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A new model for the method of measuring state power: an applied study of the states bordering the Caspian Sea.

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ABSTRACT

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The state's power is the main purpose and the ultimate goal of the study in the field of political geography, and it means the comprehensive power of the state represented in its geography, its economic, military, cultural, scientific, and technological capabilities, and its regional and international relations. It also means the multiplicity of calculations of state power and its complex mathematical equations, but this study devised a new equation with relative weights based on the quantitative side of the elements of state power, whether material or soft. In order to calculate the comprehensive state's power, it is divided into eight variables that include more than 200 indicators.

The study concluded that the components of the strong are significantly imbalanced between Russia and other countries bordering the Caspian Sea, and the study reveals weaknesses and powers in every state in the region.

It should be mentioned that the results of this analysis are not final. Rather, they are subject to reassessment and review, as well as the possibility of applying and repeating them to all countries of the world individually or in regional or international groupings.

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Theoretical framework:

(1) Introduction:

The issue of determining and evaluating the comprehensive power of the state is one of the important topics that strategic thought has taken care of for a long time, because maintaining the state's ability to survive directly relates to the national protection of the state, continuity, and preservation of the values of society, which will only come through the state's use of all elements its comprehensive Power. The study of the power of the state and the ingredients that go into making this power become an exceptional necessity that imposes its results as preliminary introductions to any contemporary study in political geography.

The interaction of the state's material and immaterial components results in the state power as one of the variables affecting regional or global balance and considering that the state is part of an international community, the identification of its Power is not isolated from the international community, as Power is a relative issue and not an absolute. It is understood in the context of a comparison a state's authority to do that of a different state or group of states.

After the Soviet Union collapsed and the 'new' international order took hold, the countries bordering the Caspian Sea gained geopolitical significance, which changed the form of the conflict to the economic aspect, especially after the decline of Russian influence on former Soviet Union states, which led to a geopolitical vacuum in the region. Hence the strategic importance of the region has emerged, and the Caspian Sea region has witnessed a new reality represented in the emergence of three new entities in addition to the two main entities overlooking the sea, As the number of countries bordering it has increased from two (Iran, Russia) to five (Iran, Russia, Azerbaijan, Turkmenistan, and Kazakhstan), and these countries have what qualifies them to become a collision area between global economic powers due to their geopolitical economic importance.

The region is replete with many conflicts that are rooted in historical accumulations and ethnic complexities. In addition to the religious and economic dimension represented by oil and its large reserves. An example of these conflicts is the issue of the dispute over the Nagorno-Karabakh region between Azerbaijan and Armenia.

and accordingly, The Caspian Sea region has turned into a region of regional and international interactions and conflicts, where the interests and objectives of several countries intersect, led by the United States, Russia, Turkey, Iran, Several South Caucasus and Central Asian states, and several giant oil companies due to the geopolitical and economic importance of the region.

It is worth noting the close connection between the components of the state's comprehensive power, and the overlap between them in a reciprocal and interacting relationship, and this is what makes the state's power of a dynamic, flexible nature, capable of adding or removing new elements according to regional and international variables, and its outcome expressing the power of the comprehensive state.

(2) Importance of Study:

- Attempting to identify the nature of the Powers possessed by the Caspian region nations Sea region's countries in addition addressing a region rife with political, economic, and military conflicts, and regional and international geopolitical forces mediate.
- Identify the difficulties that the countries in the region face, including the dispute over transport routes, which has become increasingly complex due to the geopolitical risks and the divergent interests of the various parties.
- Assisting in reading the reality and foreseeing the foreseeable future for the countries in the area - especially - and the states of the world in the case of applying the proposed model, by measuring the comprehensive Power.

(3) The study's objectives:

The study's main purpose is to Learn more about:

- Propose a method for determining the state's power; And that is through contributing to the development of the power analysis approach by adding new variables and indicators, whether in the material or soft power components, and incorporating them into the state's overall power equation.
- Uncovering the components of power in the Caspian Sea's neighboring nations, and quantitatively measuring and comparing the Power of the nations that abut the Caspian Sea.
- The proposed model, if applied, helps to predict the future development of the international system, relations between states or predict the expected behavior of any state or alliance towards others.
- The model allows comparison of political units at the binary or systemic level.

