

Research On the Influencing Factors Of “The Belt and Road” Project Evaluation - An Empirical Analysis Based on A Fixed Effects Regression Model

Jialun Zhang *

Department of Japanese Language, Nankai University, Tianjin, China

* Corresponding Author Email: 13392820695@163.com

Abstract. This article employs a fixed effects regression model, utilizing "the Belt and Road" projects from 2020 to 2025, to analyze different evaluation results for China and the United States and identify the main factors influencing project evaluations in both countries. According to the statistical results, country fixed effects are the key variables. Factors such as geopolitical relations, industry selection, investor differences, project scale, and time jointly influence the evaluation of "the Belt and Road" projects. Among them, geopolitical relations are the main explanatory variables affecting the evaluation of "the Belt and Road" projects. Industry selection affects project evaluation to some extent, but it is not the main determining factor. Differences among investors are not significant, and the influence of institutional brands is relatively limited. Project scale and time have a positive impact on project evaluation to some extent. The conclusion can serve as an important reference for precise policy implementation in "the Belt and Road" initiatives, possessing both theoretical value and practical significance.

Keywords: Fixed effects model; "the Belt and Road"; project evaluation; geopolitics.

1. Introduction

1.1. Research background

The "the Belt and Road" initiative is an important opening-up strategy of China. Since its inception, it has received extensive attention from all countries in the world. At the same time, its implementation effect has also attracted the attention of the international community. Different countries have different views on China's "the Belt and Road" project. The reasons for such differences are complex, which requires specific and in-depth analysis and research, which can also play a good foundation for further improving the "the Belt and Road" construction, so that the "the Belt and Road" can better benefit the people of all countries.

1.2. Research objective

Identify and quantify the reasons why China and the United States have different evaluations of the "the Belt and Road" project and the relative importance of various fixed effects, in order to find the basis for improving the policy path of the "the Belt and Road", so as to provide a basis for making decisions on the accuracy of the "the Belt and Road" policy, and then make necessary adjustments to the accuracy of some policies. Improve and improve the allocation of resources to make the policy have a better effect, thus increasing other countries' support for China's "the Belt and Road". At the same time, it can also improve the international recognition of the "the Belt and Road" to a certain extent.

1.3. Research significance

Theoretical significance: This study extends the connotation research of policy evaluation to international political economy and incorporates factors such as geopolitics and industries. Through empirical analysis, the mechanism of various evaluation dimensions is derived, which not only supplements the mechanism of policy evaluation, but also provides different interpretation perspectives and empirical explanations.

Practical significance: further optimize the implementation effect of the "the Belt and Road" policy, and do a good job in resource allocation on key projects. To a certain extent, the invested projects can achieve higher success rate and better sustainable development capacity, which is conducive to increasing the opportunities for China to carry out cooperation projects with other countries and achieving high-quality development of the "the Belt and Road".

2. Theoretical basis and literature review

2.1. Theoretical basis

2.1.1 Geopolitical theory

Geopolitical theory is a theory that studies how geographical elements affect the foreign policies and international relations of international political actors (mainly countries). The problem it aims to solve is how the geographical environment affects a country's strategic choices, foreign policies, and the structural evolution of the international system. Geopolitical theory holds that the geographical environment can determine the fundamental nature of national behavior and international relations, and plays an extremely important role in international politics.

2.1.2 Strategic Investment theory

Strategic investment theory is an investment philosophy that emphasizes that investment decisions should be based on long-term strategic goals, not just short-term financial returns. Strategic investment theory has been widely applied in large-scale investment projects at the enterprise and national levels, achieving mutual benefit and sustainable development through long-term goal orientation, resource integration, and other means.

2.1.3 Environmental Uncertainty theory

Environmental uncertainty refers to the unpredictability and complexity of the external environment. The lack of information, uncertainty in decision-making, and unpredictability of environmental changes have a significant impact on organizational decision-making and performance. Due to incomplete information and unpredictable environmental changes, decision-makers find it difficult to accurately assess the consequences of various choices. In high uncertainty environments, investors and businesses tend to adopt conservative strategies to reduce risk exposure.

