China-CEE Institute
中国—中东欧研究院

11. DECEMBER 2017.

ISSN: 2560-1628

2017. No.3

WORKING PAPER

Assessment of the Belt and Road Initiative's Bilateralism

KANKARAŠ MILAN, RADOVIĆ BLAŽO and PETROVIĆ IVAN

Kiadó: Kína-KKE Intézet Nonprofit Kft.

Szerkesztésért felelős személy: Chen Xin

Kiadásért felelős személy: Huang Ping

China-CEE Institute
中国—中东欧研究院

1052 Budapest Petőfi Sándor utca 11.
+36 1 5858 690
office@china-cee.eu
china-cee.eu

Abstract

The Belt and Road Initiative (hereinafter: Initiative) is a development strategy, and it is focused on connectivity and cooperation between European and Asian countries for the benefit of all sides. Currently, the Initiative encompasses more than 60 countries and offers considerable opportunities in economic, political, and cultural areas. The basic assumption of the Initiative implementation is sustainable cooperation of these countries. There are various approaches of cooperation and one of them is bilateralism. The scope of the Initiative's bilateralism is different among countries and within areas of cooperation. Each country oversees bilateralism through areas of cooperation, but overall scope of cooperation with a particular country is missing. The purpose of this paper is to detect main bilateral areas and their key indicators, as well as to propose process of assessment of overall bilateralism scope. In correlation with that, research was organized and carried out through four stages. Firstly, analysis of bilateralism evaluation was conducted on the case of the Republic of Serbia to identify disadvantages as an output. In the second phase, on the basis of identified disadvantages of overall Serbia's bilateralism evaluation the bilateralism assessment process was proposed and explained. The proposed process was tested in the third phase on the case of bilateral cooperation between the Republic of Serbia and the People's Republic of China. Finally, the proposed bilateralism assessment was evaluated by experts in the last stage. In general, the outcomes of proposed process is assessed scope of bilateral cooperation between one country with others partner countries. Further, the assessed scopes of bilateralism can be graduated and compared with one's foreign policy goals, as well as with the Initiative policy goals. Thus, the outcomes could be respectively used in the strategic decision-making process. In order to conduct the research many different methods have been applied. Data were gathered by document analysis and surveys, and they were processed by statistical analysis. The proposed process can be adjusted according users' requirements and applied to assess bilateral cooperation not only between countries but also between different organizations like companies, corporations, etc.

Key words: assessment, Belt and Road, bilateralism, policy

Introduction

The Republic of Serbia (hereinafter: Serbia) exists in the complex and changeable environment. In that environment Serbia maintains and develops relations with a numerous countries and international organizations and initiatives. One of those is the Belt and Road Initiative. Bearing in mind that the Initiative includes more than 60 countries, bilateral cooperation between them is very important. In order to developing the bilateral cooperation it is necessary to monitor the level of bilateralism and take actions to improve them. However, there is not a procedure of bilateralism level assessment.

In this sense, research was organized on the case of Serbia's bilateralism. The aim of the research is proposing of the process of bilateralism assessment applicable to all countries. Scientific contribution of this research is reflected in the application of various methods to create a new process and to solve current problems. Method of research and its results are presented in this paper.

Except introduction and conclusion, this paper includes six chapters. Applied methods are represented in the methodology chapter and elaborated in other chapters. The identified and confirmed disadvantages of Serbia's bilateralism evaluation are typified in the second chapter. On the foundation of these disadvantages, process of bilateralism assessment was created and elaborated in the third chapter. Checking of the proposed process of bilateralism assessment is presented in the fourth chapter. In the fifth chapter the proposed process is evaluated and represented. Finally, research results are elaborated in the last chapter.

Methodology

The application of the method depends on the research problem and way. The research problem is complex and it is necessary to conduct research through stages. Bearing in mind that research purpose is proposing of bilateralism assessment process, the first phase of the research is an analysis of current bilateralism evaluation. The appropriate method for that is Serbia's bilateralism document analysis. Expected outcomes of the first stage are disadvantages of Serbia's bilateralism evaluation. To confirm these disadvantages, appropriate method is experts' evaluation. Experts' opinion was gathered by questionnaire and data are processed by chi-square test.

The proposed process of the bilateralism assessment is based on Decision Making Trial an Evaluation Laboratory method (hereafter: DEMATEL method) and Balanced Score Card. The fundamentals of Balanced Score Card are applied to observe bilateralism through different areas and to present bilateralism scope by dashboard (Kaplan & Norton, october 2005; Niven, 2008; Kankaraš, 2016). The second phase of the research is most significant and the proposed process of bilateralism assessment is based on the results of the analysis stage.

Experts' evaluation, DEMATEL method, and content analysis were used in the third phase of the research which contains testing the proposed process. Following the procedure of DEMATEL method, experts assessed the degree of direct influence between two bilateralism areas and key indicators based on pair-wise comparison. Data about key indicators were gathered by content analysis. In the last stage, proposed process of the bilateralism assessment was appraised by experts' evaluation. The applied methods are explained further in the paper.

