Assessment of the probability of the Arctic Council expansion

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Abstract. The article describes the essence of the Arctic Council, the importance of the programs implemented by the Council. The activities of the Arctic Council are focused primarily on environmental issues, as well as on the sustainable development of the Arctic. Besides the member countries of the Council, other countries with an observer status and those participating in working groups in the above-mentioned areas take part in the work. The criteria for assigning the Council membership as observers are mainly economic factors. The authors suggest that the activity of the Arctic Council should not be influenced by any political motives. In this regard, it is assumed that political risk does not affect the inclusion of the state as an observer in the Arctic Council. The article presents conclusions and determines the choice of factors influencing the probability of a country joining the Arctic Council as an observer. An analysis of the literature on the influence of political factors on corporate valuation, profitability of financial assets, internal and external conflicts, etc. is conducted. Based on the empirical analysis, a conclusion is made that the probability of becoming an observer country in the Arctic Council depends on the credit risk (sovereign rating) and the level of a country’s GDP. At the same time, the level of GDP and higher ratings increased the possibility of including the country in the community of observers. The authors also highlight the factors affecting the willingness and ability of a sovereign government to timely and fully service its financial, economic and fiscal obligations.

1. Introduction

In the world there are many organizations that focus their activities on the development of specific regions, while pursuing positive goals. The Arctic Council is a vivid example of such successful cooperation. An international organization with a goal of developing cooperation in the Arctic was established in 1996. Therefore, it received a very logical name - the Arctic Council (AC). The Arctic Council includes eight Arctic states: Canada, Russia, Denmark, Norway, Iceland, Sweden, the United States and Finland. Six organizations representing the indigenous peoples of the Arctic also participate in the work of the council. In 2013, the Arctic Council granted the status of national observers to six countries: India, Italy, China, Korea, Singapore and Japan. The status of national observers was introduced to promote the development of relations among countries with their own interests in the Arctic. This change was made on the basis of the “Constituent Declaration”. This document implies the possibility of assigning observer status to non-Arctic countries.
It is important to understand that the role of the Arctic is to protect the Earth’s environment, to protect biodiversity and maintain the health of the entire ecosystem. The activities of the Arctic Council are aimed at keeping these priorities at the center of attention.

In 2013, the Council members also signed an agreement obliging them to coordinate their actions in case of marine pollution incidents. Later another similar initiative was implemented. It included rescue and search operations.

Any project promoted by the Arctic Council should take into account the following priorities:

1. Be based on reliable scientific information, sound management and conservation of resources, as well as traditional knowledge of indigenous and local people.
2. Build capacity at all society levels.
3. Use sustainable development programs to provide more opportunities for the future of the Arctic zone.
4. Focus on projects aimed at strengthening local leadership and ensuring long-term commitment to the interests of the region and specific communities.
5. Organize the activities of the Arctic Council countries in such a way that meeting the needs of modern times could not threaten the well-being of the next generation.

Currently, the goal of the Arctic Council countries is to actively participate in the stabilization of certain areas of the social, cultural and economic spheres of the region. These are the following priority areas:

1. Cultural and educational heritage is the basis for successful development and capacity building in the region.
2. The well-being and health of people living in the Arctic.
3. Infrastructure development. This is a prerequisite for stabilizing economic growth, thereby improving the quality of life for people living in the Arctic.
4. Formation and protection of educational and cultural heritage. These factors can be identified as the main prerequisites for stable development and capital growth in the region.
5. The well-being of young people is crucial for the future of the Arctic community. Therefore, they require protection and attention of the Arctic Council.
6. Rational use of natural resources.

A sustainable development program involves quality work in each of these areas.

The top body to coordinate the activities of the Arctic Council is a meeting of the foreign ministers of the participating countries, which is held twice a year. As for the preparation for the meeting and the current issues related to the activities of the Council, they are the responsibility of the Committee of Senior Officials. This working body meets at least twice a year.

The Arctic Council is an organization of six focus working groups. Each of them holds events on the basis of special tasks. These working groups are governed by a chairman, a board of directors (possibly a steering committee), and a secretariat. The purpose of this division of labor is the development of mandatory documents (reports, manuals, etc.) and the implementation of specific projects.

The Arctic Economic Council operates within the framework of the Arctic Council. The goal of establishing the Arctic Economic Council (AEC) is strengthening business relationships among the Arctic Council Member States and active promotion of social and economic development in the region. The Arctic Economic Council is not just a platform for discussing current issues of the Arctic Council and the business community. The mission of the Arctic Economic Council is to bring business prospects into the activities of the Arctic Council and commercial development of the Arctic.

The Arctic Council activities are focused mainly on environmental and ecological issues, as well as sustainable development issues. In addition to the Council members, the countries with an observer status participate in its activities, mainly at the level of working groups in the areas mentioned above, and they also contribute to its work.

