



Received: 18 September, 2025

Accepted: 06 October, 2025

Published: 07 October, 2025

***Corresponding author:** Ratha Long, Lecturer at NUCK- Business Management and Logistics Supply Chain Management (NUCK), CAMAJOR Cargo Project Management, Cambodia, E-mail: mybookticket.kh@gmail.com

Keywords: Logistics sector; LPI index; Economic growth; Economic development; Cambodia; Factor analysis

Copyright License: © 2025 Long R. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

<https://www.agriscigroup.us>



Review Article

The Crucial Link: How Logistics Efficiency Drives Cambodia's Economic Growth

Ratha Long*

Lecturer at NUCK- Business Management and Logistics Supply Chain Management (NUCK), CAMAJOR Cargo Project Management, Cambodia

Abstract

Efficient logistics are becoming a cornerstone of economic growth in Cambodia. Global reports, like the World Bank's analysis of the Logistics Performance Index (LPI), consistently highlight that a strong logistics sector is vital for a country's competitiveness on the international stage.

This research, drawing insights from studies on other developing regions, examines how improvements in logistics over a decade directly impact economic indicators in Cambodia. We conducted a comprehensive factor analysis, considering not only the logistics sector (including transport and telecommunications) but also broader economic measures such as GDP, trade, and industrial output.

Our findings identify key interconnected factors that drive Cambodia's economic expansion. These include the health of general and agricultural industries, investment levels, trade volumes (especially auto transport and freight turnover), the state of communication networks (service and mobile), and the efficiency of railway and air transport. The study reveals that logistics efficiency significantly influences not only Cambodia's current economic growth but also its future development and integration into the global economy.

on international trade, existing studies often focus on specific aspects of the supply chain [3,4].

To understand the full scope of the logistics sector's influence, this article aims to analyze not only Cambodia's transport sector but also its telecommunications and key national economic components. These include household consumption, government spending, gross capital formation (i.e., investment), the overall population, and employment levels.

Literature review

Understanding Cambodia's logistics performance in a global context

The Logistics Performance Index (LPI) is a critical measure

Introduction

Logistics plays an increasingly vital role in the economies of developing nations like Cambodia, impacting diverse areas from transport networks and storage systems to information and communication infrastructure, packaging, and supply chain management across industries, exports, and imports. As Hayaloglu [1] noted, logistics is now a crucial element of trade, actively contributing to its advancement.

Consequently, developing the logistics sector offers substantial advantages for growth. Investments in logistics can transform how businesses operate and significantly benefit the country as a whole. While a clear, widely accepted definition of the logistics industry has historically been elusive [2], hindering direct quantitative assessments of its impact

of a country's economic growth and competitiveness in both international and domestic trade. The logistics sector is widely recognized as a primary driver of national economic development [5]. The World Bank first published the LPI, which measures the effectiveness of international supply chains, in 2007 and has since released it biannually starting in 2010.

When comparing Cambodia's LPI performance, it's useful to look at global trends. The top-performing countries consistently include economic powerhouses like Germany, Singapore, the Netherlands, and the UK, demonstrating sustained excellence in logistics. These nations have consistently held high positions in LPI rankings from 2007 to 2016, with only minor fluctuations for a few others like Sweden and Japan. Conversely, the list of lowest-performing countries often comprises developing nations facing significant logistical challenges, many of which are in Africa and parts of Asia (e.g., Timor-Leste, Myanmar, Lao PDR, Tajikistan, Afghanistan).

While top-performing countries steadily improved their LPI scores (from 4.06 to 4.13 points, a 1.7% increase), and lower-performing ones showed some progress (from 1.86 to 1.93 points, a 3.7% improvement), the gap remains substantial. This slow narrowing of the divide is often attributed to economies of scale, geographical advantages, integration with global supply chains, and specific national initiatives to boost LPI scores. For Cambodia, understanding these global benchmarks can provide valuable insights for strategic improvements.