Bilateralism evaluation of the Republic of Serbia – disadvantages

The foreign policy of the Serbia is based on the Constitution and general principles and rights of international law. Establishing and managing of Serbia's internal and foreign policy is the Government responsibility and as such respected ministries. Foreign policy is responsibility of the Ministry of foreign affairs of the Republic of Serbia (hereinafter: the

Ministry of foreign affairs) and foreign policy is carried out through bilateral and multilateral issues, process of European Union integration and regional cooperation, and security issues. Government bodies cooperate with the Ministry of foreign policy in the carrying out of foreign policy by sending reports on the planned and undertaken activities. I the same time the Ministry of foreign affairs coordinates foreign policy and other international activities carried out by government bodies, defined within the framework of their competencies. Some of the functions that the Ministry of foreign affairs performed are (Ministry of foreign affairs):

- reviewing the international position of the Republic of Serbia and its bilateral relations with other states;
- examining foreign policy aspects of defence and national security, and
- analysing and prediction the development of regional and global relations and occurrences, especially in the spheres of foreign policy, security, international public and international private law, economy, environment, education and culture, as well as the human rights situation, which are of relevance for the international relations of the Republic of Serbia.

To review Serbia's bilateralism the Ministry of foreign affairs monitors bilateral issues with foreign countries through political and economic relations (Ministry of foreign affairs) . For example, political relations include data of high-level visits, while economic relations enable data of external trade and infrastructure projects as well. Also Ministry of foreign affairs holds a list of bilateral agreements with different countries and within different areas.

Even the Ministry of foreign affairs jurisdiction is to follow the bilateralism, it is not the case that summary data on bilateralism activities are gathered in that institution. On the contrary, other governmental bodies were not obliged to deliver the date on their own bilateralism to the Ministry of foreign affairs. In fact, in many cases they promote and publish their bilateral activities through their own sources. For example, some indicators of economic relations are monitored by Statistical Office of the Republic of Serbia (hereinafter: the Statistical Office) like the value of construction works abroad, the value of exports of goods and the value of imports of goods, or the number of tourists' nights. The Statistical Office publishes those indicators every year in the Statistical yearbook of the Republic of Serbia (hereinafter: the Statistical yearbook). Also, international cooperation within defence like Partnership for Peace, multinational operations, regional initiatives, European integration, State partnership program, and sports could be found on the Ministry of Defence sources (Ministry of Defence).

In accordance with the previous one, there are a few disadvantages of scope of Serbia's bilateralism. Firstly, there are many different data, but they are not at one place. Secondly, creating a unique image of bilateralism practically is impossible. Finally, there is a lack of evaluation procedure. Incomplete picture, unsystematic data and lack of procedure may affect high level of subjectivity, blurred the reality and data misuse.

In order to verify identified disadvantages above questionnaire was made, and it is filled in by 34 experts – employees in planning departments of public sector. The examinees answer the questions using YES or NO and they have opportunities to suggest extra disadvantages. The identified disadvantages are acceptable if there are significant differences between experts' answers and expected answers. Significant differences are tested by chi-square test

(χ^2 test). In order to test significance differences, degrees of freedom (*df*), significance level, and empirical value of χ^2 test was determined. Degrees of freedom were determined by equation 1 as subtraction of a number of levels for categorical variable (*R*) and number one (Mann, 2013).

$$\boldsymbol{df = R - 1} \quad (1)$$

The empirical value of χ^2 test was determined by equation 2 (Mann, 2013).

$$\boldsymbol{\chi^2 = \sum \frac{(O_i - E_i)^2}{E_i}} \quad (2)$$

Where O_i is the observed frequencies count (experts' answers) and E_i is the expected frequencies count. Expected frequencies are calculated by equation 3 as multiplication of the sample size (*n*) and the probability (*p*) that element belongs to a category (Mann, 2013).

$$\boldsymbol{E = n * p} \quad (3)$$

In this case there is one degree of freedom and, as it is habitually that significance level is 0.05 (Kuhberger, Fritz, & Schemdl, 2014; Gorard & Gorard, 2016) . Probability that element belongs to a category represent a normal distribution (0.5). Considering the degree of freedom and significance level, a null hypothesis is acceptable if empirical value of χ^2 test is equal or less than ***3.841***. Otherwise, an alternative hypothesis is acceptable. Null and alternative hypotheses for significance differences between experts' answers and expected answers were stated as:

- *H_o: there is a not significant difference between experts' answers and expected answers, and*
- *H_a: there is a significant difference between experts' answers and expected answers.*

Based on the analysis of Serbia's bilateralism evaluation it is proposed four disadvantages: unsystematic data, lack of unique bilateralism image, lack of evaluation procedure, blindness effect and possibility of data misuse. Answers of the examinees are shown in Table 1.

Table 1: *Answers of the examinees about disadvantages of Serbia's bilateralism evaluate*

Disadvantages	Number of answer YES	Number of answer NO
Unsystematic data	23	11
Lack of unique bilateralism image	25	9
Lack of evaluation procedure	29	5
Blindness effect	23	11
Possibility of data misuse	28	6

Experts did not suggest extra disadvantages. According experts' answers, the determined empirical values of $\chi 2$ test are following:

– unsystematic data 4.235
– lack of unique bilateralism image 7.529
– lack of evaluation procedure 16.941
– blindness effect 4.235
– possibility of data misuse 14.235

Bearing in mind that each empirical value of $\chi 2$ test is more than reference value ***3.841***, it can be concluded there is a significance differences between experts' and expected answers, and alternative hypothesis is acceptable – proposed disadvantages of Serbia's bilateralism evaluation are acceptable and they are characteristics which should improve.

Proposed process of bilateralism assessment

The process of bilateralism assessment is proposed on the basis of results of Serbia's bilateralism evaluation analysis as it is explained in the previous chapter. In order to systematize data and overcome other disadvantages it is necessary to create requirements for data, determine overall scope of bilateralism, present determined overall scope, and check the results.

