos Railway has not only brought significant economic growth to both China and Laos but has also become a key driver of economic development in Southeast Asia. By improving cross-border logistics and personnel flow efficiency, the railway has laid a solid foundation for regional economic integration.

The "Lancang-Mekong Express" and the "China-Laos Railway + China-Europe Railway Express": The "Lancang-Mekong Express" significantly reduced the transportation time between China and Laos, from 3 days to 1 day. Meanwhile, the introduction of the "China-Laos Railway + China-Europe Railway Express" model shortened the direct rail freight time between Laos, Thailand, Malaysia, and Europe to 15 days. Through its connectivity with the New Western Land-Sea Corridor and the China-Europe Railway Express, the China-Laos Railway has become an important logistics corridor connecting China with South Asia and Southeast Asia, driving regional economic prosperity and optimizing global supply chains.

Cross-border freight volume growth: Since its opening, the China-Laos Railway has seen continuous growth in freight volumes. By 2024, the international freight trains on the railway had operated over 15,000 times, transporting over 10.6 million tons of cross-border freight, valued at 44 billion yuan. Through this railway, goods from China can be transshipped through Laos to Thailand, Vietnam, Myanmar, and other Southeast Asian countries, while goods shipped from Laos have already reached 25 Chinese provinces, further promoting regional economic integration.

Promoting regional connectivity: The opening of the China-Laos Railway has accelerated the construction and integration of Southeast Asian countries' railway networks. In July 2024, the Thailand-Laos cross-border passenger train service was officially launched; the China-Thailand railway construction is also progressing rapidly. Furthermore, the "ASEAN Express" freight train, which spans Malaysia, Thailand, and Laos, has already started operating, further enhancing regional logistics connectivity. Malaysia is also pushing forward the East Coast Railway construction, planning to connect with Thailand's high-speed rail, while Indonesia is exploring the possibility of extending the Jakarta-Bandung High-Speed Railway to Surabaya. Southeast Asian countries are steadily advancing railway development and strategic integration, which is expected to continue improving regional connectivity. This accelerated integration will help lower logistics costs, promote the flow of personnel, and create more development opportunities for related countries, thus pushing forward the process of regional economic integration.

Through the China-Laos Railway, economic cooperation between Southeast Asian countries has deepened, providing new momentum for regional economic integration and global trade flow. This infrastructure project not only plays an important role in promoting trade and cooperation between China and Southeast Asia but also contributes positively to the region's economic development.

Analysis of future development opportunities for the China-Laos railway

With the full opening of the China-Laos Railway, it has become a significant driver of economic development for both China and Laos, as well as for the broader Southeast Asian region. Looking ahead, the China-Laos Railway will encounter extensive opportunities in promoting regional economic integration, advancing green development, facilitating digital transformation, and enhancing international logistics efficiency. Through timely technological innovations and sustainable development strategies, the China-Laos Railway will continue to play a critical role in global logistics networks.

Agricultural and industrial product export potential

Agricultural export growth

The efficient transportation capacity of the China-Laos Railway will continue to provide strong export support for Laotian agricultural products. In particular, with the enhancement of cold chain logistics and transportation capabilities, Laotian agricultural products will be able to enter China and other international markets more quickly and efficiently.

Enhancement of Cold Chain Logistics: As cold chain logistics technology develops, the China-Laos Railway will further improve the preservation capabilities of fresh agricultural products (such as fruits, coffee, etc.) during transportation. The railway system will integrate temperature control facilities and cloud data systems to monitor critical factors such as temperature and humidity in real-time, ensuring the quality of goods during transit.

Diversification of Agricultural Product Exports: The China-Laos Railway will not be limited to the export of traditional tropical fruits but will also promote the entry of Laotian specialty agricultural products (such as medicinal plants, organic food, etc.) into broader international markets, further advancing the modernization of Laotian agriculture.

Export of industrial products and mineral resources

Laos' mineral resources (such as copper, tin, and iron ore) will be able to enter China and global markets rapidly and efficiently via the China-Laos Railway's logistics network.