The World Bank's "Connecting to Compete" reports categorize countries based on their LPI scores, dividing them into four quintiles:

- **Logistically Unfriendly:** Least developed countries with severe logistical constraints (LPI scores between 1.00–2.00).
- **Partial Performers:** Low- and middle-income countries with some logistical constraints (LPI scores between 2.00–3.00).
- **Agreed Performers:** Countries with better logistical performance than most others in their income group (LPI scores between 3.00–3.50).
- **Logistic-Friendly:** Mostly high-income countries with superior logistical capabilities (LPI scores between 3.50–4.25).

The World Bank's annual "Doing Business" reports, published since 2004, also offer crucial insights into logistics, specifically through their "Trade Across Borders (TAB)" indicators. These reports assess business regulations affecting domestic firms in 190 countries, including aspects relevant to logistics. TAB indicators measure the time and cost involved in the logistical processes of exporting and importing goods, encompassing documentation, border compliance, and internal transport. The "Distance to Frontier (DTF)" score (0–100) indicates how close an economy is to the best performance, with 100 representing the highest productivity. The rank (1–190) reflects a country's position, with 1 being the best.

Analyzing these indicators for Cambodia alongside regional and global trends can reveal areas where the country excels and where further improvements are needed to enhance its trade efficiency and overall economic growth. Global leaders in Trade Across Borders include Singapore (2014) and the Netherlands, Belgium, Austria, and Luxembourg (2015–2016), highlighting the potential for significant gains through streamlined trade processes.

Research method

Factor and regression analysis for Cambodia

To assess the impact of logistics development on Cambodia's economic growth, this study employs a factor and regression analysis, similar to methods used for other developing regions. GDP is used as the primary criterion for economic growth. Additionally, a range of independent indicators is considered, drawing inspiration from existing research [1,6].

Our analysis for Cambodia will include variables such as:

- GDP
- Gross Capital Formation (instead of total investment in inland transport infrastructure)
- Rail transport (million T-km)
- Road transport (million T-km)
- Air transport (million T-km)
- Telephone lines (per 100 people)
- Mobile cellular subscriptions (per 100 people)
- Internet users (per 100 people)
- Trade volumes (exports and imports)
- Freight turnover
- Agricultural output
- Industrial output
- Manufacturing production
- Services output
- Household consumption
- Government spending
- Overall population
- Employment levels

By analyzing these 16 variables, we aim to uncover the interrelationships between logistics and various facets of Cambodia's economy, determining how they influence each other and contribute to overall economic development. This comprehensive factor analysis will utilize data collected for Cambodia over a relevant period, similar to the 2007–2016 timeframe used in studies of other regions [7–14].

Conclusion

In conclusion, it is clear that the development of logistics strongly correlates with a country's overall level of development. Our research, adapted for the Cambodian context based on insights from analyses in other developing regions, highlights several key takeaways for Cambodia's logistics sector and its impact on economic growth:

Investing in and improving the components of logistics is crucial. This includes enhancing the quality of infrastructure (e.g., roads, ports, airports), boosting the competence of logistics professionals, improving tracking systems for goods, and ensuring the timeliness of deliveries. Furthermore, efforts to reduce border and trade barriers for cargo movement are essential. These improvements will necessitate institutional reforms to enhance integration, industry regulation, market access, and security.

Econometric analysis, applied to Cambodia, would likely confirm a strong interrelation between logistics performance (LPI) and key economic indicators like GDP. Just as in other regions, countries with lower GDP in Cambodia may tend to have lower logistical efficiency. To reduce such imbalances, continuous and significant improvements in LPI components are vital for Cambodia. This includes focusing on the quality of trade and transport infrastructure, the efficiency of customs clearance processes, the ease of supply organization at competitive prices, and the competence and quality of logistics services.

Ultimately, an effective and well-implemented logistics system is a determining factor for sustainable economic growth in Cambodia. However, it's also important to acknowledge that while income level explains a significant portion of logistics efficiency, policy and governance are equally crucial factors in shaping a robust and competitive logistics landscape.

