

From Partnership to Bankruptcy: Understanding Sri Lanka's Belt and Road Experience

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Abstract: Sri Lanka was among the first countries to sign China's Belt and Road Initiative (BRI) in 2014. This study examines the key factors contributing to national bankruptcy in Sri Lanka within the BRI context. Using a benchmark regression model based on time series data from 2000 to 2022, the analysis identifies significant influences on bankruptcy. The findings indicate that agricultural output and technology levels negatively impact bankruptcy, while the agricultural population and education levels have a positive effect. Additionally, trade levels, openness, and participation in the Belt and Road Initiative do not significantly influence insolvency. The study concludes with recommendations for guiding Sri Lanka and similar vulnerable economies toward sustainable recovery, emphasizing the need to strengthen economic fundamentals, foster innovation, and enhance resilience against future shocks.

Keywords: China's Belt and Road Initiative, Sri Lanka, Bankruptcy, Risk analysis, Sustainable development.

1. Introduction

Sri Lanka keeps forging stronger bonds with China. Notably, Sri Lanka was the first country to endorse China's Belt Road Initiative (BRI)[1]. China has proven to be a crucial partner for Sri Lanka, especially following the end of the civil war. The Chinese government provided military assistance to Sri Lanka to help the government restore order and maintain the stability of the country.

Before signing the Belt and Road with China, Sri Lanka's GDP in 2013 was approximately 3.64 billion USD, and this illustrates the slow growth in the next few years [2]. In September 2014, Sri Lankan President Mahinda Rajapaksa attended the Central Asia-South Asia Economic Corridor Forum in Nanjing, where he expressed support for China's Belt and Road Initiative. In 2015, Sri Lanka formally signed a series of BRI agreements, covering infrastructure development, investment, and trade. Prime Minister Ranil Wickremasinghe made his official visit to China in April 2016 and also reaffirmed the importance of China's role in strengthening bilateral economic relations. Subsequently, China focused its attention on Colombo regarding the proposed BRI and the Maritime Silk Road (MSR) project (Singh, 2018: 3-8) [1].

Sri Lanka also aims to establish diversified financing mechanisms and encourage cooperation among financial institutions to support the financing of Belt and Road projects, while fostering greater mutual understanding and friendship among the peoples of participating countries [3]. Trade fosters innovation by facilitating technology transfer, which in turn increases competition and economies of

scale (OECD, 2007) [4]. After Sri Lanka joined the BRI, its GDP growth accelerated, reaching a peak of 4,388.2 million USD in 2017 [2].

The study based on the data from the world bank, analyzes the factors that lead Sri Lanka to bankruptcy, from the perspective of counties' management and external factors to determine the lessons and the path to future recovery. A possible contribution would be to give advice to countries that have a similar situation to Sri Lanka and to suggest and improve the future Belt and Road policy.

2. Theoretical analysis

2.1. The experience of the participation process of Sri Lanka

2.1.1. Sri Lanka's financial situation and developmental needs

Sri Lanka, located in the middle of the Indian Ocean, is the center of maritime lines of communication in the Indo-Pacific region and has an important strategic position. The textile, tea, and gem industries have become major industries in Sri Lanka. However, although the ore resources are rich, they are limited by the level of domestic industry. Sri Lanka cannot independently mine the ore resources, so from ancient times to modern times, the exploitation of gem resources has been very small [5]. The main goals of Belt and Road are strengthening the interconnection of transportation, energy, communications, and other infrastructure, strengthening policy communication and cooperation among participating countries, promoting the signing of free trade agreements and investment agreements, and improving the level of trade facilitation. In conclusion, Sri Lanka wants to engage in the Belt and Road initiative in order to foster cooperation with China and other countries, also solving its own needs of development and achieving sustainable economic development [6].

2.1.2. Example of cooperation projects, Hambantota Port

The Belt and Road Initiative has brought many developments expectation for Sri Lanka. Among them, the Hambantota Port project is a typical case of China- Sri Lanka cooperation. Located in the south of Sri Lanka, Hambantota Port has a superior geographical location and the potential to become an important shipping hub. This project was financed by China under the initiative of the Belt and Road, which is the main donor in providing Sri Lanka financial assistance [7]. Hambantota Port has a superior geographical location and the potential to become an important shipping hub. The construction and operation of the port are jointly participated by China and Sri Lanka, and it is expected to bring multiple benefits to Sri Lanka.

The function of the port is not only entry and exit for the delivery of food, labor, and capital, but also serves as a nodal center for the reception and transmission of culture. It is more than just passive economic tunnels [8]. In 2015, first stage was used for oil, RORO, container and transshipment for automobiles between Korea and Indonesia. In the next year, automobile transportation grew 2.6% compared with 2015. It can be seen that transshipment grew 39.3%, since Hambantota Port marked as the important port [9].