Improved Logistics Efficiency: With the ongoing optimization of the railway network, the logistics costs of transporting Laos' mineral resources will decrease significantly, improving their competitiveness within the global supply chain.

Cross-Border Logistics and Smart Warehousing: In the future, the railway will adopt automated warehousing and intelligent logistics systems, using digital means to optimize transport routes, reduce costs, and enhance safety and timeliness during transit.

Regional economic and employment development

Promoting employment and skill development

The China-Laos Railway has not only created numerous direct employment opportunities in Laos but also provided extensive training opportunities for the local workforce, enhancing overall professional skill levels.

Intelligent Operational Positions: As the railway undergoes digital upgrades, new job positions will emerge in Laos, including data analysts, cybersecurity experts, and smart device operators. These positions will raise the technical capacity of the local labour market.

Continuous Education and Cooperation: The China-Laos Railway will also collaborate with the Laotian government and educational institutions to establish specialized training programs. These will improve the technical capabilities of Laotian workers and cultivate a group of high-quality professionals skilled in both technology and management, contributing to the overall technological progress in Laos.

foreign investment and regional cooperation

The China-Laos Railway has not only attracted significant foreign investment, particularly in green energy, smart manufacturing, and modern logistics, but also facilitated regional economic cooperation, enhancing the economic interconnectivity between China and Southeast Asia.

Green Energy Investment: The railway corridor will attract more investments in green energy, such as solar and wind power. This is especially critical in the railway sector, where energy consumption is high. The introduction of green energy will help the railway achieve more environmentally friendly operations.

Cross-Border Industrial Cooperation: As railway infrastructure continues to improve, more enterprises from Southeast Asia will choose to invest and establish production bases in Laos and surrounding areas. This will form cross-border industrial chains that integrate production, logistics, and markets.

Regional integration and global logistics

Promoting regional connectivity

The opening of the China-Laos Railway has provided strong support for the interconnectivity between Southeast Asia and China, driving regional economic integration. In the future, the railway will continue to strengthen its linkages with the railway networks of other Southeast Asian countries, creating a cross-border integrated logistics channel.

Multi-Modal Transportation Network: With the further development of the "China-Laos Railway + China-Europe Railway Express" model, the China-Laos Railway will become a key logistics corridor connecting China, Southeast Asia, and even Europe. It will contribute to the formation of a multi-modal transportation system, particularly ensuring effective coordination between high-speed rail, sea transport, and air cargo.

Smart Cross-Border Logistics Management: In the future, cross-border freight transportation will be managed intelligently, using IoT (Internet of Things) technology to track each batch of goods in real-time, ensuring transparency and efficiency in the logistics process.

Strengthening international trade and cooperation

The China-Laos Railway will not only provide a more convenient trade route for China and Laos but also offer new opportunities for international cooperation with other Southeast Asian countries. As the railway network continues to expand, more international cooperation projects will emerge.

Global Supply Chain Optimization: The opening of the China-Laos Railway has provided critical support for the international supply chain, enabling various Chinese and Southeast Asian goods to reach global markets more efficiently.

Facilitating Cross-National Corporate Cooperation: The railway will foster collaboration between enterprises from China, Laos, and other regional countries, promoting rapid developments in sectors such as cross-border e-commerce, digital payments, and smart manufacturing.

Long-term development strategy for the China-Laos railway

Green development

With the growing global awareness of environmental protection and the increasing demand for sustainable development, the China-Laos Railway will vigorously promote green development, aiming to achieve low-carbon, energy-efficient operations.

Electrified Railway and Clean Energy: The China-Laos Railway is already electrified, and future efforts will focus on further optimizing energy sources. The integration of more clean energy, such as solar and wind power, will help reduce energy consumption and CO₂ emissions.

Green Transportation System Construction: At both railway stations and along transport routes, the China-Laos Railway will promote the construction of more green infrastructure, including eco-friendly buildings, rainwater collection systems, and energy-efficient equipment, striving to become a model for green transportation.

Digital transformation

With the rapid advancement of digital technologies, digital transformation will become one of the core strategies for the future development of the China-Laos Railway. The intelligent, information-driven, and automated operation of the railway will significantly enhance operational efficiency and improve the customer experience.

