

## Country Comparisons on the Concept of Economic Freedom: A Multi-Criteria Decision-Making Approach

Gökhan Özkaya<sup>a, b</sup>

### Abstract

Economic freedom is a broad term with numerous aspects. The aim of the study is to increase awareness of the economic freedom components and to provide an analytical approach. Entropy, TOPSIS, ARAS, SAW, Borda Count Method, Clustering, and Spearman correlation analysis were used to assess 40 nations. The countries with the greatest per capita GDP such as Hong Kong, Singapore, and Switzerland are at the top of the economic freedom ranking. On the other side, countries with low per-capita income such as Poland, Thailand, and Russian Federation rank bottom. Governments and officials in low-scoring nations must provide an environment of stability, trust, and facilitation for their residents and foreign investors in terms of trade tariffs, inflation, and account restrictions. Individuals, groups, non-governmental organizations, and institutions should persuade decision-makers and politicians to take novel action plans in terms of taxes, inflation policies, account restrictions, and decision-making in favour of greater freedom.

### Keywords

Economic Freedom  
SAW  
ARAS  
Cluster Analysis

### About Article

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## Ekonomik Özgürlük Kavramı Açısından Ülke Karşılaştırmaları: Çok Kriterli Karar Verme Yaklaşımı

### Özet

Ekonomik özgürlük, birçok yönü olan geniş bir terimdir. Çalışmanın amacı da, ekonomik özgürlük bileşenlerine yönelik farkındalığı artırmak ve analitik bir yaklaşım sağlamaktır. 40 ülkeyi değerlendirmek için Entropi, TOPSIS, ARAS, SAW, Borda Sayım Metodu, Kümeleme ve Spearman korelasyon yöntemleri kullanılmıştır. Çalışmaya göre, Hong Kong, Singapur ve İsviçre gibi kişi başına düşen GSYİH'nın en yüksek olduğu ülkeler ekonomik özgürlük sıralamasında en üst sıralarda yer almaktadır. Öte yandan Polonya, Tayland ve Rusya gibi kişi başına düşen gelirin düşük olduğu ülkeler ise, en alt sıralarda yer almaktadır. Düşük puan alan ülkelerdeki hükümetler ve yetkililer, ticaret tarifeleri, enflasyon ve hesap kısıtlamaları açısından vatandaşları ve yabancı yatırımcılar için istikrar, güven ve kolaylık ortamı tesis etmelidir. Bireyler, gruplar, sivil toplum kuruluşları ve kurumlar, karar vericileri ve politikacıları vergiler, enflasyon politikaları, hesap kısıtlamaları ve daha fazla özgürlük lehine karar alma açısından yeni eylem planlarında bulunmaya ikna etmelidir.

### Anahtar Kelimeler

Ekonomik Özgürlük  
SAW  
ARAS  
Kümeleme Analizi

### Makale Hakkında

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<sup>a</sup> gozkaya@yildiz.edu.tr

<sup>b</sup> Dr, Yildiz Technical University, Department of Business Administration, Istanbul, Turkey, ORCID: 0000-0002-2267-6568

Introduction

Milton Friedman who is a Nobel Prize-winning economist indicates that there are basically two options to organize economy of a country. The first is the central aspect, which includes the use of coercion (government). The other refers to the use of the market by voluntary cooperation of individuals. To the extent that an economy allows voluntary behavior by individuals, its economy and market can be considered as free (Institute, 2021). A more technical definition of economic freedom is the fundamental right of every person to control their own labor and property. In societies with economic freedom, people have freedom to work, manufacture, use and spend rights. In these societies, governments allow and liberate the free movement of capital, labour, and products (Miller, Kim, & Roberts, 2020). Therefore, voluntary exchange, the freedom to compete in the markets, and the protection of the rights and property of individuals are expressed as the most important factors in economic freedom (Satrovic & Sehic, 2016).

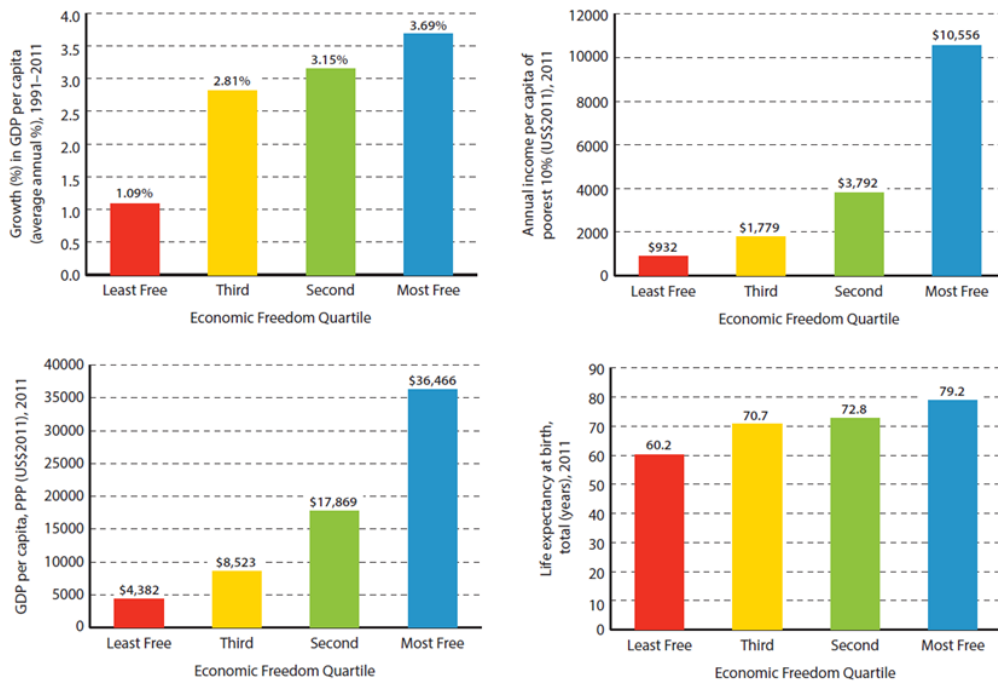


Figure 1. Some basic statistics by level of economic freedom (Instiute, 2014).

Moreover, economies without institutions and policies that protect these components are unlikely to have real economic freedom. Both theory and practice agree that economic freedom leads to economic growth of the country (Muslija, 2018). Through the data collected and analyzed in academic studies, important conclusions have been reached that more economic freedom in a nation leads to more prosperity, less poverty, better health, more justice and political freedom. According to Figure 1, per capita incomes are also quite high in countries that are more successful in economic freedom. In addition, the growth trends are considerably fast. In countries with high economic freedom, the income and share of the poorest 10% population in total welfare are higher than in other countries. In these countries, life expectancy is approximately twenty years longer than in others (Instiute, 2014).

The literature review results indicate that, it is seen that countries are compared with MCDM and multivariate statistical approaches. The studies conducted with similar subjects and

methods to this study are as follows. Sambharya and Rasheed (2015) analyzed the relationship between economic freedom and foreign direct investment for a six-year period in their study evaluating 95 countries. They applied cross-sectional time series and regression analysis. Bauer (2016) examined the correlation between life quality and economic freedom. Yevdokimov, Melnyk, Lyulyov, Panchenko, and Kubatko (2018) studied the function and effect of economic freedom on macroeconomic stability in 11 EU countries by using the integrated economic freedom index proposed by the Heritage Foundation and Democracy Index. Ott (2018) tried to explain some issues in order to advance the measurement of the economic freedom index proposed by the Heritage Foundation and the Fraser Institute.