Data requirement creation is the first phase of the process of bilateralism assessment. In that stage government body responsible for foreign policy should determine bilateral areas and their key indicators. Bilateralism areas and their key indicators can be determined by their cause and effect relationships. In order to determine the bilateralism areas it is necessary to recognize all areas of cooperation. Some of recognized areas have an effect on the others ("cause areas") and some of them have no effect on others ("affected areas"). In correlation with that, affected areas are insignificant so they can be rejected. To determine cause and affected areas DEMATEL method could be suitable method.

The main purpose of the method is studying the complex and intertwined problematic groups. Application of DEMATEL method starts by gathering experts' opinion and calculating the average matrix (Wu & Lee, 2007; Yang, Shieh, Leu, & Tzeng, 2008; Yi Wu, 2012.; Moghaddam, Sahafzadeh, Alavijeh, Yousefdehi, & Hosseini, 2010) . Each expert should assess the degree of direct influence between two bilateralism areas based on pair-wise comparison. The degree is ranged from zero to four, where 0 – no influence, 1 – low influence, 2- medium influence, 3 – high influence, and 4 – very high influence (Sumrit & Anuntavoranich, 2013) . On the basis of the individual expert's judgment (a_{kr}) average individual experts' opinion ($\bar{a}_{ij}$) is calculated by equation 4.

$$\bar{a}_{ij} = \frac{1}{n}\sum_{r=1}^{n} a_{kr} \quad (4)$$

Actually, average individual experts' opinion forms average mutual influence assessment matrix – $\bar{A}$ (Equation 5).

$$\bar{A} = [\bar{a}_{ij}] \quad (5)$$

In order to derive the total relation between recognized bilateralism areas it should calculate matrix of total relation (A) by equation 6 (Moghaddam, Sahafzadeh, Alavijeh, Yousefdehi, & Hosseini, 2010).

$$\boldsymbol{A} = \acute{\boldsymbol{A}}\left(\boldsymbol{I} - \acute{\boldsymbol{A}}\right)^{-1} \quad 6$$

Elements of normalized matrix ($\acute{\boldsymbol{A}}$) are represented as ratio of each elements average mutual influence assessment matrix and maximum amount of rows and columns (Sumrit & Anuntavoranich, 2013). Finally, bilateralism areas are determined on the basis of the level of significance (α – threshold value). The value of total relation matrix' element less than the threshold value are less important elements, and other elements are more significant. The threshold value is ratio sum of all total relation matrix' elements and total number of the elements (N) and it is calculated by equation 7 (Yang, Shieh, Leu, & Tzeng, 2008).

$$\boldsymbol{\alpha} = \frac{\sum_{i=1}^{n}\sum_{j=1}^{n}[a_{ij}]}{\boldsymbol{N}} \quad 7$$

In relation to the level of significance, threshold can be performed as experts' agreement or a quartile. For example, if the level of significance is higher, threshold should perform as the third quartile or the first quartile if the level of significance is lower. On the bases of threshold value, a bilateralism area that has no effect to other bilateralism areas is rejected (the row with elements less than threshold value). As it is shown in Table 2 bilateralism area A-3 is rejected because it has no effect to other bilateralism areas, and just receives impact from the others.

Table 2. *Rejected bilateralism area*

Bilateralism area	**A-1**	**A-2**	**A-3**
A-1	**>α**	< α	**> α**
A-2	< α	**> α**	**> α**
~~**A-3**~~	~~**< α**~~	~~**< α**~~	~~**< α**~~

Key indicators of bilateralism areas are determined in the same way in the second step of the first stage. However, the key indicators level of significance to bilateralism areas is different (for example, maybe the value of exports of goods is more significance than number of tourists' nights). The problem of significance level can be solved by determination of key indicators' weight. That is very important for the first phase and also for the all process.

Bearing in mind that sum of row represents the direct impact of the current bilateralism area's indicator to the other indicators and sum of column represents the direct impact that a current bilateralism area's indicator receives from the other indicators, weight of key indicators may be determined as ratio of direct impact of the current bilateralism area's indicator (r) and sum of direct impact of the current bilateralism area's indicators (equation 8).

$$\boldsymbol{w_i} = \frac{\boldsymbol{r_i}}{\sum_{i=1}^{n}\boldsymbol{r_i}} \quad 8$$

Outcomes of the first phase are determined bilateral areas and their key indicators, as well as weight of the determined key indicators. As follow, the second stage enables determination of bilateralism assessment overall scope through four steps: (1) indicator data gathering, (2) key indicators values determination, (3) bilateral areas level assessment, and (4)

bilateralism scope assessment. Bearing in mind that data gathering of bilateralism is not put in order, it is useful to create a pattern for indicator data gathering. In that way government body responsible for foreign policy can gather necessary data on systematic manner. One of the possible forms is shown in the Table 3.

Table 3. *Indicator data gathering pattern*

Bilateralism area	**Indicator**	**The highest expected value ($I_{i\max}$)**	**The lowest expected value ($I_{i\min}$)**	**Current value (I_i)**

Next step is determination of key indicator levels and that step is very important for assessing overall bilateralism scope. However, indicator levels determination is not an easy task because indicator values are expressed in quantitative or qualitative manner. Likewise, quantitative value can be expressed as different measuring units (currencies, volume measures, surface measures, etc.) or different numbers (cardinals, fractions, decimals, percentages etc.), and qualitative value can be expressed as assertion (yes, no, etc.) or description. Such indicator values are not suitable for use and their usage to assess overall bilateralism scope needs adjustment of indicator values.