(4) Previous Studies:

Of course, this is not the first study of its kind - in its field- and if it tries as much as possible to be comprehensive, it can never be definitive, and this work continues with other efforts that can be presented over time as shown in appendix (1).

By examining previous attempts to measure the Power of the state; It can be said that despite the multiplicity of approaches and methods for the reason of measuring the comprehensive The state's power and the effort expended in those methods, they do not differ much except in determining the indicators of that Power, whether it is increase, decrease, or merging, and most of them depend on the relative weights of these indicators within the framework of arithmetic equations In addition, there is a set of criticisms that can be directed against these standards, which can be summarized as:

- Political units do not always can use their resources, as there is a big difference between owning and exploiting resources.
- Many models are limited to qualitative material components only, without qualitative non-material components, in addition to

restricting some of them to measurable objective aspects and neglecting qualitative aspects that are difficult to measure.

- Some models are limited to one factor in determining the power of the state and considering it the decisive factor, and it was often the geographical or military factor, and despite the importance of the two factors, the current conditions and the change in the vocabulary of the international balance proved that the Power of the state is not dependent on one factor, but rather it is an intertwined and overlapping group that requires measuring all of them.

(5) Study Methodology:

In his study, the researcher followed the Descriptive Method, which is one of the methods used to identify the characteristics and characteristics of the phenomenon, and the Documentary Method, and it was used in collecting information and documents related to the subject of the study, by referring to a number of reliable sources and references to elicit accurate information related to the research. , in addition to the Power Analysis Approach, as it is the best and most appropriate research method for determining The state's power. This approach is focused on the analysis of the geographical year as an important party to the power equation, and it includes five important geographical elements in the state's Power: natural, human, and Military, economic, technological (Hartshorn:1954. P.177), The study was based on the quantitative method to arrive at a mathematical model that can be measured by measuring the power of the state, providing absolute, representative, and comparable statistics.

(6) Limitations of Study:

The limits of this study represent in two dimensions, one of which is temporal, the period for conducting it, specifically in 2021, and the other is geographical; It deals with measuring the state's power in States bordering the Caspian Sea from a political geographical standpoint.

I. The spatial framework of the countries that border the Caspian Sea between the geopolitical and geostrategic units:

(A) Geographical characteristics of the Caspian Sea's bordering countries and their spatial relationship:

The Caspian Sea is between Europe and Asia, to the east of the Caucasus Mountains. It is situated at 41° 40′ 0″ N and 50° 40′ 0″ E. The maximum length and width are 1.030 km (640 miles) and 435 km (270 miles), respectively. The entire size is 143.200 square miles, or 371.000 km^2.

The western edge of Central Asia is defined by the Caspian Sea, its northern borders ending with the Siberian plains that separate it from the Ural Mountains, its southern borders with the lands of Iran, the Alborz Mountain range, and from the east the Caucasus Mountains that separate it from the Black Sea, and its western borders ending with the Ust-Ort plateau that separates it and between the Aral Sea. Average depth 211m (290 ft.), Max depth 1. 025m93. 360ft), It spreads about 50 small islands with an area of 350 km^2 (Encyclopedia Britannica: 1965, PP.15-17).

The Caspian Sea's bordering states are:

- **Kazakhstan**: It overlooks the Caspian Sea with a coastline of 1,400 km, and thus has the largest waterfront on the sea with 29.7% of the total lengths of the coasts of other countries.
- **Turkmenistan**: It overlooks the Caspian Sea from the east, and it is the second country in terms of the length of its seacoast, 1350 km, or 28.6% of the total lengths of the coasts of other countries.
- **Russia:** It has a coastline of 750 km in length and 15.9% of the total lengths of the coasts of other countries. Russia includes

several autonomous republics, including Dagestan[1], Kalmykia[2] and Astrakhan[3].