2.1.3. Policies, actions of the two governments, and public reactions

Prior to the BRI's 2013 debut, China started investing in Sri Lanka's infrastructure, and this trend has persisted in recent years. Therefore, ensuring net benefits across the project portfolio of Chinese infrastructure investments is Sri Lanka's most important development challenge [10]. The Chinese government promotes the implementation of cooperation projects by providing funds, technologies, and professional talents. The Sri Lankan government provides guarantees in terms of land use and preferential policies to ensure that the projects can be implemented.

At the public level, the reactions of Sri Lankan people of the Belt and Road Initiative are generally positive. Many local residents have obtained stable incomes by participating in the construction of the projects, and their living standards have been improved [11]. At the same time, the improvement of infrastructure has also brought convenience to people's daily lives. However, some people also have doubts about the projects, worrying about possible environmental impacts and debt problems.

In conclusion, the two governments strive to eliminate public doubts through strengthening communication and information disclosure to ensure that the cooperation projects can be promoted in a good social environment.

3. Methodology

3.1. Methods

We develop a benchmark regression model (see Equation 1) to examine the primary causes of bankruptcy in Sri Lanka within the context of the Belt and Road:

$$Y = \alpha + \beta_1 A_{1t} + \beta_2 A_{2t} + \beta_3 A_{3t} + \beta_4 A_{4t} + \beta_5 A_{5t} + \beta_6 A_{6t} + \beta_7 A_{7t} + \mu_t \quad (1)$$

Y represents Sri Lanka's insolvency status, A1 to A7 indicate the factors affecting this status, and μ signifies the random error term.

3.2. Variables

3.2.1. Dependent Variable (Y)

We measure insolvency in Sri Lanka by comparing total central government debt to the current year's GDP.

3.2.2. Independent Variable

(1) Value of agricultural production (A1): We assess A1 by taking the logarithm of agricultural value added.

(2) Agricultural population (A2): We measure A2 using the logarithm of agricultural employment as a percentage of total employment.

(3) Trade conditions (A3): We measure A3 using the ratio of trade to gross national product GDP.

(4) Educational level (A4): We measure A4 using total public spending on education as a percentage of GDP

(5) Technological level (A5): We measure A5 using high-tech exports as a percentage of manufactured exports

(6) Level of internationalization (A6): We measure A6 using the IMF repo and fee TDS.

(7) Whether to join the Belt and Road (A7): Assigns a value of 1 when added and 0 if not.

Table1 shows the descriptive statistics.

Table 1: descriptive statistics

Variable	Obs	Mean	Std. dev.	Min	Max
Y	64	0.005236	0.003782	0.00021	0.010271
A1	64	24.14657	2.386538	21.49083	27.5802
A2	64	33.34783	11.02304	10.39018	53.39018
A3	64	77.29284	12.76771	60.32981	103.495
A4	64	5.380037	3.130827	1.555	14.56743
A5	64	-14.6223	18.61899	-46.1223	16.87768
A6	64	17.43343	0.288508	17.11135	17.86891
A7	64	0.15625	0.365963	0	1

3.3. Data sources

Our data is sourced from the World Bank database. We applied linear interpolation to address missing values and logged A1 and A6 to maintain consistent dimensions. The sample years range from 2000 to 2022.

4. Results

4.1. Correlation analysis

To prevent multicollinearity in the model, we conducted correlation tests on the variables, as presented in Table 2. Generally, the correlation illustrates the interaction between different economic factors. There is a strong correlation among variables such as agricultural value added, trade share, high-tech exports, the International Monetary Fund, and the Belt and Road Initiative, while public spending on education has a weak correlation with some economic variables. However, it can basically be assumed that the model does not suffer from severe multicollinearity.

Table 2: Correlation test

	A1	A2	A3	A4	A5	A6	A7
A1	1						
A2	0.2477	1					
A3	0.6654	0.3629	1				
A4	0.0317	-0.0374	-0.167	1			
A5	0.6815	0.7042	0.6718	-0.0436	1		
A6	0.3954	0.6233	0.3939	0.5282	0.6436	1	
A7	0.9175	0.07	0.7372	0.1386	0.629	0.3282	1

4.2. Baseline results

We develop model (1) to analyze the factors affecting bankruptcy in Sri Lanka and utilize stepwise regression to enhance the robustness of the results, which are shown in Table 3. Agricultural output significantly and negatively impacts Sri Lanka's insolvency at the 5% level, while the agricultural population and education level both significantly and positively affect insolvency at the 1% level. Additionally, technology level negatively influences insolvency at the 10% level. Trade levels, openness, and participation in the Belt and Road Initiative do not significantly affect insolvency in Sri Lanka.