In order to use indicators, quantitative indicator values can be made suitable by normalization of their values ($\bar{I}_{ij}$). Normalization indicator value can be calculated by Equation 9 (Petrovic, Cvetkovic, Kankaras, & Kapor, 2017).

$$\bar{I}_{ij} = \frac{I_{ij} - I_{i\min}}{I_{i\max} - I_{i\min}} \quad (9)$$

However, qualitatively indicator value should be transformed by linear numerical scale (0-1, 1-10, etc.) Bearing in mind that quantitative values are normalized (all values range 0-1), qualitative values should be also transformed in range 0-1 (Figure 1).

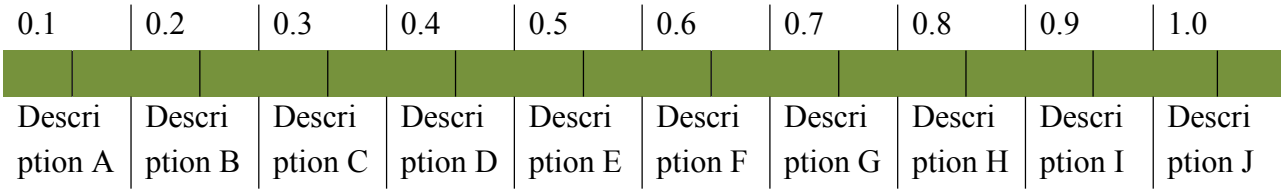

Figure 1. *Linear numerical scale to transform*

The foundation of the key indicator levels determination is the indicator values. In correlation with that, it is useful to determine satisfactory value of indicators. That value contains minimum value (*mv*), adequate value (*av*), and three zones (Figure 2). Minimum value expresses the lowest acceptable value and any value less than that requires taking urgent actions (Kankaraš, 2016).

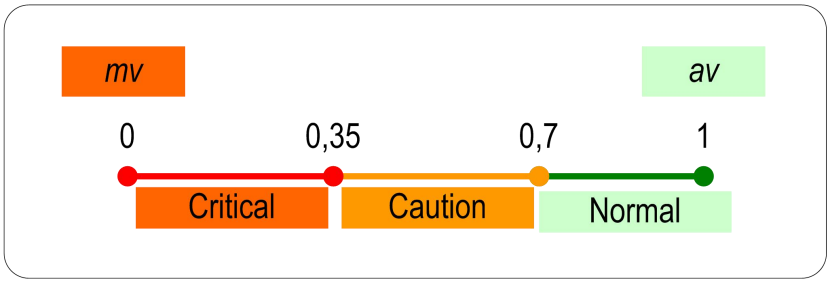

Figure 2. *Satisfactory value (Customized: Kankaraš, 2016)*

Key indicator level (I_l) can be determining by equation 10 (Kankaraš, 2016).

$$\boldsymbol{I_l = \frac{I_i - mv}{av - mv}} \quad 10$$

In this way it is possible to equalize the value of the indicators and enable the direct application of the methods and use of the value of the indicators regardless of how they are expressed and in which measuring units. Thus, assessment of the bilateral areas level is very simple. Bilateral area level (BA_l) represents sum of indicator level and its weights multiplication (equation 11).

$$\boldsymbol{BA_l = \sum_{i,l=1}^{n} I_l * w_i} \quad 11$$

In correlation with that, bilateralism scope assessment (BS) is sum of bilateral areas assessment and their weights multiplication (equation 12). As the bilateral areas are of the same significance for the country, weight of the bilateral areas is equal.

$$\boldsymbol{BS = \sum_{i,l=1}^{n} BA_l * w_i} \quad 12$$

In general, assessed bilateral area levels and bilateralism scope does not provide a completely clear picture. The last phase enables presentation of the overall scope of bilateralism. Overall scope can be presented by dashboard (Figure 3). On the dashboard can be showed key indicator levels, bilateral area levels, as well as bilateralism assessed scope. In this way is possible to see each aspect of bilateralism at a glance.

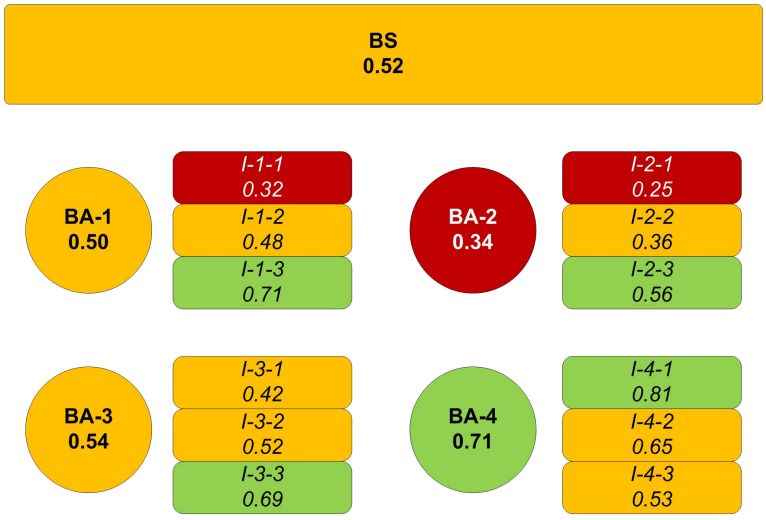

Figure 3. *The dashboard example*

Finally, it is useful to have opportunity to check the result of the bilateralism assessment process. If the decision maker requires checking of results, government body responsible for

foreign policy should check the first and the second phase. Otherwise, it should specify the actions to increase indicator values and improve bilateral areas, as well as bilateralism. Proposed process of bilateralism assessment can be presented as algorithm (Figure 4).