Smart Railway Construction: The China-Laos Railway will widely adopt technologies such as big data, the Internet of Things (IoT), and artificial intelligence to construct a "smart railway." Real-time monitoring, data analytics, and automated scheduling will enhance operational efficiency and safety. It is expected that the railway will incorporate autonomous driving, intelligent scheduling, and preventive maintenance, reducing human error and equipment failures, thereby enhancing safety.

Smart Logistics and Supply Chain Management: The China-Laos Railway will build smart logistics platforms that utilize digital tools to monitor transport processes in real time, provide accurate predictions of transportation times and locations, optimize cargo management, and reduce logistics costs.

Future outlook

The future of the China-Laos Railway holds significant potential. As green development and digital transformation continue to progress, the railway will not only further drive economic cooperation between the two countries but will also play an important role in broader regional and global supply chains. By continually innovating technology, improving operational efficiency, and optimizing sustainable development strategies, the China-Laos Railway will provide new momentum for the stable growth of the global economy, facilitating global trade flows and deepening regional economic integration.



CHAPTER 4

Case study: Lao bananas on a special train to Beijing

CHAPTER 4

CASE STUDY: LAO BANANAS ON A SPECIAL TRAIN TO BEIJING

With the advancement of the Belt and Road Initiative, the China-Laos Railway (Vientiane–Kunming–Beijing Pinggu) has become an important logistics channel connecting China and Laos since its opening in 2021. As an integral part of the Trans-Asian Railway, the construction of the China-Laos Railway has not only provided a solid foundation for economic cooperation between the two countries but also facilitated the flow of trade between Laos, China, and Southeast Asia. In 2023, with the launch of the “Jing-Dian·Lancang-Mekong Line” International Cold Chain Train, this logistics corridor entered a new stage of development.

On October 20, 2023, the first “Jing-Dian·Lancang-Mekong Line” International Cold Chain Train, carrying 390 tons of Laotian bananas, departed from Vientiane, Laos, and successfully arrived at the Beijing Pinggu Comprehensive Logistics Hub, traveling through the China-Laos Railway. This landmark event marked not only the successful first operation of the China-Laos Railway International Cold Chain Train but also provided full cold-chain assurance for the import of fruits from Southeast Asia, especially Laotian bananas, offering Beijing consumers fresher, higher-quality imported fruits.

Challenges

Historically, the transportation of imported bananas and other tropical fruits has faced significant challenges. Firstly, traditional land transportation has long transit times, usually taking one to two weeks, and in the case of traffic congestion, the delivery period can be even longer. This often results in delayed delivery, which compromises the freshness of fruits and affects market sales.

Secondly, since traditional land transportation usually relies on open-air trucks that cannot ensure cold storage throughout the journey, the loss rate of fruits during transit has been relatively high. This is particularly true during long-distance transport, where temperature fluctuations can severely impact fruit preservation. For example, the loss rate of bananas and other perishable fruits can range from 5% to 20%, leading to considerable economic losses for both importers and consumers.

Finally, although air freight is another option, it is prohibitively expensive due to the low price of bananas, making it an unfeasible solution for frequent use. Therefore, the dual challenge of transportation timeliness and cost has been a significant issue for importers.

Solution

The launch of the China-Laos Railway International Cold Chain Train was designed to address these challenges and provide a new logistics solution. Through full cold-chain transport, the China-Laos Railway Special Train offers comprehensive temperature control to ensure the freshness of Laotian bananas during transit from Laos to Beijing.

Full cold-chain transportation

The “Jing-Dian·Lancang-Mekong Line” International Cold Chain Train uses advanced “backpack cold chain box” technology. These refrigerated containers are equipped with generator sets, which can continuously supply power, ensuring a constant low-temperature environment during long-distance transport. In this way, Laotian bananas are maintained at a stable temperature of 15°C throughout the journey, effectively preventing spoilage due to temperature fluctuations.