2.1.4 Fixed effects model

Fixed effects model refers to a statistical method for analyzing panel or longitudinal data, which is widely used in disciplines such as econometrics, sociology, and biostatistics. The fixed effects model is mainly designed to offset the impact of individual heterogeneity that does not change over time, in order to better study the relationships between variables. The fixed effect model has been proved that it can be applied in the field of policy evaluation, and can be used to control some unobservable heterogeneity, so as to identify the net effect of policies. It also has certain reference value in the relevant evaluation of the "the Belt and Road" project.

2.2. Literature Review

The research on the "the Belt and Road" initiative in the relevant literature mostly involves policy background, economic perspective, international perspective, risk prevention, legal protection, geopolitics and other contents. Most of the research focuses on the economic benefits and legal system construction of the "the Belt and Road" project, as well as project construction risks and avoidance measures, and less systematic analysis is made on the differences between the "the Belt and Road" projects under different standards. This paper will explore the factors that affect the evaluation of the "the Belt and Road" project from the perspective of geopolitical factors, industry selection factors, investor factors, project scale and commencement time, using empirical analysis methods.

3. Data and Methods

3.1. Data source

The data period of this study is from 2020 to 2025, with a sample size of 1848 project observations covering 9 countries, 15 industries, and various project types. The data is sourced from China's Ministry of Commerce's foreign investment statistics, official project information released by governments of various countries, relevant reports from international organizations, and academic research databases. The data collection and processing process strictly follows academic standards to ensure the accuracy and reliability of the data.

3.2. Variable definition

3.2.1 Reason for selection

According to Geopolitical theory, geographical elements can influence a country's behavior. Countries bordering China, such as Laos, Myanmar and Vietnam, are more likely to gain direct economic benefits from the "the Belt and Road" Initiative because of their geographical proximity. Although Indonesia, the Philippines, Malaysia and other coastal countries also attach importance to economic cooperation with China, they are more cautious and wait-and-see in their attitude towards the "the Belt and Road" initiative due to their relatively long distance. To sum up, take the support of different countries for China and the United States as a research variable, and assume that countries close to China will more actively participate in the "the Belt and Road" initiative, and will have a higher evaluation of the project.

Strategic investment theory emphasizes that investment decisions should be based on long-term strategic goals, not just short-term financial returns. The energy, transportation, and metal industries have long-term stable demand and strategic value. Investing in these industries can bring long-term economic returns to investors and promote economic cooperation and common development among countries along the route, achieving mutual benefit and win-win results. The chemical and textile industries may have higher short-term returns, but they cannot bring long-term economic returns. Therefore, the "the Belt and Road" initiative is more likely to invest in energy, transportation, metals and other industries, and the cooperation countries along the line that pay more attention to these industries may have a higher evaluation of relevant projects. To sum up, take the industry invested by the "the Belt and Road" as the second variable, and assume that the cooperative countries along the line that pay more attention to energy, transportation, metal and other industries may have a higher evaluation of the "the Belt and Road" initiative projects.

The theory of environmental uncertainty emphasizes the impact of the complexity and dynamism of the external environment on organizational and investor decision-making. In the "the Belt and Road" initiative, there are many environmental uncertainties in the cooperative countries along the line. The "the Belt and Road" initiative involves many countries and regions. In some regions, there are high uncertainties in politics, economy, social culture, law and regulation, technology and innovation, and natural environment, which may increase investors' risk perception and decision-making difficulty. Therefore, the more complex the environment is, the fewer investors will be, and the lower the total investment will be, which will reduce the country's evaluation of the "the Belt and Road" initiative project. To sum up, the investors and total investment in the "the Belt and Road" are taken as the third variable, and it is assumed that the investor effect is weak in countries with complex environments.

3.2.2 Explained variables

CN (China evaluation, 0-1 continuous variable); US (United States evaluation, 0-1 continuous variable); CN-US (China US evaluation difference). The evaluation of China and the United States is based on the Southeast Asian Situation Survey Report from 2020 to 2025, which evaluates the willingness of Southeast Asian countries in the issue of choosing sides between China and the United States.

Q32 If ASEAN were forced to align itself with one of the strategic rivals, which should it choose?

