COUNTRY RISK: OBJECTIVE COMPARISON OF BUSINESS ENVIRONMENTS OF THE WORLD COUNTRIES USING THE MODIFIED BERI MODEL

Galina Timokhina – Artem Kudasov – Tatyana Solosichenko

Abstract

The article presents the authors' guidelines for optimizing and unifying the calculations of the country risk index using the BERI model which is useful for companies to develop strategies for entering foreign markets. The authors strive to correct the disadvantages of this model by offering their own modifications. Firstly, the authors propose to use the principle of ranking by countries in order to improve the objectivity of calculations. Secondly, the authors provide the list of international rankings based on the interpretation of the country risk components that can be reasonably used to evaluate the model's criteria for minimizing the subjective factor. Thirdly, the authors develop the improved methodological template to visualize the results of calculations and simplify the further data analysis. The authors emphasize that the modified method is able to determine the level of country risk of a particular country rather more accurately and objectively than the basic model at a given time. For this reason, the use of the modified BERI model in the practice of international companies will provide a more qualitative and independent measurement of country risks, so it will eventually give them an opportunity to make more reasonable strategic decisions for entering foreign markets.

Key words: BERI model, country risk, foreign economic activity, international management, business environment

JEL Code: B41, C43, F21

Introduction

In the theory and practice of international management it is assumed that the most important stage of market penetration is a possible risks analysis and assessment of the business environment. In particular, a country risk analysis is carried out in order to overcome the uncertainty that is faced by investing companies abroad.

Definitions of the country risk concept are based on different interdisciplinary approaches, which leads to the lack of identical scientific interpretations of this term.

Therefore, the authors identified some necessary elements in the definition structure of the country risk concept (Kudasov & Timokhina, 2018), guided by the interdisciplinary analysis of different scientists' approaches to the definition of this term:

- the essence of country risk (this is a possible positive or negative result of development and interaction of numerous business environment factors);

- the presence of the country risk context (this is foreign economic activity);

- the presence of the country risk set of factors (these are political, socio-economic and technological factors);

- the presence of the country risk subjects (these are international companies that are connected by relationships in which the country risk arises) and the country risk objects (these are foreign markets of the analyzed states).

Accordingly, the authors of this article interpret the country risk term as a positive or negative impact degree of the complex of political, socio-economic and technological factors of the country's external market on the foreign economic activity of international companies (Kudasov & Timokhina, 2018).

It is worth noting that the item of the country risk assessment is still one of the most important problems of companies' implementation of foreign economic activity, equally important in theoretical, methodological and practical aspects. This problem is raised in many scientific articles of many international researchers, such as Fedderke, J. (2015), Iloie, R. E. (2015), Regős, G. (2015), Zaremba, A. (2016), Chiu, Y. B., & Lee, C. C. (2017), Mensi, W., Hammoudeh, S., Yoon, S. M., & Balcilar, M. (2017), Palić, P., Posedel Šimović, P., & Vizek, M. (2017), Suleman, T., Gupta, R., & Balcilar, M. (2017), Ben Nasr, A., Cunado, J., Demirer, R., & Gupta, R. (2018), Xu, T., Lv, Z., & Xie, L. (2018), Uzay, N., & Kocak, E. (2018), etc. Thus, the country risk concept does not cease to be an object of scientific interest, due to the high degree of its practical importance in the foreign economic activity of international companies.

In that way, Frederich Haner of the University of Delaware (USA) developed the so-called BERI model, or Business Environment Risk Index. This model was launched in 1972 in order to solve the problem of taking into account country risks when companies enter the foreign market (Hollensen, 2008). In the framework of the BERI model, F. Haner identified 15 indicators of the business environment and gave them weights, depending on the degree of their influence on the overall country risk level of the world countries.

First, based on the analysis of these indicators in the studied country, each of them is assigned an expert score on a scale from 0 to 4 (0 = unacceptable; 1 = poor; 2 = average

conditions; 3 = above average conditions; 4 = superior conditions). Second, each indicator's weight is multiplied by its score, so the weighted score (each indicator's overall index) is calculated. The sum of all 15 weighted scores will make up the total country risk index of the penetration country on a scale from 0 (which reflects a quite high risk) to 100 (which reflects a quite low risk). The higher the country risk index is, the less risky and the more attractive for investors the business environment is (see table 1).