Reduced transport time

Compared to traditional land transportation, the cold chain train significantly reduces transit time to 8 days, ensuring the freshness of the fruits. This transport model greatly improves the timeliness of cross-border fruit delivery, offering consumers fresher imported fruits.

Cost reduction and reduced losses

Compared to traditional transportation, rail transport not only ensures timeliness but also significantly reduces transportation costs. The China-Laos Railway's special train solution addresses the temperature control issue that traditional land transport faces and significantly reduces loss during transit. According to estimates from importers, cold-chain transportation reduced the loss rate of bananas by about 90% compared to traditional methods and lowered the overall transportation cost by approximately 6%.

Results and benefits

Positive market response

Upon arrival in Beijing, the first batch of Laotian bananas transported by the China-Laos Railway immediately garnered significant consumer attention in supermarkets and wholesale markets. Staff at a supermarket in Chaoyang District, Beijing, reported that the bananas, with reasonable prices and excellent quality, sold very well. In the Jingkelong supermarket, the Laotian bananas sold out quickly, and consumers' interest in this fresh imported fruit significantly increased.

Improved logistics efficiency

The introduction of the China-Laos Railway cold chain train has transformed the inefficient and high-loss model of traditional land transport. The full cold-chain transportation method not only effectively extends the shelf life of fruits but also drastically reduces loss during transit, optimizing the supply chain management and cost structure for importers. This successful model has provided higher profit margins for importers and offered consumers higher-quality fruit products.

Promotion of bilateral trade

The successful operation of the China-Laos Railway has provided new momentum for bilateral trade between China and Southeast Asian countries. With the cold-chain train becoming a regular service, not only can Southeast Asian bananas, durians, mangoes, and other fruits be more smoothly introduced to the Chinese market, but there is also potential for the export of Chinese agricultural products and consumer goods to Southeast Asia and other countries via the railway. This dual-direction logistics model creates more opportunities for regional economic integration.

Innovation in logistics and cold chain technology

Through the use of "backpack cold chain boxes" and comprehensive digital monitoring, the technology behind cold-chain transportation has been significantly improved. The China Railway Special Freight Company developed tailored logistics solutions, utilizing IoT technology to monitor transport processes in real-time, ensuring stable temperature and humidity levels. Additionally, the intelligent management and automation of cold chain logistics will further enhance logistics efficiency and improve customer experience.

Future development

Dual-direction and regular operation

With the successful operation of the China-Laos Railway International Cold Chain Train, regular dual-direction operations will be realized in the future. In addition to supplying more Southeast Asian fruits to the Chinese market, agricultural products from Pinggu and other export regions will also be transported via this railway network to Southeast Asia. By creating a dual-direction logistics corridor between Beijing, Kunming, and Vientiane, the trade relations between China, Laos, and Southeast Asia will be further strengthened, promoting mutual cooperation.

Expansion of cold chain transport categories

Currently, the cold chain train mainly transports bananas, but it is expected to expand to include more types of fruit, such as durians and mangoes. With full cold-chain transportation, more fruits from Southeast Asian countries will enter the Chinese market, meeting the growing demand for imported tropical fruits among consumers.

Smart logistics and data management

As cold chain transportation technology continues to advance, the China-Laos Railway will continue to promote the digitalization and intelligent development of logistics. Through IoT technology and big data analysis, cold chain transport will achieve more efficient, secure, and real-time management and scheduling. This technological innovation will improve the transparency and efficiency of the entire supply chain, further optimizing transport costs and enhancing the customer experience.

The launch of the “Jing-Dian-Lancang-Mekong Line” International Cold Chain Train marks a breakthrough for the China-Laos Railway in the field of cross-border logistics and cold chain transportation. This innovative model has not only improved the efficiency and quality of Southeast Asian fruit entering the Chinese market but also provided stronger support for future bilateral trade between the two countries. By optimizing transportation methods, reducing costs, and improving supply chain management efficiency, the China-Laos Railway has not only promoted economic cooperation between the two countries but also provided crucial support for regional economic integration. As cold chain transportation continues to develop, the China-Laos Railway will become an essential part of the global supply chain, helping to shape a broader trade future for China, Laos, and Southeast Asia.