Hussain and Haque (2016) studied the impact of economic freedom on 5-year and annual GDP growth rates. In their study, Çetenak and Mine (2016) studied the correlation between economic growth and its ten sub-indices expressing The Index of Heritage Foundation for 32 OECD countries. Angulo-Guerrero, Pérez-Moreno, and Abad-Guerrero (2017) analyzed the correlation between the Fraser Institute's index of economic freedom and Global Entrepreneurship Monitors on entrepreneurship of opportunity and entrepreneurship of necessity. Graafland and Compen (2015) investigated which dimensions of economic freedom were most associated with life satisfaction and to examine whether these relations were mediated by income and trust. They determined that life satisfaction was positively correlated with the legal system quality and negatively correlated with small state size.

Çifçi, Uzgören, and Özbek (2018) aimed to show the relation among economic freedoms and growth in 35 OECD countries practicing 1996-2015 annual data by panel data method. They stated that one point increase in the index of economic freedoms of Turkey made a raise about 287 dollars in real income.

Deineko, Tsyplitska, Hrebenuk, and Deineko (2021) used the Economic Freedom Index (proposed by the Heritage Foundation) to assess the impact of the Ukraine's sectoral and horizontal aid state policy. They practiced the multiple linear regression approach. Cabello, Ruiz, and Pérez-Gladish (2021) concentrated on the aggregation and normalization methods practiced to create composite indicator, and they utilized the data of the Heritage Foundation economic freedom index.

The Fraser Institute examines a country's economic freedom in five dimensions: size of government, legal system and property rights, sound money, freedom of international trade and regulation (Institute, 2021). In this study, Entropy method, one of the objective weighting methods, was preferred as the weighting method. Employing these weights, 40 countries were analyzed using TOPSIS, ARAS and SAW methods. 5 dimensions and 42 indicators were used in the evaluation. In addition, countries that are similar to each other are determined and divided into clusters by using the cluster analysis.

Turkey has been trying to become a member of the EU and also it is a member of many economic cooperation organizations such as the G20 and ASEAN. For this reason, this study is aimed to evaluate together the G20 participant countries, the countries with similar development levels as Turkey in Europe, whether which are members of the European Union or not, and countries that are similar to Turkey in terms of development and economy in ASEAN (The Association of Southeast Asian Nations). Hong Kong, on the other hand, has been added to the study in order to be able to compare it with the Index results, since it is the first nation in the evaluation of the Fraser Institute.

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As a result of the literature review, it is generally focused on the correlation of the concept of economic freedom with another concept. Concepts such as per capita, life quality, macroeconomic stability, other freedoms (financial freedom, monetary freedom, commercial freedom) and happiness, annual GDP growth, economic growth, entrepreneurship, life satisfaction are used in these regression and correlation analyses.

When the literature is evaluated, the indicators and current data in the Fraser Institute Index have not received sufficient attention in scientific studies. In addition, it is seen that Multi-Criteria Decision-Making methods have not used in economic freedom evaluations. In general, basic statistical methods such as correlation and regression were used. This study analyzed all current indicators of the Fraser Institute Index with MCDM methods. Thus, it would be a novelty in the literature in terms of methodology and scope, and fill the gap in the literature. Additionally, the study used the Entropy approach to evaluate the importance weights of economic freedom indicators.

Table 1 lists some examples of research in the literature that were conducted on the Entropy, TOPSIS, ARAS, SAW, Cluster technique, and Borda Count methods that were employed in the study.

**Table 1.** Literature Review on the Methods Used in the Analysis

<b>Some Studies with the Entropy Method</b>	
Evaluation of Turkey's Tourism Performance	<a href="#">Karaatlı, Ömürbek, Budak, and Dağ (2015)</a>
Using ranked weights and Shannon entropy to modify regional sustainable society index	<a href="#">Wu, Fu, Shen, and Liu (2018)</a>
Performance Evaluation of Twenty-seven EU Member States and 6 EU Candidate Countries	<a href="#">Çakır and Perçin (2013)</a>
<b>Some Studies with the ARAS Method</b>	
Comparison of the Macroeconomic Performances of the European Union Countries and the Candidate Countries through ARAS Method	<a href="#">Orhan (2020)</a>
Measuring performance of transportation companies in developing countries with ARAS method	<a href="#">Radović et al. (2018)</a>
Comparison of Tourism Potentials Using Preference Selection Index Method	<a href="#">Stanujkic, Stanujkic, Karabasevic, Sava, and Popovic (2020)</a>
<b>Some Studies with the Entropy and TOPSIS Methods</b>	
Performance Evaluation of Public Health Expenditures of OECD Countries with MCDM Methods	<a href="#">Pekkaya and Dökmen (2019)</a>
A hybrid approach using entropy and TOPSIS to select key drivers for a successful and sustainable lean construction implementation	<a href="#">Dehdasht, Ferwati, Zin, and Abidin (2020)</a>
<b>Some Studies with the TOPSIS and SAW Methods</b>	
Comparing regions ranking by MCDM methods: the case of visegrad countries	<a href="#">Poledníková (2014)</a>
Analyzing problems and optimization of supply chain in different industries using SAW and TOPSIS methods	<a href="#">Pathak and Garg (2019)</a>
Utilization and comparison of multi attribute decision techniques to rank countries upon human development rate: Entropy, SAW and TOPSIS	<a href="#">Soltanpanah, Farughi, and Golabi (2010)</a>

<b>Some Studies with the TOPSIS Method</b>	
Application of TOPSIS method for analysis of sustainable development in European Union countries	<a href="#">Balcerzak and Pietrzak (2016)</a>
Comparison of macroeconomic performances of Sub-Saharan African countries with TOPSIS method	<a href="#">Mehmet and Kurt (2019)</a>
TOPSIS as Evaluation Tool of eGovernment Development in EU Member States	<a href="#">Vavrek and Ardielli (2018)</a>
<b>Some Studies with the SAW Method</b>	
Measuring logistics performance of OECD countries	<a href="#">Çakır (2017)</a>
Comparing the R&D Performance of Countries of EU	<a href="#">Orhan and Aytekin (2020)</a>
Measuring sustainable development in the education area using multi-criteria methods: a case study	<a href="#">Roszkowska and Filipowicz-Chomko (2020)</a>
<b>Some Studies with TOPSIS and ARAS Methods</b>	
Performance evaluation of privatized ports by Entropy based TOPSIS and ARAS approach	<a href="#">Gök-Kısa, Çelik, and Peker (2021)</a>
Which OECD Countries Are Advantageous in Fight Against COVID-19?	<a href="#">Boyacı (2021)</a>
<b>Some Studies with Entropy, ARAS and SAW Methods</b>	
Ranking the Military Forces of NATO Countries with Entropy Based SAW and ARAS Methods	<a href="#">Altın, Tunca, and Ömürbek (2020)</a>
Science, Technology and Innovation Policy Indicators and Comparisons of Countries	<a href="#">Ozkaya, Timor, and Erdin (2021)</a>
<b>Some Studies with the Cluster Method</b>	
Changes in Global Cropland Area and Cereal Production: An inter-Country Comparison	<a href="#">Yu, Xiang, Wu, and Tang (2019)</a>
National Health Innovation Systems: Clustering the OECD Countries by Innovative Output in Healthcare Using a Multi-Indicator Approach	<a href="#">Proksch, Busch-Casler, Haberstroh, and Pinkwart (2019)</a>
Export credit insurance and export performance	<a href="#">Polat and Yeşilyaprak (2017)</a>
<b>Some Studies Made with Borda Count Method</b>	
Travel and Tourism Competitiveness Ranking of 133 Countries	<a href="#">Wu (2011)</a>
Multidimensional Measurement of Poverty Levels of 24 Countries	<a href="#">Kabaş (2007)</a>