Tab. 1: Ranges of the country risk index values

Index value range	Qualitative assessment	Interpretation
0-39	Very high risk	Business environment of economic collapse, probably a long-term crisis leading to a weak investment attractiveness of the country
40-54	High risk	Underdeveloped economy with significant risks, probably a LDC (least developed country)
55-69	Average risk	Immature economy with some investment potential, probably a NIC (newly industrialized country)
70-79	Low risk	Mostly favourable environment with a number of slight risks for investors, probably an advanced economy
80-100	Very low risk	Quite favourable environment for investors, highly likely an advanced economy

Source: Authors' design based on the works of: Krasnov, B., Avtsinova, G., & Sosina, I. (2002); Hollensen, S. (2008).

There are many variations of the BERI model, including different lists and interpretation of the basic indicators, as well as the value of their weights (Krasnov, 2002). One of the variants of the BERI model is a comparative type of this model for calculating country risk of 3 countries. Such a variation of the BERI model makes it possible not only to determine the level of the business environment risks in a particular country, but also to do this on the basis of comparison. Accordingly, a comparative analysis calculation makes the differences between the business environments of the analyzed countries more obvious than when calculating their indices separately.

Along with the advantages of this model, it is not without some disadvantages, such as the subjectivity of assessing the country risk degree by individual experts, as well as the lack of a clear methodology for assigning scores and absence of unambiguous interpretation of the analyzed indicators. In this article, the authors propose a number of guidelines for improving the calculation mechanism of this model in the form of three modifications, which allows to eliminate the identified shortcomings of the BERI model.

1 First authors' modification

The first authors' proposal is to unify the system of indicators assessment, in order to reduce the subjectivity in the calculations. In particular, when assessing a score to the indicators which are selected by F. Haner, it is proposed to rely on the international rankings of some independent agencies and institutions. Since the comparative type of the BERI model includes the indicators analysis of 3 countries at once, we will establish the comparison and evaluation method based on the results of international rankings (see table 2).

Tab. 2: Proposed method of assigning a score to the country risk indicators

Indicators	Method of assigning a score to each indicator	
1. Political stability 2. Economic growth 3. Labour cost/productivity 4. Short-term credit 5. Long-term loans/venture capital 6. Attitude towards the foreign investor and profits 7. Nationalization 8. Monetary inflation 9. Balance of payments 10. Enforceability of contracts 11. Bureaucratic delays 12. Communications (phone, fax, internet) 13. Local management and partner 14. Professional services and contractors	Increase of the score, depending on the countries' position in the international ranking	
	In the 1st third of the ranking In the 2nd third of the ranking In the 3rd third of the ranking	+ 2 + 1 + 0
	Increase of the score, depending on the countries' position in relation to each other in the international ranking	
	The 1st place among three countries The 2nd place among three countries The 3rd place among three countries	+ 2 + 1 + 0
15. Currency convertibility	Increase of the score, depending on the currency convertibility degree in the country	
	Fully convertible currency Partially convertible currency Inconvertible currency	+ 4 + 2 + 0

Source: Authors' design based on the works of: Krasnov, B., Avtsinova, G., & Sosina, I. (2002); Hollensen, S. (2008).

The proposed method consists of 14 out of 15 indicators assessment on the basis of 2 criteria. By default, we assign an initial score of 0 (zero) to each indicator. Then, we analyze such an international ranking of countries, which reflects the indicators' formulation better, and assign their scores in 2 stages. The first criterion is the countries' position in relation to the beginning and the end of this ranking. So, if one of the 3 countries takes a position in the first (best) third of the ranking, it is assigned a score of 2 (two); in the second (average) third of the ranking – 1 (one), in the third (worst) third of the ranking – 0 (zero). The second criterion is the countries' ranking position in relation to each other. So, among the ranking position of 3 countries, the best position (first place) will correspond to a score of 2 (two); the average position (second place) – a score of 1 (one); the worst position (third place) – a score

of 0 (zero). After that, the scores of the first and second criteria are summarized to form the final score of each country indicator.