Country	China		The United States	
	2024	2025	2024	2025
ASEAN-10	50.5%	47.7%	49.5%	52.3%
BN	70.1%	55.0%	29.9%	45.0%
KH	45.0%	43.0%	55.0%	57.0%
ID	73.2%	72.2%	26.8%	27.8%
LA	70.6%	51.0%	29.4%	49.0%
MY	75.1%	70.8%	24.9%	29.2%
MM	42.3%	42.3%	57.7%	57.7%
PH	16.7%	13.6%	83.3%	86.4%
SG	38.5%	47.1%	61.5%	52.9%
TH	52.2%	55.6%	47.8%	44.4%
VN	21.0%	26.5%	79.0%	73.5%
TL	N.A.	40.9%	N.A.	59.1%

Fig. 1 Derived from "The State of Southeast Asia 2025 Survey Report"

3.2.3 Core explanatory variables

Country fixed effects (9 country dummy variables); industry fixed effects (15 industry dummy variables); project type fixed effects (investment vs construction project); investor fixed effects (11 major investment institutions); time fixed effects (6-year dummy variables).

3.2.4 Control variables

Years since start (number of years since project initiation); log amount (logarithm of investment amount).

3.3. Model settings

Adopting a unified fixed effects model: $Y_{it} = \alpha + \beta_1 X_{1_it} + \beta_2 X_{2_it} + \dots + \beta_k X_{k_it} + \gamma_i + \delta_t + \varepsilon_{it}$. Among them, Y_{it} represents the evaluation of the i -th project in year t , X_{kit} is the explanatory variable for each category, γ_i is the individual fixed effect, δ_t is the time fixed effect, and ε_{it} is the random error term.

4. Empirical results

4.1. Descriptive statistics

Table 1. Five variable values

Variables	Observations	Mean	Standard deviation	Minimum value	Maximum value
CN	1848	0.456	0.498	0	1
US	1848	0.544	0.498	0	1
CN-US	1848	-	0.996	-1	1
Years since start	1848	0.088	1.87	0	6
Log amount	1848	3.24	2.13	0	8.52

4.2. Main regression results

Table 2. Overall significance of the model

Model	F-statistic	p-value	R ²	Adjusted R ²	Number of observations
China Evaluation Model	15.67	<0.001	0.6847	0.6521	1848
American Evaluation Model	15.67	<0.001	0.6847	0.6521	1848
CN-US Difference Model	15.67	<0.001	0.6847	0.6521	1848

Table 3. National fixed effects (sorted by net effects)

Ranking	Country	China Evaluation Coefficient	US Evaluation Coefficient	Net effect	t-statistics	p-value
1	Laos	0.1641	-0.1641	0.3282	7.009	<0.001
2	Malaysia	0.0863	-0.0863	0.1726	4.359	<0.001
3	Indonesia	0.0524	-0.0524	0.1048	3.138	0.002
4	Cambodia	0.0014	-0.0014	0.0028	0.070	0.944
5	Thailand	-0.0176	0.0176	-0.0352	-0.931	0.352
6	Myanmar	-0.1033	0.1033	-0.2066	-3.467	<0.001
7	Singapore	-0.1336	0.1336	-0.2672	-7.506	<0.001
8	Vietnam	-0.2892	0.2892	-0.5784	-14.394	<0.001
9	Philippines	-0.3350	0.3350	-0.6700	-12.551	<0.001

Table 4. Industry fixed effects

Ranking	Industry	Net effect	t-statistics	p-value
1	Energy	0.0451	2.134	0.033
2	Traffic	0.0234	1.876	0.061
3	Metal	0.0184	1.542	0.123
4	Manufacturing	0.0123	1.234	0.217
5	Agriculture	0.0089	0.987	0.324
6	Chemical Industry	0.0067	0.876	0.381
7	Building	0.0045	0.654	0.513
8	Mining	0.0023	0.432	0.666
9	Textile	-0.0012	-0.234	0.815
10	Real Estate	-0.0034	-0.567	0.571

Table 5. Continuous variable regression results

Variable	Coefficient	Standard error	t-statistics	p-value	95% confidence interval
Years of project use	0.000513	0.000234	2.192	0.028	[0.000054,0.000972]
Investment amount (log)	0.001598	0.000456	3.504	<0.001	[0.000704,0.002492]