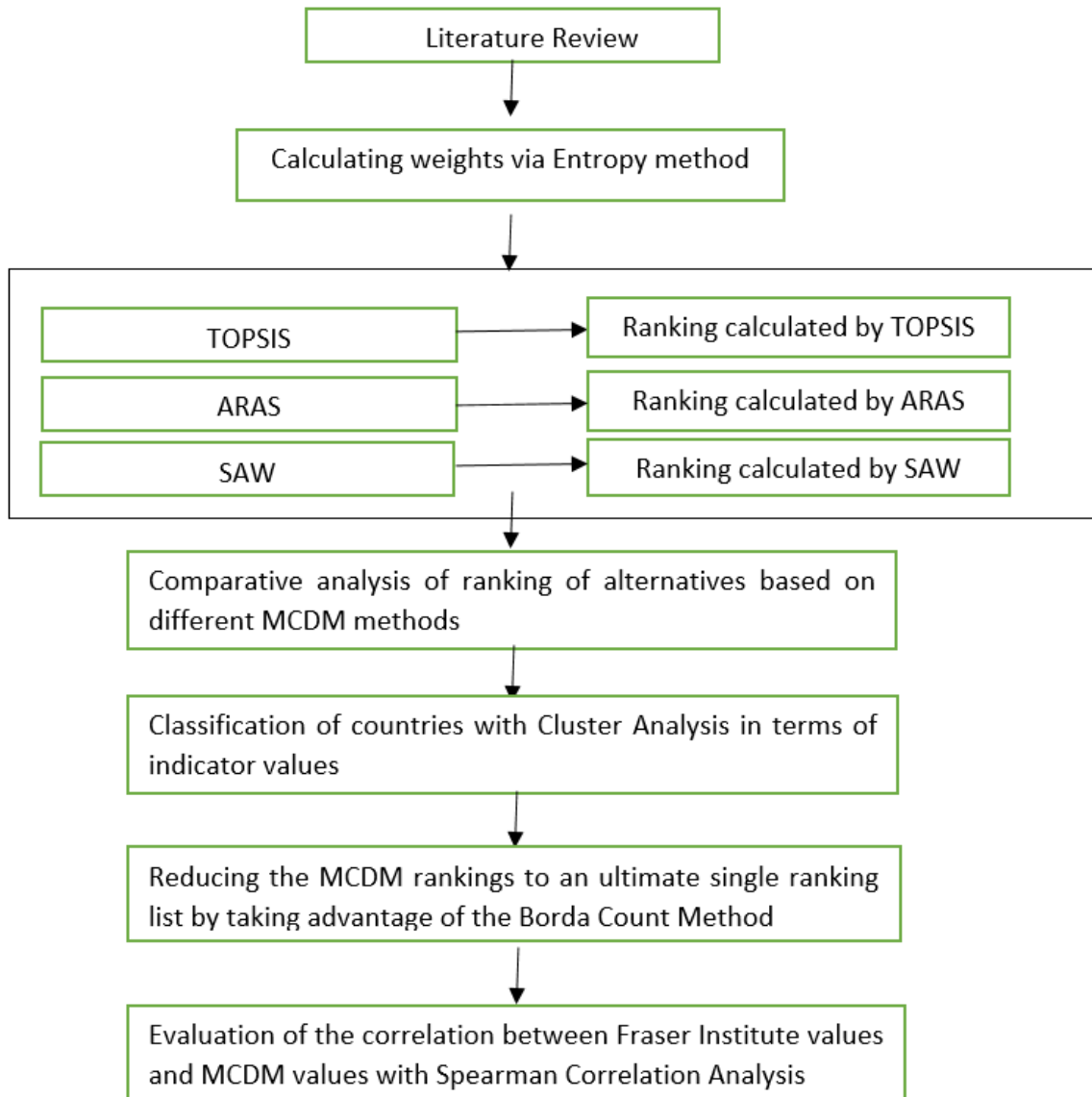
This research used The Fraser Institute's index assessment with five dimensions and 42 indicators that includes topics like government authority taxes, restrictions, obstacles, public expenditures, trust in the public, the sense of justice and trust felt by the society, and gender inequalities. Thus, it was aimed to contribute to the content in the literature by expanding the scope of the criteria evaluating the concept of economic freedom and to determine the most effective indicators on this concept. This was achieved with the Entropy method which has a completely objective mathematical calculation system by using the values of the raw data. In the Entropy method, it analyzes directly with secondary data and does not include subjective processes such as taking expert opinions and using them in evaluation. Therefore, these features highlight the objectivity of the method. Another aim was to compare the results of the studies in the literature with the results obtained from other studies.

The remaining of the article is formed as follows: In the second section, the methods are explained. The results are presented in the third section. The fourth section presents the discussion while the last section includes the conclusion.

### **Methods and Data**

Each MCDM technique has its own set of advantages and disadvantages, and there is no consensus on which method is the most appropriate for tackling a particular kind of issue at this time (Altın, Tunca, and Ömürbek (2020); de Farias Aires & Ferreira, 2019; Dobrovolskiiene & Tamosiuniene, 2016). However, according to the results of the literature review, SAW and TOPSIS are the most commonly used MCDM approaches among all. (Broniewicz & Ogrodnik, 2020; de Farias Aires & Ferreira, 2019; Dobrovolskiiene et al., 2019; Podvezko, 2011) (Dobrovolskiiene & Pozniak, 2021). Also, the ARAS approach was included in the research because of its simplicity of application and the fact that it has been used often in comparable studies. A final list was attempted to be constructed using the Borda Count method.

The methodological framework of the study is presented in Figure 2.



**Figure 2.** Research framework

### Entropy Method and Objective Weights

In the entropy method, a decision matrix is created with the quantitative values of the indicators and necessary action is taken on it (Kahraman, Abdulhamit, & Özevin, 2017). The estimation of the relative contrast intensities of the decision-making criteria is obtained With the concept of Entropy proposed by Shannon and Weaver (1949) (Zeleny, 2012).

The weight computation steps of the entropy approach are as follows (Ozkaya, Timor, & Erdin, 2021; Wang & Lee, 2009):

1<sup>st</sup> Step: Obtaining the Decision Matrix

$$X = \begin{bmatrix} x_{11} & \cdots & x_{1n} \\ \vdots & \ddots & \vdots \\ x_{m1} & \cdots & x_{mn} \end{bmatrix} \quad (1)$$

2<sup>nd</sup> Step: Computing the Normalized Decision Matrix

These indicators are normalized according to their utility or cost features so that the indicator values with different units can be evaluated together:

$$\begin{aligned} r_{ij} &= x_{ij}/\max_{ij}(i = 1, \dots, m; j = 1, \dots, n) \\ r_{ij} &= x_{ij}/\min_{ij}(i = 1, \dots, m; j = 1, \dots, n) \end{aligned} \quad (2)$$

*i* represents alternatives; *j* = criteria; *r<sub>ij</sub>* = normalized values;  
*x<sub>ij</sub>* = benefit values of the *i*. alternative for *j*.

$$P_{ij} = \frac{a_{ij}}{\sum_{i=1}^m a_{ij}}; \forall_j \quad (3)$$

*P<sub>ij</sub>* defines normalized values while *a* defines utility values.

3<sup>rd</sup> Step: Determining the entropy measure

$$E_j = -(\ln m)^{-1} \sum_{i=1}^m [P_{ij} \ln P_{ij}]; \forall_j \quad (4)$$

*k* = entropy coefficient  $\{(\ln(n))^{-1}\}$ ; *P<sub>ij</sub>* = normalized values; *E<sub>j</sub>* = entropy value

4<sup>th</sup> Step: Determining the (*d<sub>j</sub>*) uncertainty value

$$d_j = 1 - E_j; \forall_j \quad (5)$$

5<sup>th</sup> Step: Determination of *w<sub>j</sub>* weights expressing the relative importance of *j*

$$w_j = \frac{d_j}{\sum_{j=1}^n d_j}; \forall_j \quad (6)$$

The total value of these weights is equal to 1.

$$w_1 + w_2 + w_j + \cdots + w_n = 1 \quad (7)$$

### Multi-Criteria decision making methods

In this section, the mathematical operations of the MCDM methods used are shown.

