Exploring the Laotian Perspective on the "Belt and Road" Initiative: An Empirical Investigation

Yan Wang[1,a], Bo Qin[2,b]*

[a]1561301013@qq.com, [b]bobby.qin@qq.com

Party School of Liaoning Provincial Party Committee, Shen-Yang, China[1]
School of Foreign Languages, University of Electronic Science and Technology of China, Cheng-Du, China[2]

Abstract. This paper discusses the cooperation between Laos and China, starting with an overview of the challenges faced by Laos as a developing country and China's economic transformation as a global player. The importance of the Belt and Road Initiative in the collaboration between the two countries is emphasized, along with the impact of the COVID-19 pandemic on their cooperation. Furthermore, the unequal benefits experienced by ordinary Laotians in the cooperation are highlighted, along with the reasons behind it, suggesting solutions through education and cultural exchanges. Additionally, the future potential of economic and trade cooperation between China and Laos is explored, emphasizing the importance of cultural diversity, sustainable development, and mutual respect in fostering lasting partnerships.

Keywords: Laos, China, cooperation, challenges, Belt and Road Initiative.

1 Introduction

1.1 The belt and road initiative

The Belt and Road Initiative (BRI), proposed by Chinese President Xi Jinping in 2013, aims to enhance international regional economic cooperation. It comprises the Silk Road Economic Belt and the 21st Century Maritime Silk Road, offering a new approach to stimulate economic globalization amidst China's slowing growth and challenges in regional trade. Unlike previous strategies, the BRI emphasizes the orderly flow of global economic factors, efficient resource allocation, and deep market integration. It seeks to elevate regional economic cooperation to broader, higher, and more profound levels, fostering openness, inclusiveness, and mutual benefit among participating countries. Inspired by the ancient Silk Road ethos, the BRI embodies principles such as peace, cooperation, and mutual learning, aiming to create a harmonious global community. By July 2022, China had signed over 200 agreements with 149 countries and 32 international organizations for BRI construction, spanning various sectors like investment, trade, and technology. Trade with BRI countries surpassed US$12 trillion,

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[1] WANG Yan (2001--), a Master student from Marxist Theory at the Party School of Liaoning Provincial Party Committee, 1561301013@qq.com

[2] **[Corresponding Author]** QIN Bo (1983--),Postdoc of Sociology, PhD, Master of Public Health, is currently a Professor at the School of Foreign Languages and the Director of the Institute of Southeast Asian Studies in University of Electronic Science and Technology of China. Email: bobby.qin@qq.com

with China's direct investment exceeding US$140 billion, indicating its commitment to economic growth in these regions. The World Bank projects the BRI to lift millions out of poverty by 2030, underlining its potential for global poverty alleviation. As the world's second-largest economy, China plays a crucial role in shaping the global economic landscape and promoting inclusive development through initiatives like the BRI.

1.2 Laos on the belt and road

In November 2018, the China-ASEAN Strategic Partnership Vision 2030 was unveiled, followed by the full implementation of the upgraded China-ASEAN Free Trade Agreement (FTA) in August 2019. By end-2019, all ten ASEAN countries had signed bilateral cooperation documents for the Belt and Road Initiative. Over the past decade, China and ASEAN have deepened economic and trade ties, with China becoming ASEAN's top trading partner in 2015, reciprocated by ASEAN becoming China's leading trading partner by 2020 .

Laos, as the sole landlocked nation in the Central and South China Peninsula, faces economic challenges as one of the world's least developed countries. Despite underdeveloped heavy industry, transportation, and telecommunications, Laos' economic growth relies heavily on foreign investment. Economic and trade cooperation between China and Laos, interrupted due to historical circumstances, resumed in 1988, progressively deepening in recent years . With Laos increasingly involved in China's Belt and Road Initiative, bilateral trade reached US$4.35 billion in 2021, tripling since 2011 and 2.5 times since the Initiative's inception in 2013. Policy communication, infrastructure connectivity, unimpeded trade, financial integration, and people-to-people bonds have been established, fostering a shared future for both nations[1].