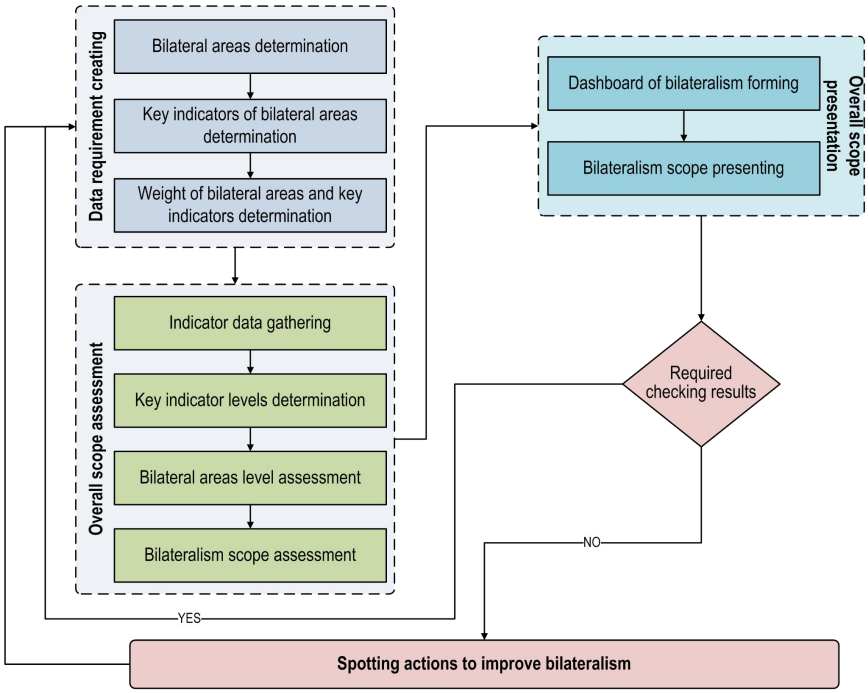

Figure 4. *The proposed process of bilateralism assessment*

To check the proposed process of bilateralism assessment it is necessary to test it in practice.

Testing proposed process of bilateralism assessment

Serbia is a member of the United Nations and has bilateral cooperation with up to 170 countries (more than 90% members). Also, Serbia is participant of Cooperation between China and Eastern European countries as well as the Belt and Road Initiative. In order to validate the proposed process of bilateralism assessment, testing was carried out on the case study of the bilateral cooperation between Serbia and the People's Republic of China (hereinafter: China).

The process has been tested by an expert group of 15 specialists (employed on the position of foreign affairs in Serbia's government bodies). Taking into account the analysis of the literature (Wang, 2016; Yang, Liu, & Ma, 2016; Blum, 2008; Djankov & Miner, 2016; Swaine, 2016; Thompson & Verdier; Ejdys, 2016; Ministry of foreign affairs), three bilateral areas were selected: economy, politics, and culture. Following the procedure of the proposed process of bilateralism assessment, experts were assessed the degree of direct influence between selected bilateral areas based on pair-wise comparison. According the individual direct influence selected bilateral areas matrices, mutual influence assessment matrix of selected bilateral areas is calculated by Equation 4 and formed by equation 5 (Table 4).

Table 4. *Mutual influence assessment matrix of bilateralism areas*

Bilateral area	Economy	Politics	Culture
Economy	0.000	2.400	2.700
Politics	3.300	0.000	2.800
Culture	2.650	1.200	0.000

Matrix of total relation between selected bilateral areas is calculated by equation 6, as well as bilateral areas that have no effect on the other bilateral areas – rejected bilateral areas. Bearing in mind that threshold value is ***1.412***, there is no one rejected bilateral areas (Table 5).

Table 5. *Matrix of total relation between bilateral areas*

Bilateral area	Economy	Politics	Culture
Economy	1.399	1.267	***1.644***
Politics	***1.952***	1.130	***1.842***
Culture	***1.425***	0.969	1.076

According to analysed literature, in the next step were selected key indicators for each bilateral area. For the Economy it was selected five indicators, for the Politics five and for Culture three indicators and they were determined in the same way as bilateral areas. On the basis of direct impact of the indicators, weights of the Economy's key indicators have been determined by equation 8 (Table 6).