#### TOPSIS (Technique for Order Preference by Similarity to Ideal Solution) Method

The method suggested by Hwang and Yoon (1981) tries to obtain the most ideal solution between the possible alternatives The method is commonly explained in five stages:

1<sup>st</sup> Step: Normalization of the decision matrix

The R matrix is built by employing the  $r_{ij}$  values computed in this stage:

$$r_{ij} = \frac{x_{ij}}{\sqrt{\sum_{k=1}^m x_{kj}^2}}, i = 1, \dots, m; j = 1, \dots, n \quad (8)$$

2nd Step: Computing  $v_{ij}$  matrix using the  $v_{ij}$ -weighted normal values.  $w_j$  defines the weight of the  $j^{\text{th}}$  criterion or indicator.

$$v_{ij} = w_j r_{ij}, \sum_{j=1}^n w_j = 1 \quad (9)$$

3rd Step: Positive ( $A^*$ ) and negative ( $A^-$ ) ideal solutions:

$$A^* = \left\{ \left( \max_i v_{ij} \mid j \in C_b \right), \left( \min_i v_{ij} \mid j \in C_c \right) \right\} = \{v_j^* \mid j = 1, 2, \dots, m\} \quad (10)$$

If the  $j$  is a benefit indicator,

$$v_j^+ = \max\{v_{ij}, i = 1, \dots, m\}, v_j^- = \min\{v_{ij}, i = 1, \dots, m\} \quad (12)$$

If the  $j$  is a cost indicator,

$$v_j^- = \max\{v_{ij}, i = 1, \dots, m\}, v_j^+ = \min\{v_{ij}, i = 1, \dots, m\} \quad (13)$$

4th Step 4: Calculation of deflections of all options from positive and negative solutions employing the  $m$ -dimensional Euclidean distance:

$$S_i^+ = \sqrt{\sum_{j=1}^m (v_{ij} - v_j^+)^2}, j = 1, 2, \dots, m \quad (14)$$

$$S_i^- = \sqrt{\sum_{j=1}^m (v_{ij} - v_j^-)^2}, j = 1, 2, \dots, m \quad (15)$$

5th Step 5: Determination of relative proximities to the  $A^*$ . Then the relative closeness ( $RC_i$ ) of the alternative defined as  $A_i$  to the ideal solution is obtained. Then these values are ordered from largest to smallest.

$$RC_i^* = \frac{S_i^-}{S_i^+ + S_i^-}, i = 1, \dots, m \quad (16)$$

### SAW (Simple Additive Weighting)

The mathematical stages of the SAW method, which is preferred due to its simple calculation process related to other MCDM methods, are presented following (Ömürbek, Karaatli, & Cömert, 2016; Yeh, 2002):

1st Step: Normalization of decision matrix

The calculation process varies according to whether the criteria are benefit or cost criteria (Urmak, Çatal, & Karaatli, 2017):

$$r_{ij} = \begin{cases} \frac{x_{ij}}{\max X_{ij}} & i = 1, \dots, m; j = 1, \dots, n \text{ for benefit criteria} \\ \frac{\min X_{ij}}{x_{ij}} & i = 1, \dots, m; j = 1, \dots, n \text{ for cost criteria} \end{cases} \quad (17)$$

2nd Step: Computation of preference values ( $S_j$ )

$$S_j = \sum_{i=1}^m w_i r_{ij} \quad i = 1, \dots, m \quad (18)$$

$$S_j^{\%} = \frac{S_j}{\sum_{j=1}^n S_j} \quad (19)$$



When sorting the alternatives, the alternative with the largest  $S_j\%$  is determined as the most proper option in the SAW ranking list.

### **ARAS (A New Additive Ratio Assessment)**

The utility function values of the alternatives are compared with the utility function value of the optimal alternative (Sliogeriene, Turskis, & Streimikiene, 2013). The method has 4 processing stages (Zavadskas & Turskis, 2010).

1st Step. Creating decision matrix

2nd Step. Normalization

$$X_{ij}^* = \frac{x_{ij}}{\sum_{i=1}^m x_{ij}}, \forall j = 1, 2, \dots, n \quad (20)$$

3rd Step. Creating the weighted normalized decision matrix ( $D'$ )

$$D' = \hat{x}_{ij} = x_{ij}^* \times w_j \quad (21)$$

4th Step. In the last step of the ARAS approach, the optimality function value ( $S_i$ ) of each alternative is determined.

$$S_i = \sum_{j=1}^n \hat{x}_{ij}, i = 0, 1, \dots, m \quad (22)$$

As the  $S_i$  value of the alternative increases, the efficiency of the alternative increases. The formulation of the ( $K_i$ ) utility is given below.

$$K_i = \frac{S_i}{S_0}, i = 0, 1, \dots, m \quad (23)$$

The values are in the range of [0,1]. The alternative with the largest  $K_i$  value is the best.

### **K-means Clustering Algorithm**

K-means cluster algorithm was described by MacQueen (1967) which tries to decide the cluster centers, ( $c_1, \dots, c_k$ ), to reduce the amount of the squared distances (Distortion,  $D$ ) of per input point ( $x_i$ ) to its closest cluster centre ( $c_k$ ), as displayed in Equation where  $d$  is some distance function. Generally, Euclidean distance is preferred as the  $d$ . The processes are presented below (Azadnia, Ghadimi, & Molani-Aghdam, 2011):

- a. Determine the  $K$  centre positions ( $c_1, \dots, c_k$ ).
- b. Distribute all  $x_i$  to closest cluster centre  $c_k$ .
- c. All cluster center is recalculated to be the average of all  $x_i$ 's nearest to it.
- d. Compute  $D = \sum_{i=1}^n [\min_{k=(1..k)} d(x_i, c_i)]^2$
- e. When the value of  $D$  converges, ( $c_1, \dots, c_k$ ) is returned; otherwise, continue from Step 2.

### **Borda Count Method**

The Borda Count Method is a reduction and data merging technique that aims to create a final ranking by considering the rankings of alternatives in different preference lists (Lamboray, 2007; Nuray & Can, 2006). In the method, zero points are assigned for the alternatives in the last row of the preference lists with  $n$  alternatives, and  $(n-1)$  points are assigned for the alternatives in the top row. In calculating the Borda score of each alternative, the score assigned to the rank of the alternative in each list is multiplied by the weight of the relevant list, and finally the calculated values of the relevant alternative in each list are added. The alternatives

are ranked from high to low to obtain the final reduced composite ranking table (Lippman, 2017).

### *Normalization*

In order to prevent the analysis results from being affected by extreme values, the values of each indicator are converted into a number between zero and 1 using the formula  $(X_{max} - X_i)/(X_{max} - X_{min})$ .  $X_{max}$  is the largest value of an indicator while  $X_{min}$  is the smallest and  $X_i$  is the converted observation. While raw values are used in the Entropy decision matrix, in other MCDM methods, the decision matrix is created with the values obtained from this normalization. The limitations arising from the Entropy method's inability to use negative data and the nature of the logarithmic function are solved by the normalization process.