4.3. Significance test statistics

4.3.1 Variable significance distribution

Table 6. Variable significance distribution

Significance level	China Evaluation Model	American Evaluation Model	CN-US Difference Model
Highly significant($p < 0.001$)	12 variables	12 variables	12 variables
Significant ($0.001 \leq p < 0.01$)	3 variables	3 variables	3 variables
Marginal significance ($0.01 \leq p < 0.05$)	2 variables	2 variables	2 variables
Not significant ($p \geq 0.05$)	22 variables	22 variables	22 variables

4.3.2 Model diagnosis

Residual normality test: Shapiro Wilk statistic=0.9876, $p=0.234$ (passed)

Multicollinearity test: VIF values are all less than 5 (no severe collinearity)

Heteroskedasticity test: Breusch Pagan test $p=0.156$ (homoscedasticity)

5. Discussion on Results

5.1. Core findings

5.1.1 Geopolitical factors are the main explanatory factors

The fixed effects of the country can explain about 65.83% of the variance, far exceeding the sum of all other influencing factors. It can be inferred that there is a strong correlation between geopolitical factors and project evaluation. According to the data analysis results, hypothesis one's "distance theory" does not hold. Geopolitics includes not only geographical location, but also communication and conflicts of interest between countries. Laos (+0.328), Malaysia (+0.173) and Indonesia (+0.105) have a high evaluation of Chinese projects. Because China has friendly political, economic and cultural exchanges with these three countries, the "the Belt and Road" initiative has been actively participated by them; On the contrary, the Philippines (-0.670), Vietnam (-0.578) and Singapore (-0.267) have a low evaluation of Chinese projects, which may be due to geopolitical competition, historical problems or internal political reasons, and they are suspicious or resistant to China's "the Belt and Road" initiative.

The geopolitical relations along the "the Belt and Road" are complex, and it is a key area of the strategic game among major countries. The strategic judgments and policy propositions of countries along the "the Belt and Road" will directly affect the process of the "the Belt and Road". For example, the United States, together with its allies, has vigorously pursued strategic exclusion of the "the Belt and Road", and directly pointed to the construction of the "Belt and Road" through strategies such as "India Pacific". In addition, due to signing cooperation agreements with countries along the route that involve each other's sovereignty issues, there are also significant diplomatic risks.

At the same time, some countries along the route face issues of regime change or policy instability. For example, the government of Myanmar's U Thein Sein changed its attitude towards China in order to gain voter support and unilaterally shelved the cooperation project between China and Myanmar for the Myitsone hydropower station in 2011. This policy change increases project uncertainty and will have a negative impact on project evaluation.

In addition, in the face of the original intention of the "the Belt and Road" aimed at win-win cooperation among countries, under the strategic game of major powers, it has encountered many doubts. In particular, some countries and international organizations believe that the "the Belt and Road" is a geopolitical means to serve China, which has affected the understanding and evaluation of other countries and regions of the world on the "the Belt and Road".

The geopolitical factors of the "the Belt and Road" project will affect many aspects, such as increasing the uncertainty of the project, affecting the economic and social benefits of the project, and changing the implementation process and results of the project. Although geopolitical factors are not the key factors determining project evaluation, they will have varying degrees of impact on the entire process of the project.

5.1.2 Industry differences are relatively mild

Even considering the characteristics of each industry itself, they are not decisive factors. The biggest difference is the net effect of the energy industry (0.045), which indicates that the industry is not the most critical factor. In the investment industry, the energy industry, transportation industry, and metal industry do account for a relatively large proportion, which confirms hypothesis two. Because they are mainly developed around infrastructure construction and serve the economic development of their own countries, they have large investment scales, long construction cycles, slow investment returns, and high risks. These risks mainly come from whether the political situation in the host country is stable, whether there are changes in legal policies, and whether the local natural environment is suitable. However, the construction of these projects often greatly promotes local economic development, facilitating regional connectivity and laying the foundation for future business activities in other industries, thereby exerting enormous economic and social benefits.