CHAPTER 5

Conclusions

CHAPTER 5

CONCLUSIONS

This report has examined the deepening trade relationship between Lao People's Democratic Republic and the People's Republic of China in the context of broader regional integration, new infrastructure developments, and structural changes in the trade landscape. It has highlighted how these evolving dynamics present both opportunities and challenges, particularly as Lao People's Democratic Republic prepares for LDC graduation in 2026.

China has emerged as Lao People's Democratic Republic's most important trading partner, accounting for over one-third of total exports and nearly 40% of imports in recent years. Trade flows between the two countries have expanded rapidly, and Lao People's Democratic Republic has maintained a consistent trade surplus with China since 2015. However, Lao exports to China remain heavily reliant on a narrow set of commodities, such as copper ores, wood pulp, potassium, and natural rubber. These products accounted for more than 75% of total exports to China in 2023. In contrast, the country's imports from China include a wide range of intermediate and capital goods necessary for infrastructure and production. This trade pattern reflects both the current structure of Lao economy and the importance of Chinese inputs in supporting growth, but the asymmetry may present a challenge for long-term development and industrial upgrading.

While the trade relationship has brought clear benefits, such as access to key inputs and a growing export market, the analysis also underscores the space for further export growth. Using ITC's export potential methodology, it is estimated that Lao People's Democratic Republic has \$904 million in unrealised export potential to China by 2028. Importantly, over half of this unrealised potential with China is linked to existing trade frictions, while the remainder is associated with expectation of demand growth by 2028.

The report identifies priority sectors for expanding exports to China: horticulture, machinery and electronic components, and selected manufactured and agri-food products. In horticulture, products such as cassava, and several fresh and dried fruits offer strong potential. Realising this potential will depend on improvements in cold chain logistics, compliance with SPS standards, and access to Chinese markets through bilateral protocols. In machinery and electronics, opportunities exist to increase exports of parts of telecommunications and broadcasting equipment and of insulated electric conductors, which may serve as entry points in regional value chains, particularly for component assembly. While initial value addition may be limited, targeted policies could help the country move up the value chain over time. Prospects for export growth also exist in processed wood, sheets for veneering, tin ores, iron ores, copper cathodes, Portland cement, manioc starch, and to a lesser extent in other assorted products, such as optical products, apparel and footwear, coffee, oilseeds, and sugar.

The launch of the China-Lao Railway can fundamentally change the conditions of market access between the two countries, changing the export potential opportunities between them. The railway provides a direct and efficient transport corridor between Vientiane and Kunming, cutting travel times and improving logistics reliability. While detailed data on the impact of the railway is not yet available, it has already shown strong results in terms of freight volume, with more than 10 million tons of cross-border goods transported in its first three years of operation. Case studies such as the cold chain banana train from Lao People's Democratic Republic to Beijing show how the railway can support export competitiveness, especially for perishable goods.

The railway's potential extends beyond individual products. It can help reduce trade costs, enable just-in-time delivery, and connect rural producers to global supply chains. Moreover, its integration with broader regional transport networks, including the China-Europe Railway Express and ASEAN corridors, positions Lao People's Democratic Republic as a logistical bridge in regional trade.

Despite these opportunities, significant barriers remain. The report highlights low preference utilisation rates, particularly under the LDC scheme. In 2022, just 16% of Lao exports to China made use of LDC preferences, despite over half being eligible. Possible reasons for this include a lack of awareness, administrative complexity, and difficulties in meeting rules of origin. As LDC preferences are phased out following graduation, strengthening the use of alternative trade agreements such as RCEP will be vital. This will require targeted support to help firms understand and comply with relevant provisions.

Non-tariff measures, including technical regulations, SPS standards, and documentation requirements, also constrain trade. For many products, especially food and agricultural goods, these barriers represent the primary challenge to export expansion. In some cases, improvements in logistics and transport will not be sufficient unless exporters can also

demonstrate compliance with destination market requirements. Public and private sector coordination will be necessary to build capacity in this area.