### *Data*

The index used in practice consists of 42 indicators and five basic dimensions such as the size of government, the legal system and security of property rights, sound money, freedom of international trade, and regulation. The index data is updated every two years. The data used in this study are 2018 data. The data was collected from third party references, such as the International Country Risk Guide, the Global Competitiveness Report, and the World Bank's Doing Business project by the Institute. Some of the basic evaluations about these five dimensions are as follows (Institute, 2021).

- a. **Size of Government:** While government spending, taxation, and government-controlled admission costs rise in a country, individual preferences are replaced by government decision-making, and thus economic freedom decreases.
- b. **Legal System and Property Rights:** The security of life and legally earned property of individuals is both an important feature of economic freedom and the primary duty of the state.
- c. **Sound Money:** Inflation devalues the worth of legally earned wages and savings. Sound money is accordingly needed to protect property rights. When inflation is both high and volatile, it becomes challenging for individuals to make decisions for the future and thus to use their economic freedom efficiently.
- d. **Freedom to Trade Internationally:** Freedom of trade, defined in its most comprehensive meaning as activities such as buying, selling, contracting, etc., causes a decrease in economic freedom and a restriction on investments and capital when it does not involve businesses and individuals in other countries.
- e. **Regulation:** Not only can governments implement a number of tools to restrict global freedom of trade, they can also impose heavy regulations that control the right to barter, get loans, hire or work, or freely control your business.
- f. **Gender Legal Rights Adjustment:** The index includes an indicator for gender inequality to consider the fact that in many countries women do not have legally granted equal level of economic freedom as men.

## Results

According to the results of the Entropy approach, the most important dimension is freedom to trade internationally with a value of 33.81%, while the following dimensions are regulation (24.19%); sound money (24%); size of government (12.6%); legal system and property rights (5.4%). Table 2 presents the entropy weights of all indicators in descending order.

**Table 2.** Entropy Weights of the Economic Freedom Index indicators

Indicators	Definitions	wj	Indicators	Definitions	wj
4Ai	Revenue from trade taxes (% of trade sector)	0.10875	2D	Military interference in rule of law and politics	0.01064
3B	Standard deviation of inflation	0.10628	2H	Reliability of police	0.01032
3C	Inflation: Most recent year	0.09246	1E	State ownership of assets	0.00994
3D	Freedom to own foreign currency bank accounts	0.08228	5Cvi	Tax compliance	0.00871
4Aiii	Standard deviation of tariff rates	0.06689	5Biv	Hours Regulations	0.00867
4Dii	Capital controls	0.05897	5Biii	Centralized collective bargaining	0.00837
1B	Transfers and subsidies	0.04183	1A	Government consumption	0.00826
4Aii	Mean tariff rate	0.04182	5Bvi	Conscription	0.00746
3A	Money growth	0.03383	2F	Legal enforcement of contracts	0.00688
1C	Government investment	0.03145	2A	Judicial independence	0.00681
4Diii	Freedom of foreigners to visit	0.02924	2E	Integrity of the legal system	0.00619
5Bv	Mandated cost of worker dismissal	0.02849	2B	Impartial courts	0.00592
4Di	Financial Openness	0.02614	4Bii	Compliance costs of importing and exporting	0.00366
1Di	Top marginal income tax rate	0.02233	5Aiii	Interest rate controls/negative real interest rates)	0.00283
5Bi	Hiring regulations and minimum wage	0.02153	4Bi	Non-tariff trade barriers	0.00268
5Ai	Ownership of banks	0.01855	5Cv	Licensing restrictions	0.00261
5Civ	Impartial Public Administration	0.01788	2G	Regulatory restrictions on the sale of real property	0.00257
5Ci	Administrative requirements	0.01640	2I	Gender Legal Rights Adjustment	0.00252
1Dii	Top marginal income and payroll tax rate	0.01220	2C	Protection of property rights	0.00250
5Cii	Regulatory Burden	0.01193	5Aii	Private sector credit	0.00232
5Bii	Hiring and firing regulations	0.01074	5Ciii	Starting a business	0.00014

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Accordingly, the indicator with the greatest relative weight is the revenue from trade taxes (percentage of the trade sector) (1,088%). This is followed by Standard deviation of inflation creation (1.063%), inflation: most recent year (0.925%), freedom to own foreign currency bank accounts (0.823%), standard deviation of tariff rates (0.667%), capital controls (0.59%), transfers and subsidies (0.42%), mean tariff rate (0.42%), money growth (0.34%), government investment (0.32%), freedom of foreigners to visit (0.2924%) and mandated cost of worker dismissal (0.2849%).

**Table 3.** Relative Preference Values ( $S_j\%$ ) and SAW Analysis Ranking

Countries	Relative Values ( $S_j\%$ )	Countries	Relative Values ( $S_j\%$ )
Hong Kong SAR, China	0.040732	Israel	0.024996
Singapore	0.039570	Norway	0.024968
Ireland	0.033923	Belgium	0.024962
Australia	0.033047	Malaysia	0.024340
Switzerland	0.031538	Sweden	0.024218
Canada	0.030073	Hungary	0.023951
United States	0.030062	Italy	0.023379
Japan	0.029420	Poland	0.022427
United Kingdom	0.029217	France	0.022245
Germany	0.029216	Mexico	0.020754
Denmark	0.028486	United Arab Emirates	0.019503
Netherlands	0.028374	Indonesia	0.019035
Spain	0.028326	South Africa	0.018458
Czech Republic	0.028293	Russian Federation	0.017356
Austria	0.028135	Greece	0.016729
Finland	0.028050	Thailand	0.015855
Iceland	0.027779	India	0.015148
Slovak Republic	0.026772	Turkey	0.014522
Korea, Rep.	0.026019	Brazil	0.013125
Portugal	0.026017	China	0.010980

According to the results of the SAW approach in Table 3, Hong Kong has the largest value, while Singapore, Ireland, Australia, Switzerland and Canada are following it respectively. On the other hand, the five countries with the poorest scores are China, Brazil, Turkey, India, and Thailand respectively.

Table 4 presents the ideal ( $S_i^*$ ), negative ideal ( $S_i^-$ ), and relative closeness to the ideal solution ( $C_i^*$ ) values determined by TOPSIS method. The country ranking list obtained through the TOPSIS method using the Index of Economic Freedom indicators is shown in Table 4. Hong Kong is at the top of the ranking, while the other top five countries are Singapore, Switzerland, the USA and Australia, respectively. Greece, Brazil, China, India and Turkey are at the bottom of the list.

**Table 4.** TOPSIS Ranking of Countries In Terms of the Economic Freedom Index Indicators

Countries	$S_i^*$	$S_i^-$	$C_i^*$	Countries	$S_i^*$	$S_i^-$	$C_i^*$
Hong Kong SAR, China	0,087	0,112	0,563	Belgium	0,138	0,029	0,172
Singapore	0,124	0,071	0,366	Malaysia	0,135	0,027	0,167
Switzerland	0,127	0,060	0,322	Portugal	0,135	0,026	0,162
United States	0,127	0,059	0,318	Norway	0,136	0,026	0,160

Australia	0,129	0,060	0,317	Italy	0,136	0,025	0,157
Ireland	0,134	0,045	0,249	France	0,136	0,025	0,156
Canada	0,130	0,041	0,240	Sweden	0,137	0,025	0,155
United Kingdom	0,131	0,037	0,222	Hungary	0,138	0,024	0,151
Denmark	0,131	0,037	0,219	Poland	0,136	0,024	0,147
Germany				United Arab			
	0,131	0,036	0,217	Emirates	0,139	0,024	0,147
Netherlands	0,138	0,038	0,214	Indonesia	0,138	0,023	0,143
Japan	0,133	0,034	0,206	Thailand	0,140	0,023	0,142
Austria	0,133	0,033	0,198	Mexico	0,138	0,023	0,141
Iceland	0,135	0,033	0,197	Russian Federation	0,138	0,022	0,136
Finland	0,133	0,032	0,195	South Africa	0,140	0,020	0,123
Slovak Republic	0,134	0,032	0,192	Greece	0,138	0,019	0,123
Czech Republic	0,136	0,031	0,187	Brazil	0,141	0,018	0,114
Spain	0,134	0,031	0,186	China	0,139	0,016	0,105
Israel	0,134	0,030	0,185	India	0,141	0,016	0,104
Korea, Rep.	0,134	0,030	0,182	Turkey	0,143	0,012	0,079

In Table 5, priority values (Si) and benefit values (Ki) obtained from the ARAS method are presented. As seen in the ranking, Singapore is at the top, while China is the last. According to the results of the analysis with economic freedom indicators employing the ARAS, the five countries at the top of the list are Singapore, Hong Kong SAR (China), Australia, Switzerland and Ireland, respectively. The countries at the bottom of the ranking are South Africa, Turkey, India, Brazil and China.