5.1.3 Weak investor effect

The net effect of all investors is very weak (± 0.03), indicating that "who will invest" is not important, "where to invest" is more important, and no effect of institutional branding has been found. This proves the validity of hypothesis three. At the same time, it also shows that the evaluation of the "the Belt and Road" project should pay more attention to the location of the project, and the political and economic situation of the country where the project is located is more important than the situation of the investors themselves.

Some countries along the route have problems such as political instability, incomplete legal systems, and significant social and cultural differences, which increase project implementation risks and management costs. The complex external investment environment is not conducive to generating economies of scale, leading to certain risks for investors in participating in these projects, which affects the investor effect.

However, the political and economic environment of the "the Belt and Road" project investment location is more important than the conditions of its investors, because the implementation of the "the Belt and Road" project is very dependent on the political stability, economic environment, legal system, social culture, geopolitics, etc. of the host country. If the host country does not possess the above elements, it will cause certain difficulties in the implementation of the project, such as slower implementation progress, low economic and social benefits of the project, and negative impacts on the project. Therefore, it is necessary to pay attention to the political and economic environment of the country where the investment is located, analyze the risk points based on a full understanding, and do a good job in risk management, establish long-term friendly cooperation with the local government and people, avoid problems in project construction and production operation, and ensure the smooth progress and sustainable development of the project.

5.1.4 Weak investor effect

The effect of project duration and investment amount (logarithm) on project evaluation is minimal, with only a slight positive correlation. The longer the project initiation time and the larger the investment amount, the greater the project's weight and maturity, and the higher the evaluation obtained. However, this is also a secondary factor among the influencing factors.

Although large-scale projects have long-term benefits in infrastructure and regional connectivity for countries and regions, they cannot directly bring economic gains in the early stages of project construction due to long construction and operation cycles and high risks. However, investment in some small-scale projects can achieve instantaneous, fast-paced, and high benefit goals to a certain extent, such as improving people's livelihoods and driving employment.

The start time of a project does not represent the entire development process of the project. During the project implementation process, there will be many difficulties, such as insufficient funds, technical issues, policy changes, and other issues that may be delayed or changed. Therefore, it is not possible to simply calculate the changes in the project process based on the start time of the project, but rather to comprehensively consider the complete process of each stage of the project cycle.

5.2. Policy implications

5.2.1 Prioritization reordering

Based on the net effect of the unified model, it is recommended to prioritize the resource allocation of the "the Belt and Road" project as follows:

- Country selection (effect: ± 0.67) - absolute priority
- Industry selection (effect: ± 0.05) - important but secondary
- Investor Choice (Effect: ± 0.03) - Relatively unimportant
- Project scale/time (effect: ± 0.002) - marginal impact

5.2.2 Resource allocation strategy

Investment risk and benefit assessment: comprehensively evaluate the risks and benefits of investment in countries along the "the Belt and Road", and establish a hierarchical classification system. Priority investment will be given to countries with strong complementarity of production capacity, strong desire for cooperation, friendly and close bilateral relations, and stable political and economic environment with China; For countries with weaker market economies, lower levels of trade liberalization, and certain political risks, investment can be made at their discretion; For countries and regions with low levels of economic development, social instability, and political turmoil, caution should be exercised.

Key country assistance planning: implement differentiated assistance policies according to the development level, resource endowment and industrial characteristics of the "the Belt and Road" co construction countries. On the premise of in-depth research and understanding of the development needs of the co construction countries and detailed understanding of existing projects and proposed projects, implement national policies, one country, one policy, develop assistance plans for key countries, and regularly update the project library of key assistance countries.

5.2.3 Risk management and control

Possible risk countries (Philippines, Vietnam): Cooperation with these countries requires special strategies and cautious investment. These countries have a low evaluation of Chinese projects, which may pose political, economic and social risks. They can strengthen communication and coordination with local governments, flexibly adjust cooperation methods, encourage people to people and cultural exchanges between the two places, reduce misunderstanding, and create a good atmosphere for the "the Belt and Road" cooperation.

Neutral countries (Thailand, Cambodia): Some preferential support can be given appropriately. The above two countries have a relatively neutral attitude towards Chinese projects. Based on the actual situation of the projects, further optimization of project design and strengthening of publicity and promotion can be carried out to enhance the support of these countries for Chinese projects.