Table 6. *Weights of the Economy's key indicators*

Bilateral area	Total trade	Share of trade	Direct investments	Direct flights	Tourists	r_i	w_i
Total trade	1.690	***1.845***	***1.975***	***1.876***	1.522	*8.908*	*0.201*
Share of trade	***1.798***	1.574	***1.895***	***1.795***	1.422	*8.484*	*0.192*
Direct investments	***2.008***	***1.974***	***1.890***	***2.005***	1.578	*9.455*	*0.214*
Direct flights	***1.924***	***1.852***	***2.023***	1.730	1.556	*9.085*	*0.205*
Tourists	1.726	1.696	***1.866***	***1.780***	1.267	*8.355*	*0.188*
Sum						***44,267***	

Weights of Politics and Culture's key indicators have determined in the same way:

- Politics:
  - Strategic partnership 0.230
  - Visa regime 0.256

- Bilateral agreements 0.254
- High-level visits 0.260

▪ Culture:

- Expression of religion 0.339
- National radio stations 0.388
- Learning native language 0.273

Gathered key indicator data are given in Table 7. Also, in that table are showed normalized key indicator values. In order to simplify testing, in this case the highest expected values are equal to the adequate values and the lowest expected values are equal to the minimum values.[1]

Table 7. *Key indicators data and normalized value*

Bilateralism area	**Indicator**	**Unite of measure**	**The highest expected value($I_{imax, av}$)**	**The lowest expected value ($I_{imin, mv}$)**	**Current value(I_i)**	**Data source of current value**	**Normalized value** (Equation 9 and 10)
Economy	Total trade	mill. USD	1,800	1,400	1,560	Statistical Office	0,400
	Share of trade	%	6.00	4.00	4.94	Calculated	0,470
	Direct investments	mill. USD	170.0	150.0	158.3	Chamber of Commerce and Industry of Serbia	0,415
	Direct flights	Number per week	4	1	2	Press	0,333
	Tourists	Number	16,000	14,000	14,238	Statistical Office	0,119
Politics	Strategic partnership	Yes/No	Yes	Yes	Yes	Ministry of foreign affairs	1,000
	Visa regime	Yes/No	No	No	No	Ministry of foreign affairs	1,000

[1] In order to test the proposed procedure, the highest and lowest expected values are determined by authors.

Bilateralism area	**Indicator**	**Unite of measure**	**The highest expected value($I_{imax, av}$)**	**The lowest expected value ($I_{imin, mv}$)**	**Current value(I_i)**	**Data source of current value**	**Normalized value** (Equation 9 and 10)
	Bilateral agreements	Number	110	90	98	Ministry of foreign affairs	0,400
	High-level visits	Number per year	2	1	1	Ministry of foreign affairs	0,000
Culture	Expression of religion	Number people	1,500	1,200	1,237	Statistical Office	0,123
	National radio stations	Number	2	1	1	Internet	0.000
	Learning native language	Number people	/	/	/	There are no data	/

Bilateral area levels are calculated by equation 11 on the basis of key indicator normalized values and their weights and bilateralism scope are assessed by equation 12:

- Economy 0.350
- Politics 0.588
- Culture 0.042
- Bilateralism scope 0.327

Finally, bilateral cooperation between Serbia and China is presented in the Figure 5.

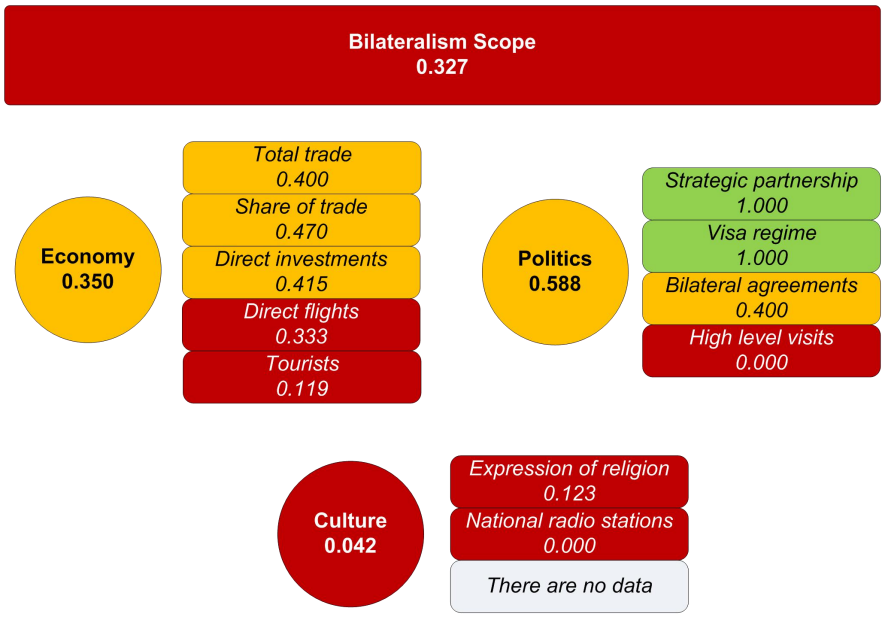

Figure 5. *Bilateralism scope dashboard*

As seen in Figure 5 it is clear to see the bilateral cooperation between Serbia and China and to notice inadequate indicator and area levels. In addition, bilateralism scope can be used to notice the trend in bilateral relationship. For example, in 2013 bilateralism scope – assessment in the same way – was 0.250. So, it can be conclude that the bilateral cooperation between Serbia and China rising, but there is possibility to improve relationship.

Also, bilateralism scope may be used to compare the bilateral cooperation between other countries and to make rank list of bilateralism. Thus, the proposed process of bilateralism assessment works properly in practice, so it is necessary to check its betterment than currently.

Evaluation of proposed process of bilateralism assessment

The proposed process of bilateralism assessment is evaluated by 32 employees with three years or more experience in planning departments of public sector. The employees have fulfilled questionnaire and award current bilateralism assessment 1 to 5 points for each features (a mark of 1 represents the smallest degree of feature and 5 the greatest degree of bilateralism assessment process). Bearing in mind the identified disadvantages, the following features were awarded by employees:

- *Systematic* represents regulated process to data gathering;
- *Visualization* means simple picture of bilateralism level;
- *Regulation* represents process of bilateral assessment;
- *Reliability* is the confidence of the result of bilateralism assessment process (blindness effect possibility of data misuse are lower).