1.3 Literature review

Previously, some scholars always talked about environmental pollution when talking about the contribution of the Belt and Road. Some studies have pointed out that economic development in cities can increase the carbon footprint of countries along the Belt and Road[2]. While the Belt and Road Initiative has boosted the economies of the countries along the route, it has also caused environmental pollution[3]. Even financial growth can significantly exacerbate environmental degradation[4]. However, some scholars have analyzed the data to find a non-linear relationship between foreign direct investment and carbon dioxide emissions of countries along the Belt and Road[5]. In addition, the Belt and Road Initiative has not simultaneously driven the export of Chinese smartphones to related countries. China needs to further expand the scope of cooperation and consolidate its partners[6]. Regarding the cooperation between Laos and China under the Belt and Road framework, some studies have pointed out that the successful opening of the China-Laos Railway has a reference value for international cooperation[7]. Some scholars also believe that China and Laos should deepen educational exchanges[8]. In order to safeguard the interests of private capital from China in Laos, enterprises need to have autonomy as well as the help of policies and laws[9]. At the same time, China needs to be careful about the ethnic minority issues in Laos[10].

2 Method -- the genesis and context of the questionnaire design

As we enter 2023, the Belt and Road Initiative (BRI) commemorates its tenth anniversary, signifying a decade of significant contributions to the economic advancement, industrial restructuring, and infrastructure development of countries along its route. This includes nations like China and Laos, which have witnessed substantial changes in their economic landscapes. The BRI has not only spurred economic growth but also reshaped perspectives on international cooperation and development. However, challenges have arisen during its implementation, particularly in navigating obstacles faced by Chinese corporations investing abroad. Effective communication and fair distribution of benefits with local communities are crucial for project success and sustainability, moving beyond corporate social responsibility. For instance, the Letpadaung copper mining project in Myanmar was halted due to public protests, highlighting the importance of understanding and respecting local cultural, religious, and social dynamics. To address these issues, the author plans to conduct a questionnaire to gauge Laotian public opinion on China's BRI. This initiative aims to gather insights to guide future Chinese investments in Laos, ensuring alignment with local interests and fostering sustainable development.

3 Empirical analysis -- interpretation and evaluation of survey findings

The survey instrument is meticulously structured into three distinct sections for a comprehensive and systematic analysis: demographic data, Likert-scale items (i.e., statements that require respondents to indicate their level of agreement or disagreement), and open-ended prompts (i.e., items that solicit respondents to proffer insightful suggestions). A robust sample of 319 completed surveys was amassed for this empirical study. The ensuing data have been rigorously compiled, categorized according to their respective content, and are presented in the subsequent sections.
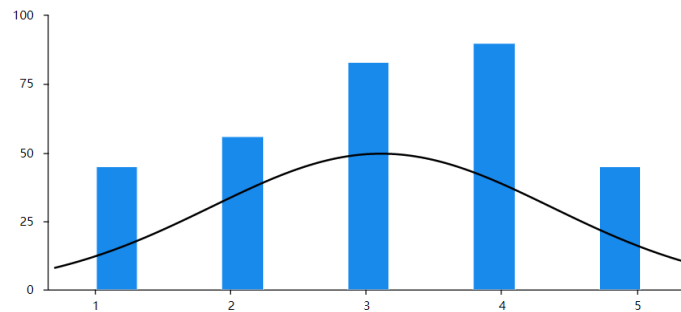
3.1 Exploring personal data through statistical analysis