6. Policy recommendations

6.1. Implement different strategies according to different countries

6.1.1 Strengthen cooperation with it

Laos: First, we need to continue expanding the scale and generate demonstration effects; Secondly, the focus is on infrastructure and energy projects; We also need to strengthen cultural exchanges and stabilize friendly relations.

Malaysia: We need to strengthen our strategic alignment with ASEAN and promote the implementation of major projects; Secondly, leverage the role of bridges in Southeast Asia; Finally, we will continuously increase our cooperation in the digital economy.

Indonesia: Firstly, we need to consolidate the foundation of cooperation and expand the areas of cooperation. Secondly, it is necessary to attach importance to environmental protection and sustainable development. We also need to strengthen integration with the local society.

6.1.2 Deepen the connection with it

Thailand: Thailand maintains a neutral attitude, so there is room for improving project evaluation. If the relationship with the royal family and the government can be better coordinated, there will be more opportunities to further improve the rating of the "the Belt and Road" project.

Cambodia: Cambodia has a relatively balanced attitude towards China and the United States, so resources and projects can be moderately tilted. We need to do a good job in livelihood projects, poverty reduction cooperation, and make good use of historical friendly relations.

6.1.3 Handle the relationship with caution

Vietnam: There is a certain degree of anti-China sentiment among the Vietnamese people, which stems from the historical conflicts and current disputes between the two countries. First, we should maintain the stable and friendly development of China Vietnam relations for a long time, and establish and improve the legal system of the "the Belt and Road" as soon as possible. Secondly, it is necessary to strengthen market research, gain a deep understanding of Vietnam's market demand, policies and regulations, cultural customs, etc., and develop investment strategies that are in line with local conditions. In addition, it is necessary to enhance the corporate image, actively participate in local social welfare activities, and reduce misunderstandings and resistance among local people.

Philippines: In recent years, the Philippines has repeatedly taken the position of co building the "the Belt and Road" initiative and suspended some non-economic cooperation projects. We should strengthen high-level communication, enhance political mutual trust between the two sides through high-level diplomatic channels, and promote the docking of the "the Belt and Road" initiative with the development strategy of the Philippines. Secondly, we should highlight the mutual benefit and win-win of economic cooperation, emphasize the economic benefits brought to the Philippines by the "the Belt and Road" initiative, and ease the strategic doubts of the Philippines with the actual results of economic cooperation.

Singapore: Although Singapore is relatively cautious about the "the Belt and Road" initiative, as a financial and trade center in Southeast Asia, it still provides important investment opportunities for Chinese enterprises. Chinese enterprises can realize high-quality "the Belt and Road" investment in Singapore by taking measures such as making use of Singapore's financial advantages, adopting third-party market cooperation, carrying out investment in key areas, strengthening communication and consultation, focusing on risk prevention, and actively docking with local emerging industries, so that both parties can truly benefit.

6.2. Industry optimization

6.2.1 Key industries

Energy (Clean energy and renewable energy): Focusing on developing clean and renewable energy not only helps improve air quality and protect the ecology, but also promotes innovative technologies and enhances energy sustainability. In addition, it also promotes international cooperation and advances global sustainable development.

Transportation (intelligent transportation and green transportation): The key development of intelligent and green transportation can help protect the environment, reduce noise, improve transportation efficiency, and enhance the travel experience. Meanwhile, it also enhances energy independence and promotes sustainable development.

Metal (High end manufacturing and technological cooperation): The key development of high-end manufacturing and technological cooperation has multiple important benefits, not only improving production efficiency and promoting economic growth, but also cultivating technical talents and improving energy utilization efficiency. In addition, it also aligns with the national strategic direction and promotes international cooperation.

6.2.2 Emerging fields

Digital economy (5G, artificial intelligence, e-commerce): These emerging fields have enormous development potential, which can enhance the technological content and added value of projects, strengthen their competitiveness and sustainability.

Green development (environmental protection technology, circular economy): With the global emphasis on environmental protection, green projects are easier to gain international recognition and support, which is in line with the sustainable development goals of the "the Belt and Road" initiative.

Livelihood projects (education, healthcare, poverty reduction): These projects are directly related to the well-being of local people, and can enhance the social recognition and public support of the projects, thereby strengthening their social influence.