**Table 5.** ARAS Optimality Function Values and Country Rankings

Optimal Value: 0.19714	Si	Ki	% Ki	ARAS Method Ranking (% Ki)	
Countries					
Australia	0.04789	0.2429	24.29	Singapore	69.45
Austria	0.02367	0.1201	12.01	Hong Kong SAR, China	25.01
Belgium	0.02128	0.1079	10.79	Australia	24.29
Brazil	0.01104	0.056	5.60	Switzerland	15.74
Canada	0.02602	0.132	13.20	Ireland	15.15
China	0.01085	0.055	5.50	Denmark	14.19
Czech Republic	0.02287	0.116	11.60	United States	13.45
Denmark	0.02797	0.1419	14.19	Canada	13.20
Finland	0.02436	0.1236	12.36	United Kingdom	12.95
France	0.01866	0.0947	9.47	Japan	12.93
Germany	0.02456	0.1246	12.46	Germany	12.46
Greece	0.01547	0.0785	7.85	Netherlands	12.38
Hong Kong SAR, China	0.0493	0.2501	25.01	Finland	12.36
Hungary	0.02046	0.1038	10.38	Austria	12.01
Iceland	0.02185	0.1108	11.08	Czech Republic	11.60
India	0.01218	0.0618	6.18	Spain	11.17
Indonesia	0.01843	0.0935	9.35	Iceland	11.08
Ireland	0.02986	0.1515	15.15	Korea, Rep.	11.04
Israel	0.02137	0.1084	10.84	Israel	10.84
Italy	0.02074	0.1052	10.52	Slovak Republic	10.79
Japan	0.0255	0.1293	12.93	Belgium	10.79
Korea, Rep.	0.02177	0.1104	11.04	Portugal	10.60
Malaysia	0.02072	0.1051	10.51	Italy	10.52

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Mexico	0.01849	0.0938	9.38	Norway	10.52
Netherlands	0.0244	0.1238	12.38	Malaysia	10.51
Norway	0.02073	0.1052	10.52	Hungary	10.38
Poland	0.01749	0.0887	8.87	Sweden	10.13
Portugal	0.02089	0.106	10.60	France	9.47
Russian Federation	0.01536	0.0779	7.79	Mexico	9.38
Singapore	0.13691	0.6945	69.45	Indonesia	9.35
Slovak Republic	0.02128	0.1079	10.79	Poland	8.87
South Africa	0.01505	0.0763	7.63	United Arab Emirates	8.81
Spain	0.02202	0.1117	11.17	Thailand	8.35
Sweden	0.01998	0.1013	10.13	Greece	7.85
Switzerland	0.03102	0.1574	15.74	Russian Federation	7.79
Thailand	0.01646	0.0835	8.35	South Africa	7.63
Turkey	0.0137	0.0695	6.95	Turkey	6.95
United Arab Emirates	0.01737	0.0881	8.81	India	6.18
United Kingdom	0.02553	0.1295	12.95	Brazil	5.60
United States	0.02651	0.1345	13.45	China	5.50

The dendrogram of the countries, was obtained with the hierarchical clustering approach in the SPSS program, is presented in Figure 3.

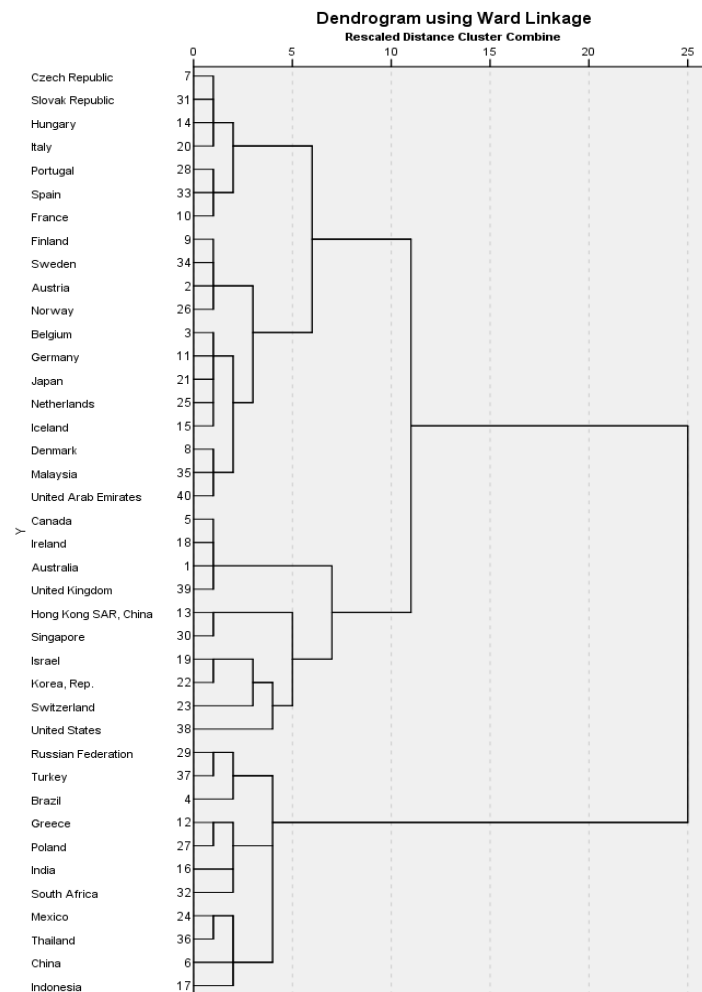


Figure 3. Dendrogram obtained in the study

When the results obtained by the Multi-Criteria Decision Making methods were evaluated, it was seen that the countries concentrated in three groups according to their scores: 30 and above, between 10-20 and less than 10. After taking these findings and the dendrogram into consideration, it was determined that the number of clusters in hierarchical clustering analysis would be three. Thus, it was desired to understand whether there is a consistency between the clusters formed in the cluster analysis and the scores obtained from the Borda Count method. Cluster memberships obtained from the k-means cluster method are shown in Table 6. A common ranking was created from the lists gotten from TOPSIS, ARAS and SAW methods using the Borda Count Method. The importance weights of all methods in the Borda calculations were evaluated equally.

In Figure 3, a screenshot showing the Excel application of the Borda method is presented in order to explain the score calculation and country ranking process of the Borda method.