Appendix 1 provides a detailed demographic breakdown of survey respondents, revealing a slight gender imbalance with male participants underrepresented by 29, comprising 9.09% of the total sample size. This disparity could impact survey interpretation, given gender's influence on perspectives. The majority of respondents were under 25 years old, likely reflecting the survey's digital nature. Married individuals constituted a significant portion, possibly indicating greater resonance with married respondents or reflecting population demographics. 'Old Dragons' were the most prevalent ethnic group, suggesting cultural relevance or interest in the survey topic. Bachelor's degree holders were the modal educational category, indicating broad interest across educational backgrounds, particularly among tertiary-educated individuals. The survey captured data across low to middle-income brackets, with more respondents falling within these ranges, possibly reflecting economic conditions or topic relevance.
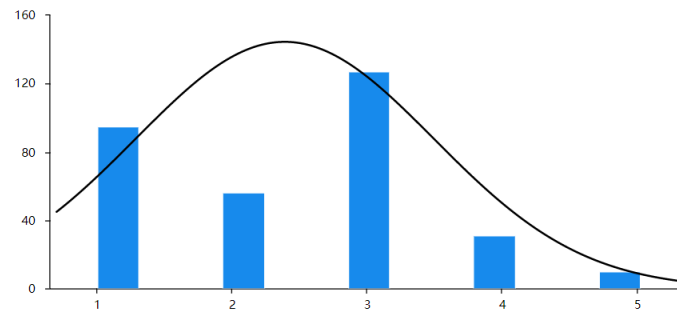
The survey revealed that only 31.66% of respondents had comprehensive knowledge about China, highlighting a significant information deficit. Many Laotian respondents lacked

understanding of China's socio-political structure and the Belt and Road Initiative, despite its global implications. However, only 12.85% expressed opposition to the Initiative, suggesting broad support despite the knowledge gap. Enhanced communication strategies are needed to bridge this gap and foster informed understanding.

Appendix 2 data shows men in Laos possess a greater share of social wealth and exhibit stronger support for the Belt and Road Initiative than women, though not statistically significant. Respondents aged 25 and above demonstrated higher knowledge about China and more support for the Initiative, possibly due to greater exposure to international affairs. Educational attainment did not significantly influence knowledge or support levels, challenging assumptions. Higher income levels correlated positively with increased knowledge and support, likely due to greater access to information and resources.

Figure 1 Histogram for Question 7.

Figure 2 Histogram for Question 10.

As shown in Figures 1 and 2, responses from the Lao population to questions 7 and 10 follow a normal distribution pattern, commonly known as a bell curve. This pattern indicates a clustering of responses around the mean value, with fewer observations as one moves away from the center on either side. The symmetrical distribution suggests balanced data collection, with no notable skewness or outliers impacting the overall results.

Table 1 Data analysis of personal data for question 7.

	T-test or variance test	Correlation coefficient	Linear regression p-value	Value of regression coefficient
Gender	0.229	0.072	0.229	0.170
Age	0.032*	-0.093	0.096	-0.177
Education	0.000**	0.056	0.319	0.053
Monthly income	0.255	-0.115*	0.041*	-0.085

According to Table 1, it's apparent that gender doesn't notably affect the level of knowledge among the Lao population regarding China, indicating no substantial correlation between these variables. Both male and female respondents demonstrate similar awareness about China, thus ruling out gender bias. However, age and education seem to significantly differ concerning respondents' knowledge about China, albeit independently of each other. This suggests that while these factors impact knowledge levels, they don't necessarily correspond. For instance, older individuals may not necessarily possess more knowledge about China than younger ones, and vice versa. Interestingly, monthly income doesn't exhibit a significant difference but does show a positive correlation with knowledge about China. This suggests an inverse relationship, with lower income groups potentially having less knowledge about China, as indicated by the decreasing trend in responses.

Table 2 Data analysis of personal data for question 10.

	T-test or variance test	Correlation coefficient	Linear regression p-value	Value of regression coefficient
Gender	0.118	0.092	0.118	0.194
Age	0.000*	-0.156**	0.005**	-0.260
Education	0.000**	-0.032	0.566	-0.027
Monthly income	0.101	-0.077	0.172	-0.050

Upon reviewing Table 2, it's clear that there's no noticeable difference or correlation between gender and monthly income concerning support for the Belt and Road Initiative in Laos. However, age appears to be significant, positively correlating with support for the initiative, albeit with a decreasing trend as age increases. Education and age differ significantly, with no observed correlation between them. This underscores the importance of considering multiple data sources, as seen in Tables 4 and 5, compared to Table 2, to ensure a comprehensive understanding. The analysis highlights a lack of knowledge about China among Laotians, with age, education, and monthly income influencing their perceptions. Monthly income correlates with understanding China, while age influences support for the Belt and Road Initiative. Laotian perception of China differs from China's self-perception, possibly due to Western influences, suggesting a need for China to promote its culture and enhance awareness about the BRI in Laos. This cultural promotion should align with economic and trade cooperation efforts to foster a nuanced understanding of China.