- **Azerbaijan**: Its coastline on the Caspian Sea is the shortest by around 570 km, making up 12% of the total lengths of the other countries' coastlines there. The Caspian Sea borders it on the east, and Georgia and Armenia border it on the west, on the north by Georgia and Dagestan, and on the south by Iran and a portion of Armenia.
- **Iran:** It overlooks the Caspian Sea from the south and southwest, as the Caspian Sea forms its northern and northwestern borders, and its coast is 650 km long, which constitutes 13.8% of the total lengths of the coasts of other States, Figure 1

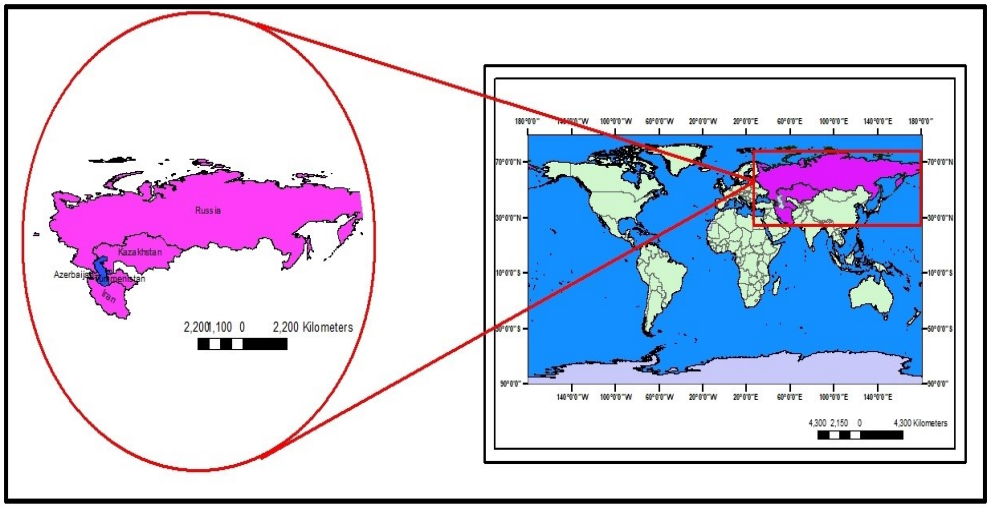

Figure 1: Geographical location of the countries bordering the Caspian Sea

[1] **Dagestan**: It is self-governing within the Russian Federation, and it is situated halfway between the Caspian Sea and the Caucasus Mountains, and the mountains constitute three quarters of its territory. Russia declared it an autonomous republic in 1921.

[2] **Kalmykia**: a former Soviet Union country that is self-governing and situated in the westernmost part of the Caspian Sea.

[3] **Astrakhan**: On the Caspian Sea, it is the biggest port and was recognized an autonomous republic by Russia. It is located to the north of the Republic of Dagestan.

(B) Geopolitical Importance of the Caspian Sea Coastal Countries:

The Caspian Sea is in a crucial strategic location since, on the one hand, the states of "Tajikistan and Uzbekistan" form its whole Central Asian border, and the Caucasus region through the country of Azerbaijan, and on the other hand it is close to the Arabian Gulf region through Iran, in addition to its proximity to Turkey and thus the continent of Europe. Therefore, the countries bordering the Caspian Sea, whether individually or collectively, have acquired a prominent position and occupied an important part of the ancient global geopolitical ideas and theories "Makander, Mahan, Spekman" and the modern "Brzezinski, the clash of civilizations, creative chaos." Where Halford Mackinder, who developed the theory of Heart Land, sees that Asia and Europe constitute one block of land, which is Eurasia, and he called it World Land, and added to it Africa, and that its center is the most important part, and he said, " Whoever holds that heart has influence over the entire world." The globe is under the dominion of whoever rules the global island." Kazakhstan is one of the states that border the Caspian Sea, a central location; As it forms the intersection point of east, west and south of Eurasia, it is called the Republic of the Center and the Republic of the Heart because it is in the heart, according to Mackinder's views. Brzezinski believes that Kazakhstan enjoys a central location in that region, and the area of this republic is four times the size of Turkey, and because of its location, population, and possession of nuclear and mineral capabilities, it occupied an important geostrategic position, and therefore all the conflicting powers are trying to control this republic, which is the key to controlling the region (Milan: 1992, P.355). He believes that the location of Azerbaijan is the central location, as the location of this republic makes it a geopolitical hub, which can be accurately described as a "cork plug" of vital importance that controls access to the bottleneck that contains the region's wealth (Zbignew: 1997, P.129).

