

Research on International Investment Risk Grading Evaluation Under "The Belt and Road Initiative" Strategy: A Perspective of Chinese Enterprises

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ABSTRACT

As of the end of January 2020, nearly 200 countries or international organizations have signed cooperation documents with China to jointly build "the Belt and Road Initiative", covering Africa, Asia, Europe, Oceania, South America and North America. The economic, social, political and other investment risk factors of these countries are complex. On the basis of sorting out relevant research, this paper, from the perspective of Chinese enterprises, constructs five external environmental indicators including political risks, legal risks, social risks, economic risks, and the relationship between the two countries, as well as the evaluation system of two internal environmental indicators of the enterprise including enterprise project risks and enterprise management risks, and comprehensively uses qualitative and quantitative methods to construct a comprehensive and continuous risk assessment framework with three levels of risk analysis, risk assessment and risk decision, so as to provide reference for enterprises to scientifically and accurately evaluate the investment risk of countries and regions along the Belt and Road Initiative.

Keywords: the Belt and Road Initiative, international investment, risk grading evaluation

I. INTRODUCTION

In 2015, the "Vision and Action to Promote the Joint Construction of the Silk Road Economic Belt and the 21st Century Maritime Silk Road" was officially released, which means that China's "the Belt and Road Initiative" strategy has entered a stage of comprehensive development. As of the end of January 2020, China has signed 200 cooperation documents for the joint construction of "the Belt and Road Initiative" with 138 countries and 30 international organizations, most of which are developing countries and emerging economies. These countries have great differences in economic development, resource distribution, social culture, political environment, foreign policy, etc., and the risk factors to invest these countries are complicated. From the perspective of actual needs, from the perspective of Chinese enterprises, a reasonable assessment of the risks of enterprises making international investments in countries along "the Belt and Road Initiative" will help improve the level of corporate international investment risk prevention.

The relatively early Chinese research on the evaluation of international investment risk is the method of evaluating foreign investment risk published by Xu Jun in 1989. This article introduces the method

of evaluating investments abroad risks [1]. CNKI's (China National Knowledge Infrastructure) research literature on national investment risk evaluation in the context of the Belt and Road Initiative began in 2014. As of September 2020, searching on CNKI under the title of "investment Risk in the context of the Belt and Road Initiative", there are 34,600 academic journals and 2312 academic papers, and a total of 326 academic journals and 68 academic papers involving investment risks. The existing literature mainly conducts research from the identification of investment risk factors, the construction of investment risk evaluation index system, the quantitative analysis and empirical analysis of investment risks, etc. However, most of the researches analyze the overall risks of countries and regions along the Belt and Road Initiative from the perspective of the host country. In theory, it is imperative to study how to reasonably evaluate the risks of international investment in countries along "the Belt and Road Initiative" from the perspective of Chinese enterprises.

II. THE CONSTRUCTION OF A RISK EVALUATION INDEX SYSTEM FOR CHINESE ENTERPRISES' INTERNATIONAL INVESTMENT

In the retrieved literature, the main opinions of research articles on the international investment risk evaluation index system are as follows: Nie Na divided the main types of risks faced by investment in countries along the Belt and Road Initiative into external environmental risks such as political risks, economic risks, and cultural risks, and internal business risks such as decision-making risks, business risks, and financial risks[2]. Gao Bo built a risk identification system that includes macro-environmental risks such as political risks, economic risks, social and cultural risks, and natural disaster risks, and corporate-level risks including competition risks, investment risks, and management risks[3].

Wang Shumei and Chen Li built an investment risk index system for enterprises participating in "the Belt and Road Initiative" from the external environment, internal factors of the enterprise and the growth of the project itself[4]. Tang Xiaobin and others constructed an index system covering the investment risks of countries along "the Belt and Road Initiative" in four dimensions: political risks, economic risks, credit risks, and social risks[5]. Huang Jinglai and Chen Yuan conducted principal component analysis on five indicators of economic capacity, political risk, debt repayment level, relation with China, and social resilience in 34 countries along the route in 7 regions. And the principal component function was established, and the principal component comprehensive score was obtained[6]. Zhou Wei et al. comprehensively divided the risks of China's "the Belt and Road Initiative"

foreign direct investment into political risks, economic and financial risks, and social and cultural risks, and considered the role of the relationship between the home country and the host country in investment risks in various factors[7].