The report also underscores the broader role of infrastructure in shaping export potential. While the China–Lao railway marks a significant advance, the full realisation of its benefits depends on complementary investments in warehousing, quality control, certification, trade facilitation, and digital infrastructure—particularly to support smaller firms. Special economic zones may play a role in clustering related activities and providing services that enable upgrading. Broader gains will rely on integrated multimodal networks, streamlined customs procedures, and efficient digital logistics systems.

Finally, the report calls attention to the role of data, monitoring, and evaluation. Many of the benefits of the railway and broader trade reforms will materialise over time and vary across sectors and regions. Establishing systems to track changes in trade flows, logistics performance, and firm-level outcomes will be essential for evidence-based policy and investment decisions. Incorporating these data in the future will allow for more updated assessments of where constraints are easing and where gaps remain.

Overall, Lao People's Democratic Republic trade relationship with China has delivered clear benefits but holds even greater promise. However, fully capturing these gains will require a coordinated policy approach focused on trade facilitation, market access, productive capacity, and institutional readiness. The China-Lao Railway provides a valuable foundation, but realising its full impact depends on parallel investments and business support. With targeted reforms and sustained collaboration, Lao exporters can improve their competitiveness and deepen their integration into regional and global value chains.

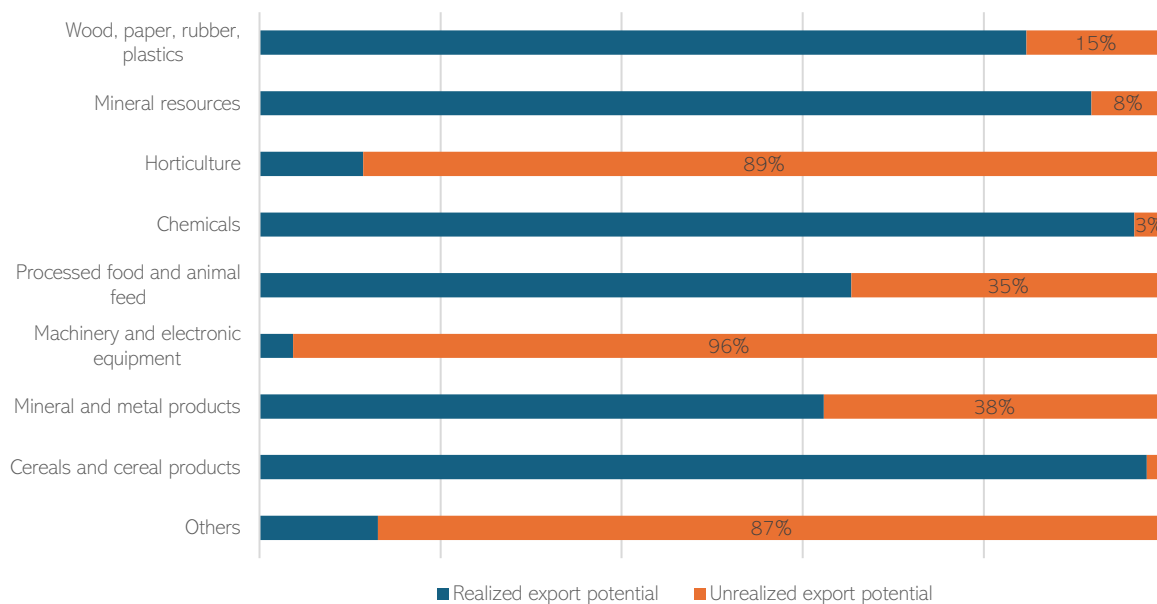


The background features a complex pattern of thin, white, wavy lines that create a sense of depth and movement. A bright, glowing light source is positioned in the upper left quadrant, casting a soft, ethereal glow across the scene. The color palette transitions from a deep teal on the left to a lighter, almost white glow near the light source, and then to a soft purple and blue gradient on the right side.

APPENDIX

Appendix Additional figures

Figure A. 1 Share of unrealized export potential from Lao People's Democratic Republic to China, by sector



Source: Authors' calculations based on ITC Export Potential Map (2024).