	A	B	C	D	E	F	G
1		Weights	0,333	0,333	0,333		
2	Position	Points	ARAS	TOPSIS	SAW	Countries	Total Points
3	1	40	Singapore	Hong Kong SAR, China	Hong Kong SAR, China	Australia	37
4	2	39	Hong Kong SAR, China	Singapore	Singapore	Canada	34
5	3	38	Australia	Switzerland	Ireland	Denmark	32,33
6	4	37	Switzerland	United States	Australia	Hong Kong SAR, China	39,67
7	5	36	Ireland	Australia	Switzerland	Ireland	36,33
8	6	35	Denmark	Ireland	Canada	Israel	21,33
9	7	34	United States	Canada	United States	Korea, Rep.	22
10	8	33	Canada	United Kingdom	Japan	Singapore	39,33
11	9	32	United Kingdom	Denmark	United Kingdom	Switzerland	37
12	10	31	Japan	Germany	Germany	United Kingdom	32,33
13	11	30	Germany	Netherlands	Denmark	United States	35
14	12	29	Netherlands	Japan	Netherlands	Brazil	2,67
15	13	28	Finland	Austria	Spain	China	1,67
16	14	27	Austria	Iceland	Czech Republic	Greece	6
17	15	26	Czech Republic	Finland	Austria	India	3
18	16	25	Spain	Slovak Republic	Finland	Indonesia	10
19	17	24	Iceland	Czech Republic	Iceland	Mexico	10,33
20	18	23	Korea, Rep.	Spain	Slovak Republic	Poland	11,67
21	19	22	Israel	Israel	Korea, Rep.	Russian Federation	6,67
22	20	21	Slovak Republic	Korea, Rep.	Portugal	South Africa	6,33
23	21	20	Belgium	Belgium	Israel	Thailand	7,33
24	22	19	Portugal	Malaysia	Norway	Turkey	2,67
25	23	18	Italy	Portugal	Belgium	Austria	27
26	24	17	Norway	Norway	Malaysia	Belgium	19,33
27	25	16	Malaysia	Italy	Sweden	Czech Republic	25,67
28	26	15	Hungary	France	Hungary	Finland	26,33
29	27	14	Sweden	Sweden	Italy	France	13,33
30	28	13	France	Hungary	Poland	Germany	30,67
31	29	12	Mexico	Poland	France	Hungary	14,33
32	30	11	Indonesia	United Arab Emirates	Mexico	Iceland	25
33	31	10	Poland	Indonesia	United Arab Emirates	Italy	16
34	32	9	United Arab Emirates	Thailand	Indonesia	Japan	31
35	33	8	Thailand	Mexico	South Africa	Malaysia	17,33
36	34	7	Greece	Russian Federation	Russian Federation	Netherlands	29,33
37	35	6	Russian Federation	South Africa	Greece	Norway	17,67
38	36	5	South Africa	Greece	Thailand	Portugal	19,33
39	37	4	Turkey	Brazil	India	Slovak Republic	23
40	38	3	India	China	Turkey	Spain	25,33
41	39	2	Brazil	India	Brazil	Sweden	14,67
42	40	1	China	Turkey	China	United Arab Emirates	10

Figure 3. Borda method Excel application

Borda method was applied with Excel office program. Since 40 countries are evaluated in the study, there are 40 positions. In the Borda method, the importance weights of the 3 MCDM methods were determined equally as there is no significant superiority of one over the other. In the rankings obtained from the MCDM methods, the country with the best score is multiplied by a value equal to the total number of countries. The country in the last place is also considered as the country with the worst score, so it is multiplied by 1. The values that need to be multiplied according to the position for other countries are shown in figure 3. As an example, the Borda calculation formula applied for Australia is as follows.

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For cell G3;

=SUMPRODUCT(\$B\$3:\$B\$42\*(\$C\$3:\$E\$42=F3)\*\$C\$1:\$E\$1)

After this formula is applied to cell G3, it is copied by dragging it up to cell G42 and the final Borda score of each country is calculated

**Table 6.** Clusters and Borda Scores

Countries	Cluster	Distance	Borda Scores
Australia	1	1.404	37.00
Canada	1	1.235	34.00
Denmark	1	1.413	32.33
Hong Kong SAR, China	1	1.527	39.67
Ireland	1	1.306	36.33
Israel	1	1.493	21.33
Korea, Rep.	1	1.342	22.00
Singapore	1	1.779	39.33
Switzerland	1	1.877	37.00
United Kingdom	1	1.221	32.33
United States	1	2.159	35.00
Brazil	2	1.856	2.67
China	2	1.589	1.67
Greece	2	1.388	6.00
India	2	1.486	3.00
Indonesia	2	1.657	10.00
Mexico	2	1.034	10.33
Poland	2	1.482	11.67
Russian Federation	2	1.466	6.67
South Africa	2	1.572	6.33
Thailand	2	1.317	7.33
Turkey	2	1.436	2.67
Austria	3	1.057	27.00
Belgium	3	0.961	19.33
Czech Republic	3	1.059	25.67
Finland	3	1.259	26.33
France	3	1.172	13.33
Germany	3	0.932	30.67
Hungary	3	1.261	14.33
Iceland	3	1.313	25.00
Italy	3	1.368	16.00
Japan	3	0.972	31.00
Malaysia	3	1.257	17.33
Netherlands	3	1.150	29.33
Norway	3	1.530	17.67
Portugal	3	1.116	19.33
Slovak Republic	3	1.410	23.00
Spain	3	0.871	25.33
Sweden	3	0.860	14.67
United Arab Emirates	3	1.419	10.00



When the findings are compared, all nations, with the exception of Israel, the Republic of Korea, and the United Arab Emirates, demonstrate consistency in terms of Borda scores and hierarchical clustering results.

**Table 7.** Economic Freedom Index and Borda Count Method Scores

Countries	Economic Freedom Index Scores (out of 10)	Borda Scores (out of 40)
Australia	8.23	37.00
Austria	7.80	27.00
Belgium	7.56	19.33
Brazil	6.56	2.67
Canada	8.17	34
China	6.21	1.67
Czech Republic	7.81	25.67
Denmark	8.1	32.33
Finland	7.76	26.33
France	7.4	13.33
Germany	7.85	30.67
Greece	6.71	6
Hong Kong SAR, China	8.94	39.67
Hungary	7.44	14.33
Iceland	7.71	25
India	6.56	3
Indonesia	7.39	10
Ireland	8.13	36.33
Israel	7.62	21.33
Italy	7.51	16
Japan	7.88	31
Korea, Rep.	7.69	22
Malaysia	7.58	17.33
Mexico	7.21	10.33
Netherlands	7.82	29.33
Norway	7.6	17.67
Poland	7.04	11.67
Portugal	7.6	19.33
Russian Federation	6.74	6.67
Singapore	8.65	39.33
Slovak Republic	7.63	23
South Africa	6.73	6.33
Spain	7.73	25.33
Sweden	7.58	14.67
Switzerland	8.43	37
Thailand	6.75	7.33
Turkey	6.62	2.67
United Arab Emirates	7.05	10
United Kingdom	8.08	32.33
United States	8.22	35

Finally, Spearman correlation analysis, which is the non-parametric version of Pearson correlation analysis, was evaluated to see if there was a correlation between the indicated index and the Borda ranking obtained from the final ranking lists of MCDM methods. Table 7

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shows the Economic Freedom Index and Borda Count Method scores of the countries in the relevant rankings.

**Table 8.** Spearman Correlation Analysis Outputs

		Correlations		
			EC_Index_Scores	Borda_Scores
Spearman's rho	EC_Index_Scores	Correlation	1.000	.995**
		Coefficient		
		Sig. (2-tailed)	.	.000
		N	40	40
	Borda_Scores	Correlation	.995**	1.000
		Coefficient		
Sig. (2-tailed)		.000	.	
	N	40	40	

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Table 8 presents the Spearman rank correlation coefficients obtained from the Spearman Correlation analysis. In the correlation analysis at 0.01 significance level, it is seen that the correlation between the two rankings is significant. The Spearman's rho coefficient value of the correlation between the Borda ranking and the Economic Freedom Index is 0.995. According to these results, there is a near-perfect positive correlation between these two rankings, as there is a Spearman's rho coefficient value above 0.90.