3.2 Examining perceptual question characteristics using statistical analysis
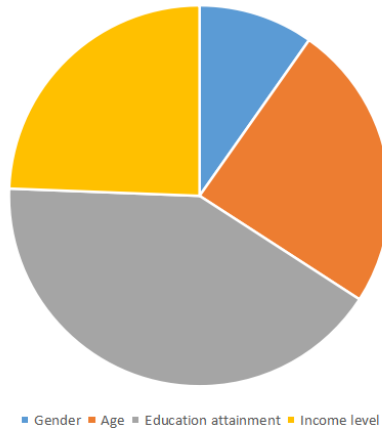
The data in Appendix 3 suggests that sentiment towards Sino-Laotian cooperation in Laos is nuanced. While only a fraction openly opposes it, it's not accurate to say that the rest overwhelmingly endorse the Belt and Road Initiative or the broader China-Laos partnership.

A significant portion remains ambiguous, with "neutral" selected at an average frequency of 42.3%, indicating considerable ambivalence. Factors such as lack of information or apathy towards international politics may contribute to this neutrality. Additionally, less than half of the Laotian populace express outright satisfaction with the current state of Sino-Laotian cooperation, suggesting a substantial degree of reservation or skepticism.Analysis of survey responses reveals a moderate level of acceptance towards the Belt and Road Initiative in Laos, with the mean response falling within the range of three to four. A one-sample t-test indicates that while certain aspects of the Initiative are well-received, benefits of specific cooperation projects have yet to be felt at the individual level. This presents an opportunity for Chinese companies to enhance local welfare and increase support, contributing to the long-term sustainability and success of the Initiative in Laos. The author conducted a meticulous examination to determine if responses to the thirty questions adhered to a normal distribution, constructing histograms for each question. The resulting normal distribution curves in Appendix 4 indicate that responses align remarkably well with the normal distribution, suggesting a balanced and representative sample.

The subsequent sections present analyses using the thirty questionnaire items (dependent variable, y) and personal data queries (independent variable, x). Appendix 5 indicates that gender does not significantly impact Laotians' responses to the thirty questions, suggesting a broad consensus on the Belt and Road Initiative. However, notable divergence is observed in responses to the first two questions between men and women. Appendix 6 reveals a substantial disparity in responses to perceptual inquiries based on age, suggesting its pivotal role in shaping perceptions. Correlation analysis shows a positive correlation between age and perceptions, though not particularly strong, indicating other factors may also be significant. Appendix 7 shows significant variances in perceptions based on educational attainment, with higher education correlating with more positive impressions. However, the relationship isn't exceptionally robust, suggesting other factors influence Laotians' satisfaction. Appendix 8 highlights the impact of income levels on certain perception-based questions. While higher income correlates with more favorable perceptions overall, its influence isn't absolute. Other factors like education and personal experiences also play roles in shaping perceptions of the Belt and Road Initiative in Laos.

3.3 Suggestive question statistics

Appendix 9 reveals Laos' general inclination towards cooperation with China across various domains like import and export trade, tourism, infrastructure development, and higher education. In export trade, Laos expresses confidence in agricultural produce, apparel, electronic goods, natural mineral resources, and electrical equipment. Conversely, for imports, there's a preference for Chinese energy solutions, vehicles, medical products, and machinery. The average selection frequencies for exports and imports suggest diverse opinions within the Laotian population. In infrastructure cooperation, Laos favors collaboration with China in railways, roads, airports, power stations, and communication networks, highlighting perceived benefits in enhancing infrastructural capabilities.