Since its foundation in 1996, the Arctic Council has successfully evolved from an ordinary organization dedicated to the protection and development of specific regions into an international
platform that provides multilateral practical cooperation in the Arctic. The activities of the Council provide an opportunity to cover a wide range of issues related to the sustainable development of the Arctic potential with great efficiency. We are talking about projects that affect all spheres of life in the region - from ecology and economics to specific social needs. The Russian Federation plays a key role in the activities of the Arctic Council. It depends on the length of the coastline, the amount of mineral resources and the scope of Russian resource developments in the Arctic. It is important to understand that more than 70% of the oil and gas resources of the Russian Federation are mined in the Arctic. We should not forget about the largest Russian icebreaking fleet operating in the Arctic. Given all this, it is safe to say that for Russia the Arctic Council is not just an important international organization. The presence of such resources forces the Russian Federation not only to actively participate in the implementation of the projects developed by the Arctic Council countries, but also to put forward its own relevant initiatives [11].

In addition to the Arctic countries, other countries have their interests in the Arctic. This fact fully demonstrates the need for further fruitful cooperation of the Council countries with other countries which are included in the Council as observers. In accordance with the approach adopted by the Arctic Council, observers will not be able to participate in making significant decisions - this privilege applies only to countries directly related to the Arctic.

The purpose of the article is to assess the probability of expanding the number of observer countries in the Arctic Council. In this regard, we a priori assume that political risk will not affect the issue of including a country as an observer in the Arctic Council. It is the considerations mentioned above that determined the choice of factors that influence the probability of a country joining the Arctic Council as an observer. The hypothesis that the probability of granting an observer’s status does not depend on political risk is put forward as a baseline.

2. Criteria for expanding the number of observer countries
The criteria on the basis of which an observer status is granted suggest that the selection process is more influenced by economic factors, namely, economic risk, economic power, and the country's willingness to spend public funds on research and development, although the presence of other components is not denied.

It seems to us that the activities defined by the Arctic Council should not depend on any political engagement. There is a large amount of literature on the influence of political factors on corporate valuation, profitability of financial assets, etc. Gozgor (2018) [10] assessed the impact of political risks on domestic credits. Perotti, van Oijen (2001) [12] assessed the impact of political risks on the development of local stock markets. Braga-Alves (2018) [2] using a linear model estimates the dependence of transaction costs on political risk as well. Duyvesteyn et al. (2016) [7] on the contrary, accept the change of political risk as a dependent variable.

Bekaert et al. (2016) [1] define a country political risk as the influence of the government’s actions or the imperfection of a country's executive, legislative, or judicial authorities. Also included in the definition are government-initiated seizure of private assets or products and creeping forms of expropriation, such as unexpected taxes, instability of government policies, and the power of the legal system, especially with regard to the protection of property rights. Internal and external conflicts, including strikes, terrorist attacks and (civil) war also usually fall under the category of political risk. Under political factors Eichler (2014) [8] in his study means a political system and elections, ideology, political stability, the possibility of policy change, the quality of governance. In addition, each of the factors is specified, in turn, subdivided into separate determinants.

3. Data, model and variables
3.1. Data and model
The sample for subsequent empirical analysis consists of 22 countries. Austria, Belgium, Chile, the Czech Republic, France, Germany, Greece, Hungary, Ireland, Italy, Japan, Korea, Mexico, the
Netherlands, Poland, Portugal, the Slovak Republic, Spain, Turkey, the United Kingdom, China, Argentina. Of these the Arctic Council Observer delegates are: France, Germany, the Italian Republic, Japan, the Netherlands, the People's Republic of China, Poland, the Republic of Korea, Spain, the United Kingdom.

The data are presented for 2013, when the Arctic Council Observer Countries were approved. The binary logit model was used as a model. The dependent variable “y” takes the value “1” if the country is an observer country in the Arctic Council and it takes the value “0” otherwise.

A binary choice model can be written down using a latent variable.

\[ y_i^* = \alpha + \beta P_i + \gamma X_i + \epsilon_i \]  

in which \( P_i \) is the political risk index for the country \( i \), \( X \) is the vector of control variables for the country \( i \), \( \gamma \) is the corresponding vector of the parameters of control regression variables. Thus,

\[ y_i = 1 \text{ if } y_i^* \geq 0 \]
\[ y_i = 0 \text{ if } y_i^* < 0 \]

3.2. Political Risk variable

As the main explanatory variable describing political risk are the values of the Regional Political Risk Index published by the Political Risk Services (PRS) Group [15] (https://www.prsgroup.com/). All the studies mentioned above also use this political risk rating as a variable [5].

The data range from 0 to 100. A higher index value means less political risk. Consequently, the index ranges from zero for countries with the most unfavorable climate for international business to 100 for countries with the most favorable climate [9].

When determining the index value, 12 components are evaluated with an 18-month forecast horizon (1. Turmoil; 2. Restrictions on equity; 3. Restrictions on local operations; 4. Taxation discrimination; 5. Repatriation restrictions; 6. Exchange controls; 7. Tariff barriers; 8. Non-tariff barriers; 9. Payment delays; 10. Expansionary economic policies; 11. Labor costs; 12. Foreign debt.) and five components are evaluated with a five-year forecast horizon (1. Turmoil; 2. Investment restrictions; 3. Restrictions on foreign trade; 4. Domestic economic problems; 5. International economic problems) [16].