Average opinion of the employees for each features of current bilateralism assessment process is shown in Table 8.

Table 8. *Disposition of employee opinions of current bilateralism assessment process*

Feature	Average

			feature mark
Systematic	0		**1.06**
Visualization	2		**1.00**
Regulation	9		**1.09**
Reliability	8		**1.13**
Average mark	**1.07**		

After that, the proposed process of bilateralism assessment was explained and the employees had a chance to try it. Later on, the employees have awarded that process, and the results are shown in Table 9.

Table 9. *Disposition of employee opinions of proposed bilateralism assessment process*

Feature			**Average feature mark**
Systematic		5	**3.97**
Visualization		8	**4.00**
Regulation		3	**3.78**
Reliability		1	**3.91**
Average mark	**3.91**		

The employees awarded current and proposed bilateralism assessment process differently, so it is necessary to test significance of these differences. The significance is tested in 4 following issues:

- significance differences between each features of the process;
- significance differences between average marks of the process;
- ratio of the average feature marks of proposed and current process, and
- ratio of the average mark of proposed and current process.

At a glance it was saw that each feature mark as well as average mark of proposed bilateralism process is higher than current. Ratio (R_i) of each average feature mark of proposed (PF_i) and current (CF_i) bilateralism assessment process and ratio average mark of

proposed (*PP*) and current (*CP*) bilateralism assessment process is calculated by Equation 13.

$$\boldsymbol{R_i = \frac{PF_i}{CF_i} or \frac{PP}{CP}} \quad \textbf{13}$$

Empirical ratio values are displayed in Table10.

Table 10. *Empirical ratio values*

Average mark	R
Systematic	3.74
Visualization	4.00
Regulation	3.46
Reliability	3.47
Process	3.66

As seen proposed bilateralism assessment process is better in four tested issues. Taking into account the specified, it can be inferred that proposed bilateralism assessment process works properly and it is better than current bilateralism assessment process.

Research Results

The research was carried out through four phases and results of the each stage are different. On the foundation of phases' outcomes can be noticed the general and specific results of the research. Bearing in mind lack of bilateralism evaluation procedure, general result is the proposed process of bilateralism assessment. Application of the proposed process assessment of bilateralism can be significantly regulated. According to experts' opinion the proposed process is awarded with 3.91 score as opposed currently unregulated process – 1.07.

In effect, specific results are stages' outcomes. The outcomes of the first phase are identified disadvantages of overall Serbia's bilateralism evaluation. On the foundation of the analysis of Serbia's bilateralism the five followed disadvantages have been recognized: unsystematic data, lack of unique bilateralism image, lack of evaluation procedure, blindness effect and possibility of data misuse. These disadvantages have not been identified so far and they are showed for the first time in this paper. Likewise, there is another result of this stage – the validation manner of identified issues, features, etc. Namely, identified issues, features, etc. should be validated by experts and checked by scientific methods.

Except the proposed process of bilateralism assessment outcomes of the second stage are identified bilateral areas, their key indicators, and weights of key areas' indicators. Currently, Ministry of foreign affairs monitors two bilateral areas, but on the basis of a numerous documents, web sites and experts' opinion culture is important bilateral area. Certainly, identified bilateral areas' indicators can be updated, changed, and adjusted according to the needs.

The outcomes of the testing stage are bilateral areas, their key indicators, and weight of indicators. According experts' opinion, bilateralism in Serbia should monitor through three areas: economy, politics and culture. Key economy area's indicators are total trade between two countries, share of trade, direct investments, direct flights and number of tourists. The most significant indicator is direct investments. In the politics area four indicators are identified: strategic partnership, visa regime, number of bilateral agreements and number of high-level visits. Among these indicators high-level visit is the most significant. Key culture indicators are expression of religion, number of national radio stations and number people who learn domestic languages (Serbian and Chinese). The most significant indicator is number of radio stations.

Also, the testing phase enabled identification of one more disadvantage of the current way of bilateralism evaluation. To wit, during gathering data it was noticed lack of some information – there are no data about learning domestic languages. Thus, the list of disadvantages was updated. As well, the proposed process of bilateralism assessment is applicable in the case of assessment bilateralism between Serbia and China. In the same way it can be used to assess other bilateral cooperation or relationship between organizations.

Finally, according experts' opinion the proposed process of assessment bilateralism makes possible to systemize data, to regulate procedure of bilateralism evaluation, and to enhance reliability of assessed bilateralism level. Through application of the proposed process Government or other authority can easy locate problem and take action to solve the noticed problems.

Conclusion

Serbia has a plenty of bilateral cooperation through a membership in international organizations, as well as through participation in the Initiative. The participation in the Initiative is an opportunity for Serbia and bilateralism with China is permanently increasing.

The purpose of this paper was proposal of bilateralism assessment process as a tool for improving bilateralism. In order to create appropriated process research was organized and many methods were enforced. Process of bilateralism assessment was created on the basis of the bilateralism evaluation disadvantages in case of Serbia's affairs. That process was tested in the case of bilateral cooperation between Serbia and China and evaluated by experts' opinion.