The region is at a crossroads of many geographical and strategic lines of contact, a crossroads of different cultures and civilizations, in addition to a connection between the Eurasian sector of Russia and the regional systems of the Middle East, South, East, and Southeast Asia.

And accordingly; Many regional and global powers are looking to control the region, despite the differences in the policies and goals pursued by each of them, as the United States of America seeks with all its might to secure its presence in the Caspian Sea region to achieve its economic and political goals, in addition to its desire to contain The countries of the area to increase their influence As the first power in the world, this is evident from the transfer of its military base from Incirlik in Turkey to Abu Shuran in the Republic of Azerbaijan, and the conduct of joint periodic maneuvers with the countries of the region. Russia seeks to achieve the same goals and adds to them its desire to control natural gas export lines and monopolize their passage through its lands, and to work to achieve its desire to find a solution to The Caspian Sea's legal status that will enable it to benefit from the riches of the seabed. Iran wants to attract the countries of the region to it to support projects for the development of the energy sector, which has great experience in the field of extracting and exporting, as it is considered the shortest way to energy markets, which may allow the Caspian Sea countries the ability to export their oil production at the best prices.

In addition to previous aspirations; There are other aspirations on the part of both China and Turkey towards rapprochement with the Caspian Sea region, but these aspirations are relatively few and their activities have not been clearly completed, and the two countries are attempting to establish a presence in the region gradually and deliberately, as China seeks to secure its energy sources through By building a network of energy transmission pipelines linking it with the Caspian Sea region, through the neighboring territory of Kazakhstan.

It should be noted the geopolitical vulnerability of the region, it is illustrated by the fact that the Caspian Sea is a closed body of

water, which creates difficulties for countries bordering it to export their oil wealth overseas, which is extremely difficult and puts their political independence at risk. This is represented in the conflict over oil transport pipelines, which qualifies the region in a state of instability and ideological divisions.

(C) Economic Importance of the Caspian Sea Coast Countries:

The Caspian Sea contains four main depositional basins of hydrocarbon, most of which contain oil and natural gas reservoirs, and most of them, especially those far from the coastline and at the bottom of the sea, are still unexploited for technical reasons and differences between the riparian countries.

The world's consumption of oil is witnessing a steady rise, as it reached 191.45 Exajoules in 2019, and the increase comes because of the growth in oil consumption in the major industrialized countries. Hence, the geopolitical importance of the region has increased according to the indicator of the significant increase in oil consumption, which puts the region in a position that makes it economically significant considering the large petroleum reserves it enjoys, which portends the region's transformation into a hotbed of conflict between global powers to control the region militarily and economically. Table (1) and Figure (2) displays the region's nations' oil and natural gas production as well as their 2019 proven reserves.

Table (1) Total proven reserves and production of oil and natural gas in the region's countries as of 2019.

Countries	Oil				Natural Gas			
	Production "thousands of barrels per day"	%	Proved reserves "Thousand Million barrels"	%	Production "Billion cubic meters"	%	Proved reserves "Trillion Cubic meters"	%
Kazakhstan	1931	2.0	30.0	1.7	23.4	0.6	2.7	1.3
Russia	11540	12.1	107.2	6.2	679.0	17.0	38.0	19.1
Azerbaijan	779	0.8	7.0	0.4	24.3	0.6	2.8	1.4
Iran	3535	3.7	155.6	9.0	244.2	6.1	32.0	16.1
Turkmenistan	264	0.3	0.6	0.0	63.2	1.6	19.5	9.8
Total	18049	18.9	300.4	17.3	1034.1	25.9	95	47.7
Total World	95192	100	1733.9	100	3989.3	100	198.8	100

Source: BB (2020) The 69 the edition of the Statistical Review of World Energy, PP.14, 16, 32,34