Table 3: Baseline regression results

	(1) A2	(2) A2	(3) A2	(4) A2	(5) A2	(6) A2	(7) A2
A1	- 0.0012*** (-8.16)	- 0.0017*** (-7.65)	-0.0005** (-2.24)	- 0.0012*** (-5.88)	- 0.0011*** (-4.60)	- 0.0011*** (-4.87)	- 0.0011*** (-4.87)
A7	-0.0014 (-1.46)	0.0003 (0.31)	0.0005 (0.63)	0.0006 (0.82)	0.0010 (1.23)	0.0013 (1.56)	0.0013 (1.56)
A2		0.0001*** (2.89)	0.0000 (0.87)	0.0001*** (3.51)	0.0001*** (3.39)	0.0001*** (3.04)	0.0001*** (3.04)
A3			- 0.0002***	-0.0001**	-0.0001	-0.0001	-0.0001

Table 3: (continued).

			(-5.12)	(-2.66)	(-1.51)	(-1.44)	(-1.44)
A4				0.0004***	0.0004***	0.0003***	0.0003***
				(6.07)	(6.10)	(2.98)	(2.98)
A5					-0.0001	-0.0001*	-0.0001*
					(-1.27)	(-1.77)	(-1.77)
A6						0.0025**	0.0025**
						(2.09)	(2.09)
_cons	0.0337***	0.0417***	0.0317***	0.0369***	0.0292***	-0.0132	-0.0132
	(9.95)	(9.87)	(10.56)	(13.45)	(4.39)	(-0.62)	(-0.62)
R2	0.680	0.719	0.804	0.892	0.895	0.903	0.903

t statistics in parentheses

* p < 0.1, ** p < 0.05, *** p < 0.01

5. Discussion

5.1. The country's internal governance is inadequate

Debt policy, as is evident that Sri Lanka has been facing a debt crisis over the long-term. Its annual debt stock more than the annual GDP. Several factors have contributed to the unsustainable government debt in Sri Lanka over the years. One of the primary causes has been the heavy dependence on various forms of borrowing to cover the budget deficit. A significant portion of this debt was used to fund public infrastructure projects, many of which were financed through foreign commercial loans. However, the economic returns from these projects were largely in the form of non-tradable goods and services, making it challenging for the government to generate sufficient income to meet its debt obligations [12].

On November 27, 2019, Gotabaya announced significant tax cuts in the VALUE Added Tax, construction industry income tax, Telecommunication Levy, and other areas during his first cabinet meeting. Additionally, he eliminated a number of taxes, including the Debt Services Tax, the Debit Tax, the Capital Gains Tax, the Pay As You Earn Tax (PAYE), the Nation Building Tax (NBT), and the Withholding Tax on Interest [13]. This policy resulted in a sharp decline in government fiscal revenue and implemented without fully considering alternative revenue sources, making it difficult for the government to maintain expenditures on public services and infrastructure construction, thereby affecting the stable operation of the national economy.

5.2. External economic and epidemic

Changes in the global economic situation have a huge impact on Sri Lanka. For example, the rise in global commodity prices has led to a significant increase in Sri Lanka's import costs as a country dependent on energy and food imports. The rise in energy prices has increased the production costs of enterprises and the living costs of residents, while the rise in food prices has threatened domestic food security, further triggering inflation [14].

The 2019 Easter Sunday attack and the start of the worldwide pandemic had a significant impact on Sri Lanka's export, remittance, and tourism industries, which generate foreign exchange. As of 2019, Sri Lanka's tourism sector accounts for 12.6% of the nation's overall GDP. An important part of managing the economy is the hotel and tourism sector [15]. The pandemic has led to travel restrictions in various countries, resulting in a sharp decline in the number of tourists. Many tourism - related enterprises have closed down, and a large number of employees have lost their jobs, directly reducing the country's foreign exchange reserves.

6. Conclusion

Under the background of the Belt and Road Initiative, the main reasons for Sri Lanka's bankruptcy include that in terms of policies, there are imperfections in the Belt and Road policies, and Sri Lanka itself also faces many challenges in policy implementation; in terms of internal governance, the Sri Lankan government has made serious mistakes in economic management; in terms of external factors, it is impacted by changes in the global economic environment and the COVID - 19 pandemic. Its future path should be to strengthen cooperation within the framework of the Belt and Road Initiative, improve project implementation, strengthen internal governance, and actively respond to external changes. Also, fully combine with local actualities in planning and establish a flexible adjustment mechanism; improve investment return prediction and risk - sharing mechanisms; strengthen technical and talent support and fund management.

For countries similar to Sri Lanka, in terms of economic structure, industrial diversification should be achieved and agricultural development should be optimized; in terms of policy - making and governance capabilities, scientific decision - making should be carried out and the level of financial management should be improved; in terms of external cooperation and risk response, international cooperation should be diversified, risk early - warning and response mechanisms should be established, and cooperation with international organizations and neighboring countries should be strengthened to cope with crises.

The key to resolving the issue is to tackle the fundamental governance challenges present in the country. Additionally, it is crucial to improve the professional skills of the workforce to effectively handle substantial foreign investment inflows, ensuring that the benefits of these investments are evenly distributed throughout the nation [13].

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