6.3. Mechanism innovation

6.3.1 Localized operation

Thoroughly analyzing the target market, adjusting products and services, cultivating local management teams, establishing localized supply chains, and participating in social responsibility are beneficial for enterprises to integrate into the local market, enhance brand recognition, improve operational efficiency, and reduce cultural conflicts; Good localization operation can give enterprises a foothold while promoting local economic and social development, benefiting the people and achieving a win-win effect.

6.3.2 Communication strategy

By telling a good story about China, optimizing the international image, vigorously carrying out various promotional activities, and through various channels, publicizing the achievements and significance of the "the Belt and Road" project.

Strengthen media cooperation and public diplomacy, make good use of social media, digital communication and other modern communication methods, improve the transparency and public participation of the project, and improve the recognition and support rate of the international community for the "the Belt and Road" initiative.

7. Research limitations and prospects

7.1. Research limitations

Data limitation: This paper only counts the data from 2020 to 2025, which is relatively short, and cannot fully reflect the long-term trend and dynamic changes of the evaluation of the "the Belt and Road" project.

Variable omission: Although we have considered multiple influencing factors, there may still be significant unobserved factors, such as cultural differences and historical legacy issues, which can also affect project evaluation.

Causal inference: The fixed effects model can find the connection between the two, but cannot determine the causal relationship. Future research can enhance the effectiveness of causal inference by incorporating instrumental variables and other methods.

Sample bias: Due to biased data selection or insufficient representativeness of the sample, research results may not be universally accepted.

7.2. Future research directions

Extended time series: add data with a longer time span, and make a comprehensive analysis and judgment on the time trend and dynamic development changes of the "the Belt and Road" project evaluation.

Introducing instrumental variables: By introducing instrumental variables and other methods, the reliability of causal inference can be strengthened, and the impact of various factors on project evaluation can be more accurately identified.

Micro mechanism research: In depth analysis of the impact mechanism, exploring from a micro perspective how different geographical conditions and industry choices specifically affect the evaluation value of projects, and based on this, improving policy design basis.

Cross border comparative research: compare with other international cooperation initiatives, analyze the unique advantages and disadvantages of the "the Belt and Road" initiative, and provide reference for optimizing policies.

8. Conclusion

This article uses a unified fixed effects model to identify the main influencing factors on project evaluation in China and the United States based on different evaluation results, and draws the following conclusions:

Firstly, the fixed effects of the country are the most important factor, explaining 65.83% of the variance, which is much higher than other factors. Geopolitical relationships affect project evaluation, with countries such as Laos, Malaysia, and Indonesia receiving higher evaluations, while countries such as Vietnam, the Philippines, and Singapore receiving relatively lower evaluations.

Secondly, industry selection plays a certain role but has weak correlation. The energy, transportation, and metal industries have a slight advantage, but the maximum industry net effect is only +0.045.

In addition, the differences among different investors are not significant, and the brand effect of institutions is not significant, with all net effects fluctuating around ± 0.03 .

Finally, there is a weak positive correlation between project size, project initiation years, project duration, and project evaluation, but these are not key influencing factors.

These findings provide a quantitative scientific basis for the precise implementation of the "the Belt and Road" policy, and clarify the priority and strategic focus of resource allocation. It is suggested to give priority to expanding investment in friendly countries, focus on developing advantageous industries, and strengthen communication and coordination with challenging countries to promote high-quality development of the "the Belt and Road".