The CROIC-IWEP national risk grading indicator system issued by the Institute of World Economics and Politics of the Chinese Academy of Social Sciences in 2020 is divided into five first-level indicators of economic foundation, solvency, social resilience, political risk, and relation with China, as well as 42 secondary indicators.

Aiming at the specific background of the Belt and Road Initiative strategy, this paper refers to the CROIC-IWEP country risk rating method in the 2020 China Overseas Investment National Risk Rating Main Report issued by the National Risk Rating Research Group of the Institute of World Economics and Politics of the Chinese Academy of Social Sciences, establishes a risk evaluation index system for Chinese enterprises international investment, which is divided into five external environmental indicators including political risk, legal risk, social risk, economic risk, and the relationship between the two countries, as well as two internal environmental indicators of the enterprise including enterprise project risk and enterprise management risk. This risk evaluation index system, from the perspective of Chinese enterprises, comprehensively evaluates the main risks faced by Chinese enterprises in international investment from the external macro-environment and the internal environment of the enterprise, and the evaluation index system that can meet China's national conditions to a certain extent and is suitable for Chinese enterprises. "Table I" provides more details.

TABLE I. A RISK EVALUATION INDEX SYSTEM FOR CHINESE ENTERPRISES' INTERNATIONAL INVESTMENT

Primary indicators	Secondary indicators	Indicator descriptions	Data Sources
<i>Political risks</i>	Time of being in power	Remaining time of being in power/total tenure	ICRG
	Political stability	The ability of the government to govern, the stability of the political environment	ICRG
	Military intervention in politics	The extent of military involvement in a government	ICRG
	External conflicts	Foreign behaviors bring non-violent external pressure and violent external pressure to the incumbent government	ICRG
<i>Legal risks</i>	Investor access	Making strict regulations on the investment access rights, scope and performance of enterprises	WB
	Business regulation	Opposing bribery, difficulty in opening a business, restrictions on business licenses, etc.	WB
	Environmental protection	Emphasis on environmental issues, the strictness of the formulation and enforcement of environmental regulations	WB
	Labor protection	Regulations on intellectual property and labor	WB
<i>Social risk</i>	Religious and ethnic conflict	The degree to which social racial or religious differences trigger civil wars or violent conflicts	WB
	Science and education level	The level of research and development institutions, the level of education and training institutions, school enrollment rate and illiteracy rate, and the level of investment in education	UNESCO

	Medical level	Medical and health expenditure as a percentage of GDP, per capita regular medical and health expenditure, etc.	UNESCO
	Social security	Crime, theft, robbery and other social security situation	UNODC
Primary indicators	Secondary indicators	Indicator descriptions	Data Sources
<i>Economic risks</i>	Market size	GDP gross	WDI
	Developmental level	GDP per capita	WDI
	Economic growth	GDP growth rate	WDI
	Inflation	CPI	WDI
	Unemployment rate	Ratio of unemployed population to working population	WDI
	Exchange rate fluctuations	Direct exchange rate fluctuations (monthly coefficient of variation)	CEIC
	Trade openness	(Import + Export)/GDP	CEIC
	Investment openness	(Foreign direct investment + outward foreign direct investment)/GDP	CEIC
<i>Relations between the two countries</i>	Whether the Belt and Road Initiative cooperation documents are signed	1: Signing a cooperation document with China, otherwise 0 will be taken	Ministry of Commerce of the People's Republic of China
	Whether a bilateral investment protection agreement is signed	1: China signs a bilateral investment agreement, otherwise 0 will be taken.	Ministry of Commerce of the People's Republic of China
	Diplomatic relations between the two countries	0: 0 for no diplomatic relations, 1: Normally establishing diplomatic relations, 2: Friendly and cooperative relationship, 3: Strategic cooperation relations or friendly cooperative partners, 4: Comprehensive partners or strategic partners, 5: Comprehensive strategic partners	Ministry of Commerce of the People's Republic of China
	Whether a tax treaty is signed	1: Signing a tax treaty with China, otherwise 0 will be taken	Ministry of Commerce of the People's Republic of China
<i>Enterprise project risks</i>	Project decision risks	Being divided into 5 grades	Expert score
	Project financing risks	Being divided into 5 grades	Expert score
	Project return risks	Being divided into 5 grades	Expert score
<i>Enterprise management risks</i>	Investment strategy risks	Being divided into 5 grades	Expert score
	Human resources risks	Being divided into 5 grades	Expert score
	Competitive risks	Being divided into 5 grades	Expert score
	Technical risks	Being divided into 5 grades	Expert score