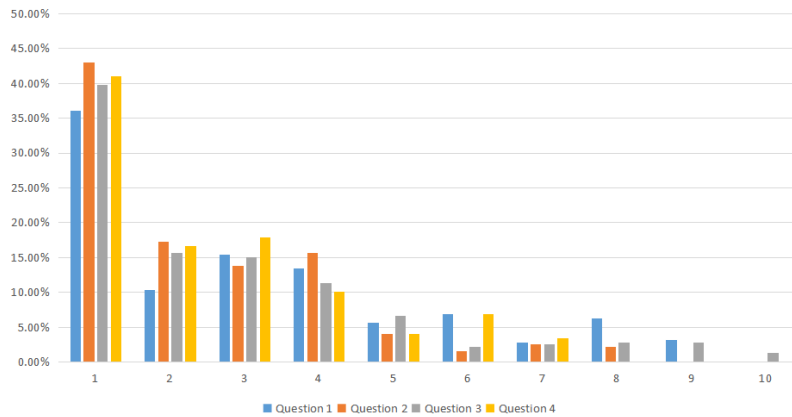■ Gender ■ Age ■ Education attainment ■ Income level

Figure 3 The sum of the frequency of showing difference.

Figure 4 reveals variations in responses to proposed questions across demographic groups: gender, age, education, and income levels. Gender shows minimal disparities, suggesting shared perspectives on the Belt and Road Initiative and Sino-Laotian cooperation. Age and income display more pronounced differences, albeit in a minority of questions, implying they don't overwhelmingly influence responses. Educational attainment impacts responses for half the questions, emphasizing its significant role in shaping views on international cooperation. To analyze how individual backgrounds influence responses, a summary of each participant's choices for four questions was compiled, enhancing clarity and comprehensiveness of research findings and facilitating identification of potential trends.

Table 3 Statistics on the number of suggestive question choice.

Question number/Number of choices	1	2	3	4	5	6	7	8	9	10
Question 1	36.05%	10.34%	15.36%	13.48%	5.64%	6.9%	2.82%	6.27%	3.13%	
Question 2	42.95%	17.24%	13.79%	15.67%	4.08%	1.57%	2.51%	2.19%		
Question 3	39.81%	15.67%	15.05%	11.29%	6.58%	2.19%	2.52%	2.82%	2.82%	1.25%
Question 4	41.07%	16.61%	17.87%	10.03%	4.08%	6.9%	3.45%			

Figure 5 Statistics on the number of suggestive question choice.

The assessment of normality in participant response distribution is vital in statistical analysis. Table 3 and figure 4 presents the number of suggestive question choice they chose and this statistic is consistent with the normality test. Most Lao participants made only one choice per question, with choices for the four questions showing significant adherence to a normal distribution. This suggests representative responses suitable for further statistical analysis. Subsequent tests such as t-tests, variance tests, correlation analysis, and linear distribution analysis can provide deeper insights into the research findings, exploring relationships, patterns, and trends within the data. Rigorous statistical analyses contribute to research credibility and reliability, ensuring well-supported and scientifically sound conclusions.

Table 4 T-test for gender on suggestive questions.

	T-test
In which area would you like Laos to deepen its cooperation with China	0.265
How would you like Laos to deepen its cooperation with China in export trade	0.833
How would you like Laos to deepen its cooperation with China in import trade	0.924
What other cooperation do you think is needed between Laos and China in terms of infrastructure development	0.661

According to the findings presented in Table 4, it can be concluded that gender does not exert a significant influence on the number of choices made by the Lao population in response to the four questions. In other words, there is no discernible difference between genders in terms of the frequency of selecting more or fewer answers to a specific question.

Table 5 Data analysis of age and suggestive questions.

	Variance test	Correlation coefficient	Linear regression p-value	Value of regression coefficient
In which area would you like Laos to deepen its cooperation with China	0.001**	0.170**	0.002**	0.611

How would you like Laos to deepen its cooperation with China in export trade	0.576	0.051	0.360	0.135
How would you like Laos to deepen its cooperation with China in import trade	0.116	0.085	0.130	0.289
What other cooperation do you think is needed between Laos and China in terms of infrastructure development	0.266	0.062	0.270	0.163

Table 5 data reveals age significantly influences Lao preferences on cooperation with China. As individuals age, their inclination for broader collaboration grows, indicating age's role in shaping the extent of cooperation desired.

Table 6 Data analysis of educational attainment and suggestive questions.