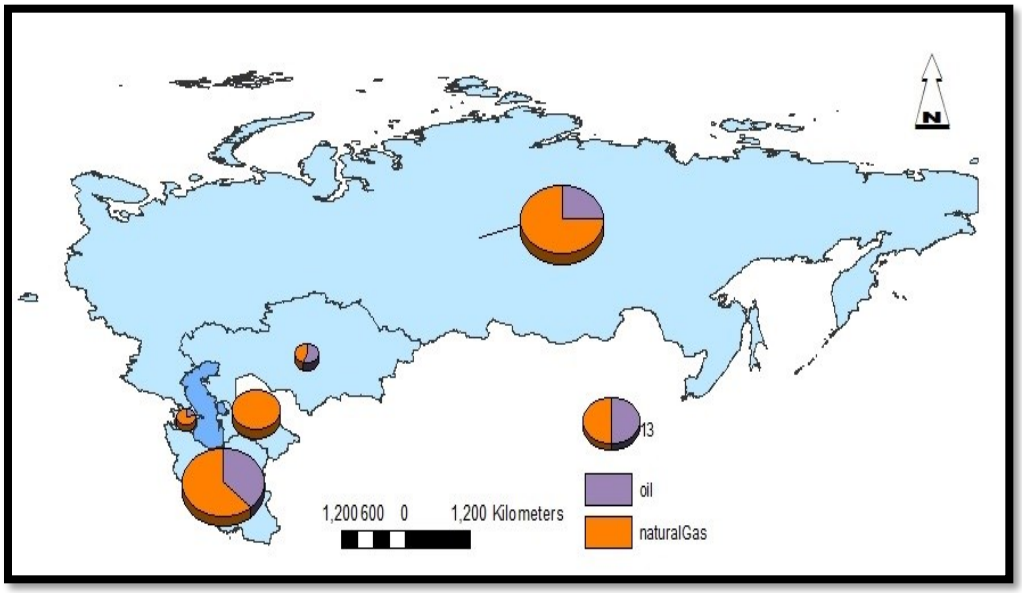

Figure 2: The relative distribution of the region's oil and Nat gas production in the rest of the world

By studying the above table and figure, it becomes clear that:

- The region's countries' high rates of natural gas and crude oil production, as all the Caspian Sea's bordering countries enjoy huge reserves of oil, as the production of the countries of the region amounted to 18,049 thousand barrels/day, representing 18.9% of the world's total production. The region accounts for about 17.3% of the total proven global reserves. The region produces approximately 25% of the world's production of natural gas and holds about 47.7% of its proven reserves. However, this region suffers from many political problems. Which impede the access of those wealth to its users in global markets.
- The region's numerous states have varying amounts of oil and gas deposits. Russia and Iran seem to be the luckiest states, given their closeness to the massive oil and gas basins of the Caspian Sea. They produce 15,075 thousand barrels per day collectively, which accounts for 83.5% of the region's total production and 18.8% of global production. While Iran holds 16.1% of the world's proven reserves, Russia produces about 17% of the world's oil and possesses 19.1% of those reserves. It has a

different kind of relevance to the remaining countries, which don't have many sizable oil fields. Its strategic location for delivering oil and gas to markets in East and Southeast Asia accounts for its significance Global reports have classified the region as the second Arab Gulf, and the third largest petroleum region after the Persian Gulf and Siberia, which fuels competing for the strategic location and economic resources.

The expectations of large oil and gas reserves play a crucial part in broadening the horizons of the plans of the five countries bordering the sea, and these countries presented conflicting perceptions and suggestions regarding how to divide this wealth. This was a prelude to igniting a dispute between the countries bordering it, as they differed as to if the Caspian was a lake or a sea, each with its own consequences and geopolitical dimensions. After negotiations that lasted twenty years, the five countries signed in 2018 an agreement that determined the "The legal standing of the Caspian Sea", as it viewed the surface of the sea as international waters, dividing the depths of the sea into regional regions and sectors, granting the bordering countries the right to lay marine pipelines, and limiting the military presence in The sea is only for the forces of the countries that share it, yet it has not solved all the problems at hand, and the sea is still a place of continuous disputes fueled by large oil and gas deposits.