Turmoil means actions that can lead to threats or harm to people or property from political groups or foreign governments operating in the country or from outside and include: Riots and demonstrations; Politically motivated strikes; Disputes with other countries that may affect business; Terrorism and guerrilla activities; Civil or international war; Street crime that might affect international business personnel; Organized crime having an impact on political stability or foreign business [4].

3.3. Control variables

As control variables are used the following: Government expenditure on research and development as a percentage of GDP (GERD); gross domestic product (expenditure approach, constant prices 2010, constant PPPs, OECD base year, millions of US Dollar) divided by 1,000,000 (GDP); total R&D personnel per thousand total employment (RD_pers); total researchers per thousand labour force (TRes). Данные были представлены OECD [18]. The data was presented by OECD [18].

In this study, it is assumed that in addition to an indicator reflecting political risks, it is necessary to include a variable that reflects economic fundamentals, including economic risks [6]. Standard and Poor’s Rating is used as such. Since a credit rating is an opinion about the level of credit risk, the above mentioned rating agency highlights the factors affecting the readiness and ability of a sovereign government’s to timely and fully service the following financial obligations, as measured at the initial stage: Institutional, Economic, External, Fiscal and Monetary. Letter grades were linearly converted by assigning discrete values from 1 to 21, where 1 corresponds to AAA rating (Table 1). Similar
transformations were carried out by Yalta and Yalta (2018) [14] and Cai, Gan, Kim (2018) [3], except that, on the contrary, their highest score corresponded to the highest reliability on a rating scale (Table 1).

Table 1. Distribution of Standard and Poor’s rating categories

| Characterization                                           | Rating | Numerical scale |
|------------------------------------------------------------|--------|-----------------|
| **Investment category**                                    |        |                 |
| Very high reliability (quality)                            | AAA    | 1               |
| High reliability (quality)                                 | AA+    | 2               |
|                                                           | AA     | 3               |
|                                                           | AA-    | 4               |
| Moderately high reliability (quality)                      | A+     | 5               |
|                                                           | A      | 6               |
| **Sufficient reliability (quality)**                       | A-     | 7               |
|                                                           | BBB+   | 8               |
|                                                           | BBB    | 9               |
|                                                           | BBB-   | 10              |
| **Non-investment (speculative) category**                  |        |                 |
| Sufficient uncertainty of fulfillment of obligations       | BB+    | 11              |
|                                                           | BB     | 12              |
|                                                           | BB-    | 13              |
| High uncertainty of fulfillment of obligations             | B+     | 14              |
|                                                           | B      | 15              |
|                                                           | B-     | 16              |

Descriptive statistics is presented in Table 2.

Table 2 Descriptive statistics

|                      | Mean    | Median  | S.D.    | Min   | Max   |
|----------------------|---------|---------|---------|-------|-------|
| Rating               | 7.545   | 6.500   | 4.887   | 1.000 | 16.00 |
| PI                   | 77.18   | 78.50   | 7.055   | 59.00 | 87.00 |
| GERD                 | 1.682   | 1.485   | 0.9819  | 0.3887| 4.149 |
| TRes                 | 6.231   | 6.235   | 3.168   | 0.5766| 12.44 |
| RD_pers              | 10.14   | 10.97   | 4.558   | 1.613 | 16.02 |
| GDP                  | 1.212   | 0.7816  | 1.186   | 0.1428| 4.633 |

Table 3 The impact of political risk

|                  | coefficient | std. error | z     | p-value |
|------------------|--------------|------------|-------|---------|
| Const            | 27.4449      | 15.0434    | 1.824 | 0.0681* |
| Rating           | -0.784875    | 0.258162   | -3.040| 0.0024***|

3 Standard and Poor’s  https://www.spratings.com/en_US/topic/-/render/topic-detail/global-sovereigns

The results of the empirical analysis are presented in Table 3.
4. Conclusions
Based on the empirical analysis, a conclusion can be made that the probability of becoming an observer member of the Arctic Council depends on the level of credit risk (sovereign rating) and GDP. At the same time, the level of GDP and a higher rating increase the probability of the country being included in the group of observers.

As for the main explanatory variable and the base hypothesis, based on the results obtained and available data, it was not possible to reveal the statistical significance of political risk in a model that predicts the probability of the country being granted the Arctic Council observer status.

Since a credit rating is an opinion about the level of credit risk, Standard and Poor’s rating agency highlights the factors affecting the readiness and ability of a sovereign government to timely and fully service its financial obligations as measured at the initial stage: Institutional, Economic, External, Fiscal and Monetary [17]. These categories are more economic.

5. Acknowledgements
The paper is based on research carried out with the financial support of the grant of the Russian Science Foundation (Project No. 14-38-00009, The program-targeted management of the Russian Arctic zone development). Peter the Great St. Petersburg Polytechnic University.
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