### Discussion

The literature review shows that the economic freedom issue had not been addressed via the use of a multidimensional index and Multi-Criteria Decision Making methodologies together, and so this study aimed to fill that gap. As can be seen in the literature review section of the study, studies generally tried to evaluate with descriptive statistics. Also, rather of focusing on the correlation between a single concept as in the previous studies mentioned in the introduction section, this research use an index assessment with five dimensions and 42 indicators that includes topics like government authority taxes, restrictions, obstacles, public expenditures, trust in the public, the sense of justice and trust felt by the society, and gender inequalities. Thus, it was aimed to contribute to the content in the literature by expanding the scope of the criteria evaluating the concept of economic freedom.

The results of the study have a significant degree of consistency and there is no subjective effect in any part of the application phase, including weighting of the methods. The rankings and Borda scores obtained from the methods are also quite consistent with the scores of the Fraser Institute.

### Conclusion

The study, 40 countries which are mostly in Europe, made an evaluation with MCDM methods in five main dimensions with 42 indicators in terms of economic freedom. The Fraser Institute's Economic Freedom Index has 42 sub-indicators including the government's authority level over the system, legal security on life and property, the status of nations in terms of freedom to trade, the attitudes of governments in legal regulations and monetary policy. In a country

that has unsatisfactory values in terms of economic freedom criteria, it can be said that it is quite challenging to ensure productivity, development, economic growth, foreign investor attractiveness, social justice and stability in social and income distribution, and sustainability. The study used a combined MCDM proposal was made that allows objective evaluation. The obtained clusters and the MCDM results are quite consistent each other.

According to the entropy analysis, trade taxes, inflation and volatility, foreign currency and account restrictions, and tariff rates are the most significant determinants on the idea of economic freedom among the 42 variables examined. Based on these results, governments and decision makers of countries with low scores in the analysis need to provide an environment of stability, confidence and facilitation to their citizens and foreign investors in terms of trade taxes, inflation and account controls. In addition, when the results obtained by the Borda Count and the clustering method are evaluated together, countries with satisfactory indicator values in terms of per capita income, protection of human rights, independence of the judiciary, trust in the public are in the same group in the clustering, while they are at the top of the list in the Borda ranking. To improve their own society, nations at the bottom of the list might draw inspiration from the policies of countries that are leading and have high scores on these issues.

When the study is evaluated in terms of its social implications, the results show that individuals, groups, non-governmental organizations and institutes should encourage decision makers and policymakers to take new steps in terms of taxes, inflation policies, account controls, and making decisions in favor of more freedom. It is seen that the nations at the bottom of the lists have very poor scores on gender inequality, judicial independence, public confidence in the police, and the rights of working people. These societies should be given a greater voice in these matters and that work to improve their existing condition.

Hong Kong and Singapore are in the first two places of the Fraser Institute Index rankings, and it shows quite consistency with this study. When the MCDM rankings, the cluster analysis result and Spearman correlation values are evaluated together, it is seen that the methods work successfully in an integrated manner and produce consistent and significant results. There are also countries with equal scores, such as Denmark and the United Kingdom, and Portugal and Belgium in the MCDM rankings. These countries also have very close scores in the ranking of the Fraser Institute evaluation.

The countries with the highest income per capita such as Hong Kong, Singapore, Switzerland, Australia, United States, Canada, Ireland, Denmark, United Kingdom, Japan, Germany and Netherlands are also at the top of the economic freedom ranking. On the other hand, countries with low per capita income such as Poland, Thailand, Russian Federation, South Africa, Greece, Turkey, Brazil, India and China are at the bottom of the economic freedom ranking. They are more dependent on domestic investors and public investments than foreign investors. According to the indicator values, it is seen that these countries have more difficulties in terms of state control and freedom felt by citizens, judicial independence, nepotism, taxes and regulations. Although Hong Kong continues to rank high, the interventions of the Chinese government in recent years have negatively affected the country in terms of increasing insecurity of property rights and weakening the rule of law, which is sub-indicators of the dimension of Legal System and Property Rights.

According to the results of the study, it is seen that countries with better ranking in terms of economic freedom have more investment attractiveness, faster economic growth and higher income levels than other countries. When considering the 2018 data, the average GDP per capita in the top ranking countries from the analysis results of the study is \$44,198, while it is \$5,754 for the countries in the lower ranks (PPP constant 2017, international). The median income of the poorest 10% of the top ten countries is \$12,293, while the average income for the bottom ten countries is \$1,558 (PPP constant 2017, international). Another interesting statistic is that the average income of the poorest 10% in the most economically free countries is more than double the average per capita income in the least free countries. 1.7% of the population of the ten top-ranked countries live in extreme poverty (US\$1.90 a day), while in the ten lowest-ranked countries it is 31.5%. When the statistical values of life expectancy of these best and worst ranked countries are compared, there is a significant difference between 80.3 years and 65.6 years on average.

Singapore ranks high between free-market economy and economically free countries. The foundations of the country's economic resilience and competitiveness have been laid by the strong protection of property rights and the effective implementation of anti-corruption laws. Good public services are provided by effective and efficient government policies and low tax rates. Sustainability and growth of business activities are encouraged through a flexible and transparent regulatory environment. It has been continuously increasing its productivity for a long time with its adaptation to global trade and the opportunities it provides to investors and the existence of a competitive financial sector. Despite these economic successes, there are also a few criticisms directed at Singapore. While the primary actor in Singapore's economic transformation is the private sector, the government is very closely intertwined with some aspects of its citizens' economic lives. For example, the Central Provident Fund (government statutory body) has long controlled and administered public housing, health and many programs. Public debt is over 100 per cent of GDP.

When the rankings are evaluated, the Russian Federation, South Africa, Greece, Turkey, Brazil, India and China are generally at the end of the lists in all analyses. The people of these countries, which represent more than one third of the world's population, have major problems with intellectual and economic freedoms. The governments in these countries have a tendency to control and manage all of the major investments that affect the living spaces of individuals. Political powers have been held by the same people or parties for a long time. Issues such as corruption, favoritism, distrust of justice and judiciary, high taxes, the abundance of bureaucratic processes, incentives and concessions made to those close to power, high public expenditures, income inequality, low wages, volatility in prices, market controls, pressure on the private sector, lack of transparency in the management cause these countries to receive low scores in general.

The last countries generally need new action plans in terms of indicators such as GDP per capita, real GDP growth, average monthly net income, unemployment and female labor force participation. There is a need for these governments to create a more attractive environment for both domestic and foreign investors with policies that emphasize more inclusive and more autonomous governance approaches regarding commercial and individual freedoms. These countries come to the fore with their more rigid and authoritarian structures. The research additionally evaluates data on gender discrimination and women's employment. It is obvious that making efficient use of human resources and increasing individual freedom areas also

paves the way for the economic development of countries. Respecting all individuals and providing an opportunity to create added value is a requirement for sustainable development.

It is essential for governments to provide an environment where individuals can freely express their thoughts and feel safe in every field for the economic freedom of their countries. It has been stated that positive developments related to economic freedom have positive gains in terms of material, as well as the behaviors of states to free individuals and institutions in terms of economic and legal policies can affect some intangible or cultural issues (Berggren & Nilsson, 2020). Therefore, it should be aimed to establish a structure that supports a reliable and independent legal system and an independent monetary policy institution and to strengthen the free market economy in countries that aim to create both economic growth and stronger trust and tolerance in the society. In future studies, the other MCDM methods can be employed in the analysis of these indicators and their results can be compared with this study.

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