And accordingly; It can be said that the Caspian Sea's economic significance region lies in the estimated petroleum reserves in it, and the production rates remain not at the required level, and this may be due to the failure to reach a final solution to The legal standing of the Caspian Sea, in addition to the lack of a broader discovery of the region, and it is anticipated that in the near future, there will be an increase in the amount of oil extracted from the region.

As a result, the region's geopolitical and economic importance is due to the presence of vast oil reserves, as it has become a center of gravity in the field of oil production and export, it helps the West to become less reliant on Middle Eastern oil, so the competition for

this region will take the form of a sprawling conflict whose results are difficult to predict.

According to the geopolitical analysis, it can be said that the geostrategic and economic components of the region are the main motive in the competition of regional and international powers, to control the pattern of its international relations, and then move towards exploiting its economic resources inherent in its territory, as this competition included global forces "the United States, Russia, China" and the parties Regional leaders come at the forefront of "Iran, Turkey, Israel, India, Pakistan", and this was evident in their competition to win contracts for the exploitation of oil fields, and the development of infrastructure to transfer those resources towards consumption markets, and here emerged what is known as the "pipe war", which means The emergence of various projects to transfer energy supplies under the auspices of different powers to serve their interests, while trying to avoid roads and areas controlled by one of the opponents, which created an atmosphere of acute polarization and sensitivity in a turbulent region.

II. : Study Methodology: Measuring the Power of the State: A Suggested Analytical Approach:

(1) Concept of State Power:

The word "power" is commonly used in politics and international relations. The same holds true for political geography and geopolitics. According to Alexander Dugin (Dugin: 1997, 13) " Geopolitics is a worldview of power, a science about power, and for power." The ability to carry out state-initiated policies is implied, as is the level of control that state agents have over individuals, activities, and resources located within their government's territorial jurisdiction (Geddes: 1994, 14). 78) (McAdam, Tarrow, and Tilly:2001 78).

(2) Elements of Comprehensive State Power:

It is not easy to describe the power of a country on the international scene, there are many indicators that can be used for this purpose, and the current study tried to collect the largest

number of data that best describe power in all its forms.

To estimate the national Power of a country, it is necessary to analyze its concept into its primary elements so that its nature, its dimensions, and its components can be clarified. In general, the power of the state is based on components, which are all the state's natural resources, or those that can be provided or obtained, and the outcome of the fusion of these resources and elements is the national Power of the state.

According to the study's findings, the value and Power of the state depend on several material and intangible elements, which can be reviewed as shown in the table 2

Table 2: Variables and indicators for measuring the state's power and weights.

Main variables	Abbreviated sign	sub-variables	Number of secondary indicators	Relative weights
Geographical Power	GP	Natural geographic features	8	7.500
		Human geographic features	41	12.500
Economic power	EC		44	17.500
Military power	MI	Conventional military power	7	7.00
		Unconventional military power	3	10.00
Political power "government"	PL		33	12.500
Cultural power	CI		15	7.500
Scientific and technological Power	SC		18	9.00
Cross-border international relations	TR		25	9.00
Astro Space power	AS		10	7.500
Total			204	100

It's worth noting that the previous indicators were chosen with care - as the basis of the proposed model - came from the reality of the survey of the various international literature that tried to measure the Power of the state, some of which were referred to, as well as an attempt to introduce new indicators to the proposed model, and an attempt to modify some of them and move others inside the variables.

It should be noted that the large number of indicators - 204 indicators - makes the bias towards indicators and not others less, in addition to the possibility of producing results with a great deal of accuracy in the comparison between the different political units. By studying the previous table, the state power variables and their indicators can be divided into the following:

(a) Variables based on "physical" hard power, including the following:

- **Geographical Power indicators:** They were divided into two main components: the first is the natural geographical Power indicators, distributed over eight indicators, representing 3.92% of the total indicators of the proposed model, and with a relative weight of 7.5%. These indicators were embodied in political units; This indicator is an indication of the greater Power of the state. The greater the area, the greater the chances of containing economic wealth, as well as climatic diversity and its impact on agricultural diversity, and the absorption of a large number of the population, and thus greater power added to the state's balance, and the G-index to measure the importance of the state's area; A smaller value means larger area and vice versa, the length of the coasts, and the K-index for the shape of the country; As a way to ascertain the scope of the state's expansion or integration, the neighboring land site; The smaller the number of countries neighboring the political unit under study, the more a factor of Power is added to the balance of the state's Power, as is the case with the neighboring maritime site, and the extent to which the political unit supervises strategic sites that add to its balance of Power; This gives it greater control, and finally an indicator of environmental sustainability.