For example, there is an abstract ranking on the «X» indicator, which includes 150 positions (1st place – the best, 150s – the worst). Country «A» occupies the 34th place, country «B» is the 72nd, country «C» is the 103rd. Based on the proposed methodology, we will assign the following scores to countries «A», «B» and «C». Country «A» receives 2 points for being in the 1st third of the ranking (1 - 50 places) and 2 points for the first place among the three analyzed countries, therefore, the final score of country «A» is 4. Country «B» receives 1 point for being in the 2nd third of the ranking (51 - 100 places) and 1 point for the second place among the three analyzed countries, therefore, the final score of country «B» is 2. Country «C» receives 0 points for being in the 3rd third of the ranking (101 – 150 places) and 0 points for the third place among the three analyzed countries, therefore, the final score of country «C» is 0.

This approach allows not only to conduct a comparison analysis, but also to completely exclude the subjectivity of the indicators assessment, because the proposed evaluation mechanism is strictly regulated. Moreover, this method covers the score range from 0 to 4, which indicates a high consistency of the authors' method with the BERI model.

The only indicator which is not appropriate to be assessed according to the proposed method is the «currency convertibility» indicator. This indicator can't be included in any international ranking, as it depends on both the internal market conditions of the penetration country and the world finance system. For this reason, we will develop a separate method for estimating the «currency convertibility» indicator within the BERI model. Taking into account a classification of national currencies according to the degree of convertibility, we will assign a score of 4 to the countries with fully (freely) convertible currency; with partially (limited) convertible currency – 2; with inconvertible (non-convertible) currency – 0. (Habarova & Yanchenko, 2017).

For example, we analyze the United States of America (USA), the Russian Federation (RF) and the Democratic People's Republic of Korea (DPRK). Based on the proposed system of assessments, we will assign the following scores to their «currency convertibility» indicators: USA – 4 (American dollar is a fully convertible currency); Russia – 2 (Russian ruble is a partially convertible currency); North Korea – 0 (North Korean won is an inconvertible currency), which is based on the macroeconomic data of the World Bank. This approach allows us to include the assessment of the «currency convertibility» indicator in the proposed ranking modification of the BERI model. (Kudasov & Timokhina, 2018).

2 Second authors' modification

The second authors' proposal to improve the BERI model of a comparative type is to regulate the list of rankings that correspond to the basic indicators selected by F. Haner. The corresponding rankings of the world countries are chosen by the authors of this article as they most fully reflect the semantic load of the BERI model indicators (see table 3).

Tab. 3: Proposed list of international rankings for the assessment of the country risk indicators

№	Indicators	Ranking name	Examples of some responsible organizations
1	Political stability	Fragile States Index	Fund for Peace (only)
2	Economic growth	GDP Growth Rate	International Monetary Fund
3	Labour cost/productivity	Average income	International Labour Organization
4	Short-term credit	Getting Credit	World Bank (only)
5	Long-term loans/venture capital	Investment Climate	BDO International
6	Attitude towards the foreign investor and profits	Foreign Direct Investment	World Bank
7	Nationalization	International Property Rights Index	Property Rights Alliance (only)
8	Monetary inflation	Inflation Rate	Trading Economics
9	Balance of payments	Current Account (to GDP)	Trading Economics
10	Enforceability of contracts	Enforcing Contracts Indicator	World Bank (only)
11	Bureaucratic delays	Index of Economic Freedom	Heritage Foundation (only)
12	Communications (phone, fax, internet)	ICT Development Index	International Telecommunication Union (only)
13	Local management and partner	Ease of Doing Business Index	World Bank (only)
14	Professional services and contractors	Education Index	United Nations Development Program (only)

Source: Authors' design based on the works of: Krasnov, B., Avtsinova, G., & Sosina, I. (2002); Hollensen, S. (2008).

However, it is necessary to clarify that the proposed list of rankings is advisory at the current time. It means that if a researcher finds some more appropriate rankings or their updates, he should use them for the assessment modification in priority. Nevertheless, we propose to keep the concept and mechanism of the ranking modification unchanged, because its objectiveness will not be spoiled even if we replace or exclude any concrete country ranking.

3 Third authors' modification

The third authors' proposal is to optimize the calculation results table. The authors of the article put forward their own version, which contains a 14 indicators sorting in descending order by weight. Further, the «currency convertibility» indicator is proposed to be moved to the end of indicators list (to the 15th position), in order to differentiate the indicators by the assessment method. Using this approach, we optimize the calculation representation.