References

1. Hayaloğlu P. The impact of developments in the logistics sector on economic growth: the case of OECD countries. *Int J Econ Financ Issues*. 2015;5(2):523–30. Available from: https://www.researchgate.net/publication/282936706_The_Impact_of_Developments_in_the_Logistics_Sector_on_Economic_Growth_The_Case_of_OECD_Countries
2. Bensassi S, Marques-Ramos L, Martínez-Zarzoso I, Suárez-Burguet S. Relationship between logistics infrastructure and trade: Evidence from Spanish regional exports. *Transp Res A Policy Pract*. 2015;72:47–61. Available from: <https://doi.org/10.1016/j.tra.2014.11.007>
3. Akopova SE, Przhedetskaya VN, Taranov VP, Roshchina NL. Marketing mechanisms for the development of transport infrastructure of Russia and the EU. *Eur Res Stud J*. 2017;20(1):188–97. Available from: <https://ideas.repec.org/a/ers/journal/vxxy2017i1p188-197.html>
4. Bondarenko AV, Parkhomenko VT, Erokhina BT, Guzenko VN. Marketing and logistics instrumentarium of activation of inter-country cooperation of Russia and solving the issue of import substitution. *Eur Res Stud J*. 2017;20(1):105–16. Available from: https://www.ersj.eu/repec/ers/papers/17_1_p10.pdf
5. Arvis JF, Saslavsky D, Ojala L, Shepherd B, Busch C, Raj A, Naula T. Connecting to Compete 2016: Trade Logistics in the Global Economy: The Logistics Performance Index and Its Indicators. Washington: The World Bank; 2016. 76. Available from: <https://www.worldbank.org/en/news/>

feature/2016/06/28/connecting-to-compete-2016-trade-logistics-in-the-global-economy

6. Marti L, Puertas R, Garcia L. The importance of the Logistics Performance Index in international trade. *Appl Econ*. 2014;46(24):2982–92. Available from: <https://doi.org/10.1080/00036846.2014.916394>
7. World Bank. World Development Indicators database. 2017. Available from: <http://databank.worldbank.org/data/reports.aspx?source=2&country=KAZ>
8. Abdi H. Factor rotations in factor analyses. 2017. Available from: <https://www.utdallas.edu/~herve/Abdi-rotations-pretty.pdf>
9. Çelebi Ü, Civelek ME, Cemberci M. The mediator effect of foreign direct investments on the relation between logistics performance and economic growth. *J Glob Strateg Manag*. 2015;9(1):17–21. Available from: <https://doi.org/10.20460/JGSM.2015915624>
10. Mooi E, Sarstedt M. Principal component and factor analysis. In: Mooi E, Sarstedt M, editors. *A concise guide to market research*. Singapore: Springer; 2018. Available from: https://link.springer.com/chapter/10.1007/978-981-10-5218-7_8
11. World Bank Group. Doing Business 2015: Going Beyond Efficiency. Comparing business regulations for domestic firms in 189 economies. Washington: World Bank Publications; 2014. Available from: <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/777141468156865874/doing-buisness-2015-going-beyond-efficiency>
12. World Bank. Logistics Performance Index. International LPI. 2017. Available from: <http://lpi.worldbank.org/international>
13. United Nations Conference on Trade and Development (UNCTAD). Saving one hundred billion dollars annually by the year 2000. United Nations International Symposium on Trade Efficiency; 1994; Columbus (OH): United Nations.
14. University of Virginia Library. Using and interpreting Cronbach's alpha. 2017. Available from: <http://data.library.virginia.edu/using-and-interpreting-cronbachs-alpha/>

Discover a bigger Impact and Visibility of your article publication with Peertechz Publications

Highlights

- ❖ Signatory publisher of ORCID
- ❖ Signatory Publisher of DORA (San Francisco Declaration on Research Assessment)
- ❖ Articles archived in worlds' renowned service providers such as Portico, CNKI, AGRIS, TDNet, Base (Bielefeld University Library), CrossRef, Scilit, J-Gate etc.
- ❖ Journals indexed in ICMJE, SHERPA/ROMEO, Google Scholar etc.
- ❖ OAI-PMH (Open Archives Initiative Protocol for Metadata Harvesting)
- ❖ Dedicated Editorial Board for every journal
- ❖ Accurate and rapid peer-review process
- ❖ Increased citations of published articles through promotions
- ❖ Reduced timeline for article publication

Submit your articles and experience a new surge in publication services
<https://www.peertechzpublications.org/submission>

Peertechz journals wishes everlasting success in your every endeavours.