The aim of research is achieved which means that proposed process of the bilateralism assessment is applicable. Furthermore, bilateralism scope as outcome of that process can be used to notice bilateralism trend, to compare with one's foreign policy and the Initiative policy goals, and in the strategic decision-making process. Likewise, the proposed process is flexible – areas and their indicators can be changed and adjusted to certain problem or organization.

Future research should consider identification and prioritization of areas and their indicators as well as the possibility of the process automatization by creating adequate software for the bilateralism assessment.

Bibliography

1. *Statistical yearbook of the Republic of Serbia.* (2016). Belgrade: Statistical office of the Republic of Serbia.

2. *Bilateral issues with foreign countries*. (n.d.). Retrieved September 14, 2017, from Ministry of Foreign Affairs of the Republic of Serbia: http://www.mfa.gov.rs/en/foreign-policy/bilateral-issues

3. Blum, G. (2008). Bilateralism, Multilateralism, and the Architecture of International Law. *Harvard International Law Journal, 49*(2), 323-379.

4. Djankov, S., & Miner, S. (2016). *China's Belt and Road Initiative: Motives, Scope, and Challenges.* Peterson Institute for International Economics.

5. Ejdys, J. (2016). New Silk Road – a Weak or a Strong Signal? In Elsvier (Ed.), *7th International Conference on Engineering, Project, and Production Management*, (pp. 182-188).

6. Gorard, S., & Gorard, J. (2016). What to do instead of significance testing? Calculating the 'number of counterfactual cases needed to disturb a finding'. *International Journal of Social Research Methodology*, 481-490.

7. Kankaraš, M. (2016, Jun). *Unapredjenje funkcije upravljanja ljudskim resursima u sistemu odbrane (Improving the functions of the defence human resource management).* PhD Thesis, University of Defence, Military Academy, Belgrade.

8. Kaplan, R., & Norton, D. (october 2005). The Office of Strategy Management. *Harvard Business Review*, 73-80.

9. Kuhberger, A., Fritz, A., & Schemdl, T. (2014). Publication bias in psychology. *PLoS one*, doi: 10.137/journal.pome.0105825.

10. Mann, P. S. (2013). *Introductory Statistics, eighth edition.* Hoboken, NJ: John Wiley & Sons, Inc.

11. *Ministry of Defence*. (n.d.). Retrieved September 18, 2017, from International military sooperation: http://www.mod.gov.rs/eng/10069/medjunarodna-vojna-saradnja-10069

12. *Ministry of foreign affairs*. (n.d.). Retrieved September 14, 2017, from About the Ministry: http://www.mfa.gov.rs/en/about-the-ministry/about-the-ministry

13. Moghaddam, N. B., Sahafzadeh, M., Alavijeh, A. S., Yousefdehi, H., & Hosseini, S. H. (2010). Strategic Environment Analysis Using DEMATEL Method Thorogh Systematic Approach: Case Study of an Energy Research Institute in Iran. *Management Science and Engineering, 4*(4), 95-105.

14. Niven, P. (2008). *Balanced Scorecard step-by-step for government and non-profit agencies - 2nd edition.* John Wiley & Sons, Inc.

15. Petrovic, D., Cvetkovic, I., Kankaras, M., & Kapor, N. (2017). Objective Technology Selection Model: The Example of complex combat systems. *International Journal of Scientific & Engineer, 8*(3), 105-113.

16. Sumrit, D., & Anuntavoranich, P. (2013). Using DEMATEL Method to Analyze the Casual Relations on Technological Innovation Capability Evaluation Factors in

Thai Technology-Based Firms. *International Transaction Journal of Engineering, Management, & Applied Sciences & Technologies*, 81-103.

17. Swaine, M. D. (2016). Chinese Views and Commentary on the "One Belt, One Road" Initiative. *China Leadership Monitor, 47*.

18. Thompson, A., & Verdier, D. (n.d.). *Political science*. (Ohio State University) Retrieved September 14, 2017, from Multilateralism, Bilateralism and Regime Design: https://politicalscience.osu.edu/faculty/athompson/Lateralisms.pdf

19. Wang, F. (2016, August). Analysis on the Regional Disparity in China and the Influential Factors. *American International Journal of Humanities and Social Science, 2*(4), 94-104.

20. Wu, W.-W., & Lee, Y.-T. (2007). Developing global managers' competencies using the fuzzy DEMATEL method. *Expert Systems with Applications, 32 (2)*, 499-507.

21. Yang, Y., Liu, Z., & Ma, D. (2016). Discussion about Promoting Regional Cooperation and Investment in Transportation Construction with the Countries of Southeast Asia under the Belt and Road Initiative. *The First International Symposium on Business Cooperation and Development in South-East and South Asia under B&R Initiative (ISBCD-16)* (pp. 87-90). Atlantis Press.

22. Yang, Y., Shieh, H., Leu, J., & Tzeng, G. (2008). A novel hybrid MCDM model combined with DEMATEL and ANP with applications. *International Journal Operational Research*, 160-168.

23. Yi Wu, H. (2012.). Constructing a strategy map for banking institutions with key performance indicators of the balanced scorecard. *Evaluation and program planing, 35*, 303-320.

About the authors

KANKARAŠ MILAN, PhD, Assistant professor at Military Academy of University of Defence of the Republic of Serbia

RADOVIĆ BLAŽO, MAS, Ministry of Defence of the Republic of Serbia

PETROVIĆ IVAN, PhD, Assistant professor at Military Academy of University of Defence of the Republic of Serbia