For a clear illustration of the authors' 3 modifications of the BERI model, we will make appropriate calculations of country risks of the Czech Republic, Russia and the USA, based on the international rankings of free access as of February 1, 2019 (see table 4).

Tab. 4: Country risk indices of the Czech Republic, Russia and the USA

№	Indicators	Weight	Czech Republic		Russia		USA	
			Score	Overall index	Score	Overall index	Score	Overall index
1	Political stability	3	3	9	0	0	4	12
2	Economic growth	2.5	4	10	0	0	1	2.5
3	Labour cost/productivity	2	2	4	1	2	4	8
4	Short-term credit	2	1	2	3	6	4	8
5	Long-term loans/venture capital	2	3	6	1	2	4	8
6	Attitude towards the foreign investor and profits	1.5	4	6	1	1.5	2	3
7	Nationalization	1.5	3	4.5	1	1.5	4	6
8	Monetary inflation	1.5	2	3	0	0	3	4.5
9	Balance of payments	1.5	3	4.5	4	6	1	1.5
10	Enforceability of contracts	1.5	1	1.5	3	4.5	4	6
11	Bureaucratic delays	1	3	3	1	1	4	4
12	Communications (phone, fax, internet)	1	3	3	2	2	4	4
13	Local management and partner	1	2	2	3	3	4	4
14	Professional services and contractors	0.5	3	1.5	2	1	4	2
15	Currency convertibility	2.5	4	10	2	5	4	10
Total		25	70		35.5		83.5	

Source: Authors' design based on the works of: Krasnov, B., Avtsinova, G., & Sosina, I. (2002); Hollensen, S. (2008).

As a result, the country risk calculations based on the modified BERI model showed that the USA has the best business environment among the 3 analyzed countries, because its country risk index is very high (83.5), so the country risk level is very low. The country risk index of the Czech Republic is also favourable for investment (70), as it indicates an advanced economy of this country. In contrast, the country risk index of Russia is very low (35.5), and it indicates a high degree of uncertainty and unpredictability of the business environment, which is a deterrent factor for foreign investors.

Conclusion

The methodological recommendations developed by the authors allow to improve the methodology for calculating the country risk index according to the comparative type of the BERI model through the three modifications. The first authors' recommendation on the score assessment unification, based on the rankings of independent international agencies, allows to minimize the subjectivity of expert opinion when calculating the country risk index. The second authors' recommendation on the list of rankings regulation makes it simple to interpret the meaning of the country risk indicators selected by F. Haner. The third authors' recommendation on optimizing the presentation of the country risk index calculations rationalizes the process of calculating the final indices, as well as simplifies the presented data analysis.

Consequently, the authors make a scientific contribution to the methodology of the country risk assessment, implementing their modifications of the BERI model, due to the fact that the modified BERI model is a new tool to calculate a country risk index. According to this, the authors propose to name the modified BERI model as the «BERIC model» (Business Environment Risk Index Comparative), so it reflects the method of the country risk assessment based on the authors' modification of the country risk comparative analysis.

The practical significance of the BERIC model is that it can be used by international companies so as to assess their potential penetration markets objectively, basing on the comparative analysis and authoritative rankings data. So, the BERIC model will allow companies to make strategic decisions of implementing their foreign economic activity, depending on the objective quantitative information about the risk factors. Eventually, the usage of the BERIC model in the practice of international companies will greatly simplify the process of strategic management decision-making, because of harmonizing calculations and taking into account the most likely country risks, basing on the objective assessment.

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Contact

Galina Timokhina
Plekhanov Russian University of Economics
117997, Stremyanny lane, 36, Moscow, Russia
GalinaTimokhina@yandex.ru

Artem Kudasov
The Ural State University of Economics (USUE)
620144, 8 March Street / Narodnoy Voli Street, 62/45, Ekaterinburg, Russia
akudasov96@gmail.com

Tatyana Solosichenko
The Ural State University of Economics (USUE)
620144, 8 March Street / Narodnoy Voli Street, 62/45, Ekaterinburg, Russia
Inter68@mail.ru