	Variance test	Correlation coefficient	Linear regression p-value	Value of regression coefficient
In which area would you like Laos to deepen its cooperation with China	0.000**	0.221**	0.000**	0.394
How would you like Laos to deepen its cooperation with China in export trade	0.020*	0.105	0.060	0.137
How would you like Laos to deepen its cooperation with China in import trade	0.035*	0.154**	0.006**	0.261
What other cooperation do you think is needed between Laos and China in terms of infrastructure development	0.020*	0.096	0.086	0.126

Table 6 findings reveal significant differences in responses based on respondents' education. Higher education correlates positively with preferences for broadened cooperation and increased imports from China. This underscores education's pivotal role in shaping Lao preferences on bilateral cooperation.

Table 7 Data analysis of income levels and income levels.

	Variance test	Correlation coefficient	Linear regression p-value	Value of regression coefficient
In which area would you like Laos to deepen its cooperation with China	0.050*	0.129*	0.021*	0.180
How would you like Laos to deepen its cooperation with China in export trade	0.351	0.055	0.327	0.056
How would you like Laos to deepen its cooperation with China in import trade	0.068	0.098	0.081	0.130
What other cooperation do you think is needed between Laos and China in terms of infrastructure development	0.088	0.104	0.063	0.107

Table 7 analysis indicates income disparity primarily impacting responses to the first question. Higher income correlates positively with a desire to expand China-Laos cooperation, suggesting economic factors significantly shape bilateral aspirations.

3.4 Summary

Findings reveal limited understanding of China among Laotians, with mixed sentiment towards Belt and Road Initiative (BRI) and China-Lao cooperation. Support for BRI ranges from 'average' to 'fairly supportive,' with approval of cooperation ranging from 'average' to 'somewhat agree,' yielding an average BRI score of at least 60. Gender differences show minimal impact, while age, education, and income influence outcomes moderately. Yet, their regression coefficients suggest only a modest increase in favorable perceptions with advancing age, education, or income. Nonetheless, older, better-educated, and wealthier individuals exhibit greater interest in China-Lao cooperation, emphasizing the need for cultural promotion by Chinese companies. Lastly, despite majority 'no' responses, themes like educational exchanges and infrastructure development highlight aspirations for national development, hinting at potential bridges between China and Laos for mutual progress.

4 Results: Prospects for enhanced economic and trade cooperation between China and Laos in the next five years

Laos, a developing nation, relies on foreign investment for its economy. Recognizing limitations in the Western investment approach, Laos seeks new diplomatic strategies. Meanwhile, China undergoes economic transformation, emphasizing new growth drivers. The Belt and Road Initiative serves as a platform for China-Laos cooperation, particularly amidst the COVID-19 pandemic. Laos looks to China for economic assistance, with both nations establishing tailored foreign trade policies. By fostering their friendship, Laos and China aim to achieve sustainable economic development, benefiting both nations. The benefits of China-Laos cooperation are unevenly distributed among the ordinary Lao population due to various factors. Firstly, economic cooperation involves Chinese workers in Myanmar due to perceived skill shortages and infrastructure issues in Laos, leading to concerns about job displacement among Lao citizens. Secondly, cultural differences pose challenges for Chinese companies operating in Laos, sometimes leading to tensions with the local population. Thirdly, there is a lack of understanding among the Lao people regarding the Belt and Road Initiative and China-Laos cooperation, although individuals with higher incomes and better education levels tend to be more supportive. Efforts should be made to address these concerns through improved communication and educational initiatives, fostering a more inclusive partnership for sustainable development and prosperity.

Looking ahead to 2023, China-Laos economic and trade cooperation is expected to grow significantly, driven by policy improvements, transportation infrastructure advancements, and currency facilitation mechanisms. Chinese companies operating in Laos stand to benefit from this partnership but should also prioritize their role in supporting local development through investments in education and skill development programs. Chinese companies have an opportunity to showcase Chinese culture and enhance China's soft power by promoting cultural exchanges and supporting artistic endeavors in Laos. However, these efforts must respect local customs and beliefs. While current economic cooperation focuses on traditional sectors, future collaboration may include high-tech industries and research, driving economic growth and technological advancement. To facilitate cooperation, the Chinese government should engage with local authorities to streamline processes and enhance mutual

understanding. Overall, China-Laos cooperation has vast potential to foster sustainable development and prosperity through collaboration and mutual respect.

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