III. THE INTERNATIONAL INVESTMENT RISK GRADING EVALUATION FRAMEWORK OF CHINESE ENTERPRISES

In the research on quantitative methods of international investment risk evaluation, subjective weighting methods such as fuzzy analytic hierarchy process and Delphi method have been widely studied. There are also literature researches on objective weighting methods such as entropy weight method, cluster analysis method, principal component analysis method and factor analysis method. Gu Xin et al. believed that compared with the subjective weighting

method, the objective weighting method greatly reduced the influence of subjective factors and could more accurately measure the degree of risk[8].

This paper believes that risk assessment should be a comprehensive and continuous process. Drawing on the classification and evaluation ideas of the United States Department of Energy (USDOE): the risk assessment includes data collection stage, general screening stage and analysis stage, it proposes a three-level continuous risk assessment framework for the whole process of risk analysis (primary risk assessment), risk assessment (intermediate risk assessment) and risk decision (comprehensive risk assessment).

A. Risk analysis methods

Risk analysis is to use a more subjective fuzzy comprehensive evaluation method to measure the size of the risk factors of 32 secondary indicators from three dimensions, namely the probability of occurrence of the risk (RL), the severity of the risk consequence (RS) and the potential threat of risk (RD). In this way, the main risk factors in the secondary indicators that need to be focused on are quickly identified, and the probability and impact of these main risk factors are evaluated, so as to take risk management and risk prevention measures for these risk factors.

B. Risk assessment methods

Risk assessment is a more comprehensive evaluation after risk analysis. It first uses the entropy evaluation method to determine the weight of the secondary indicators, and combines the probability of occurrence of the risk (RL), the severity of the risk consequence (RS) and the potential threat (RD) of the risk factors obtained in the risk analysis to calculate the value-at-risk of the primary indicators of the enterprise's international investment risk. And it can sort the risk value of the political risks, legal risks, social risks, economic risks of different countries and regions, and the relationship between the two countries, and analyze the different risk factors of each country or region in order to take risk management and risk prevention measures for these countries and regions.

C. Risk decision methods

Risk decision methods adopt objective and accurate method analysis methods for more accurate and comprehensive evaluation. It is a comprehensive assessment of the risk level of Chinese enterprises' international investment from five external macro-environment indicators and three enterprise internal environment indicators, as well as 32 secondary indicators. It first normalizes 32 secondary indicators to make the indicators comparable, and calculates the values of 32 secondary risk indicators respectively. Second, it uses STATA software to conduct principal component analysis of political risks, legal risks, economic risks, social risks, relationship between two countries, enterprise project risks and enterprise management risks of Chinese enterprises' international investments, and calculates the total score of risk factor. Finally, it uses cluster analysis to classify the risks of Chinese enterprises' international investment in different countries or regions along "the Belt and Road Initiative", in order to carry out targeted risk management measures and risk prevention methods for investors in different countries or regions.

IV. CONCLUSION

This paper draws on the idea of risk grading and evaluation, and from the perspective of Chinese enterprises, it has initially constructed a comprehensive risk evaluation index system for the external macro-environment and the internal environment of enterprises. It adopts a combination of the qualitative and quantitative, including a three-level evaluation framework of risk factor analysis, risk index evaluation and risk decision. The index system and evaluation framework conform to Chinese national conditions to a certain extent and are suitable for Chinese enterprises.

At present, the international investment risk management of countries along China's the Belt and Road Initiative is still in the exploratory stage. There are certain difficulties in obtaining data for actual risk assessment by enterprises. The evaluation method is mainly subjective evaluation method, therefore, it is very important to further explore scientific and accurate objective evaluation methods. This paper attempts to combine subjective evaluation and objective evaluation to carry out grading, which is scientific to some extent, but it doesn't involve risk prevention research. Further research on objective and accurate risk assessment methods suitable for Chinese enterprises is needed.

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