References

- [1] Cui Lixin Using the theory of economies of scale to analyze the competitiveness of the defense procurement market [C]//Chinese Academy of Engineering Proceedings of the 123rd China Engineering Science and Technology Forum -2011 National Defense Science and Technology Industry Science Development Forum School of Management and Economics, Beijing Institute of Technology; ,2011:200-205.
- [2] Dai Guanchun Problems and Countermeasures in Overseas Investment Projects along the "the Belt and Road" [J]. China Law Review, 2016, (02): 50-54.
- [3] Dong Huimei, Cao Yiting, Bai Yujie China's evaluation of the quality of direct investment in the "the Belt and Road" countries - based on the perspective of long-term economic benefits [J]. Eurasian Economy, 2025, (01): 23-44+131.
- [4] Feng Yu Construction of an international investment dispute settlement mechanism under the "Belt and Road" Initiative [J]. China's Price Regulation and Antitrust, 2024, (12): 96-98.
- [5] Guo Jinyu, Li Xiangfeng, Yu Kun, etc Research on Land Risk Assessment and Preventive Measures for Investing in Overseas Renewable Energy Projects: A Case Study of Six Typical Countries in Southeast Asia: Vietnam, Laos, Myanmar, Cambodia, Indonesia, and Malaysia, (Z7):91-95.
- [6] Huang Hong The rule of law construction of regional national studies in the perspective of the "the Belt and Road" [J]. Hebei Legal Vocational Education, 2025, 3 (01): 91-96.
- [7] Huo Xuehui Contemporary Chinese Geopolitics Research: Environment, Concepts, and Policies [D]. Jilin University, 2024. DOI: 10.27162/d.cnki.gjlin.2024.007681.
- [8] Li Ningjuan, Yang Zhuo'er from Digital Transformation to Green Innovation: A Study on the Causal Mediating Effect of Environmental Uncertainty [J/OL]. Science and Technology Management, 1-26 [September 2, 2025] <https://doi.org/10.20201/j.cnki.sstm.20250826.001>.
- [9] Li Xuejing, Liang Lu Research on the legal system of cross-border employment of enterprises in the context of the "the Belt and Road" [J]. Journal of Heihe University, 2025, 16 (01): 1-4+57.
- [10] Liu Zhibiao, Zhang Jie Economic Analysis of the "the Belt and Road" Initiative [J]. Economic Research, 2018 (9): 4-20.
- [11] Niu Fangqu, made of Xuan Bing Research on geo environmental assessment along the "the Belt and Road" [J]. Journal of Geography, 2025, 80 (02): 475-489.

- [12] Ren Shanshan Risks and management path of joint venture and cooperation projects of the "the Belt and Road" [J]. Investment and Cooperation, 2025, (01): 31-33.
- [13] Xi Jinping, jointly building the "the Belt and Road" initiative: progress, contributions and prospects [M]. Beijing: Foreign Language Press, 2019.
- [14] Xia Jianming, Chen Yuanzhi the Evolution and Development of Strategic Investment Theory [J]. Journal of Pudong Cadre College, China, 2008, (02): 28-36.
- [15] Yang Hong on the Construction of Energy Transit Transport Dispute Settlement Mechanism under the "the Belt and Road" Initiative [J]. Law Review, 2024,42 (06): 23-34. DOI: 10.13415/j.cnki.fxpl.2024.06.003.
- [16] Zhang Chunyu Research on the legalization of international economic and trade rules of the digital "the Belt and Road" [J]. Journal of Hunan University of Science and Technology (Social Sciences Edition), 2025, 28 (01): 174-183. DOI: 10.13582/j.cnki.1672-7835.2025.01.022.
- [17] Zhang Xiaotong, Xu Zihao Geopolitical risks and responses to major overseas projects along the "the Belt and Road" - concept and theoretical construction [J]. International Outlook, 2020,12 (03): 80-96+156. DOI: 10.13851/j.cnki.gjzw.2003005.
- [18] Zhao Kejin, Zhang Jiahao on the Global Security Philosophy of the "the Belt and Road" by China and the United Nations in Common Security [J]. Russian Studies, 2024, (06): 3-29.
- [19] Zhu Zherei A Study on the Applicability of the Singapore Mediation Convention in the "the Belt and Road" Investment Dispute Mediation [J]. Investment and Cooperation, 2024, (10): 57-59.
- [20] Angrist,J.D.,&Pischke,J.S.Mostly Harmless Econometrics[M].Princeton University Press,2009.
- [21] Huang,Y.Understanding China's Belt&Road Initiative[J].China Economic Review,2016,40:314-321.
- [22] Wooldridge,J.M.Econometric Analysis of Cross Section and Panel Data[M].MIT Press,2010.
- [23] Yuen Foong Khong; Joseph Chinyong Liow Journal[J]. Foreign Affairs, Volume104, Issue4, 2025, PP 151-161.