The second component came in the human geographic power variables, and the number of its indicators reached 41 indicators, at a rate of 21.10% of the total proposed model, with a relative weight of 12.5%, and this variable was represented in three sub-elements, the first of which is the population components, including general indicators such as the number of population, general density, unemployment Indicators of the health level are represented in life

span, mortality of children under five per 1000 people, the ratio of middle-aged people 15-64 of the total population, which is considered the main factor in the economy, and determines the theoretical dependency in society. The proportion of GDP that is allocated to health expenditures, the number of doctors and nurses, and the family per 1000 population, access to potable water and sanitary amenities for the populace, and the total dependency, and it should be noted that the higher the ratios of these indicators, the more This is on a healthy level, and thus a credit added to the Power of the state. The educational level indicators include the percentage of primary school enrollment, gender equality in education, and the proportion of GDP spent on education. The rise in the percentages of the mentioned indicators is evidence of a greater Power of the political unity, except for the indicators of population density, maternal and child mortality, unemployment, total dependency, and poverty rate.

New indicators were included in the demographic variables represented in the indicators of the quality gap, brain drain, demographic pressures, human development, social progress, happiness index, and the general rule is that the higher the percentages of these indicators, the more this drains the state's power and deducts from the balance of its Power, except for the development indicators. Humanity and social progress, and happiness index, which means greater evidence of the Power of the state.

The second element includes the indicators of ethnic composition with its three components: ethnic, religious, and linguistic composition. The study of these indicators is a strong evidence of the extent of population cohesion and homogeneity, which is added to the Power of the state. The largest of the political unit and an expression of the homogeneity and cohesion of its population.

The third element in the Powers of human geography dealt with the study of the indicators of political borders, represented in the indicators of the total length of the land borders, the ratio between

the total borders and the ideal borders, the ratio between the land borders and the ideal borders, the ratio of land and sea borders to the state area, the continental coefficient, the border friction coefficient, The ratio of borders to the armed forces, the density of the total borders, the density of land and sea borders, the total and theoretical density of both types of borders, the common borders. The general rule is that a state's power increases as these indicators' percentages rise, except for the continental coefficient and the coefficient of friction of the borders and common borders, which means that their percentage increases are elements of weakness of the state, and therefore the lower these percentages add more Power to the state.

- **Economic Power variables:** The data for that variable was represented by a number of sub-indicators indicating it, which amounted to 44 indicators, which constituted 21.57% of the total Power indicators in the proposed model, with a relative weight of 17.5%, some of which came as traditional indicators, for instance, the GDP per capita level, and the percentage of That output of global GDP, the distribution of the population to the main economic activities such as industry and agriculture, grain production and exports of goods and services, self-sufficiency in foodstuffs, as well as transportation and communications of all kinds and their per capita share, and the production and reserves of major energy sources such as oil and electricity, and mineral resources strategy such as bauxite, uranium, gold... And others. Some important indicators were included in the country's economic study, such as the food share of imports, freedom of investment, inflation, public debt ratio of GDP, global hunger index, food production index degree, public services index, competitiveness index, foreign direct investment, ease degree Doing business, power engineering performance index, average food power supply. By reviewing all the indicators of economic Power, the higher the percentage of these indicators, this indicates a greater Power added to the state's balance, except for indicators of economic inequality, food share of imports, inflation, public debt, and food imports.

- **Military Power variables:** This force was embodied in many indicators revealing it, which amounted to 10 indicators, representing 4.90% of the total indicators of the proposed model, with a weight of 17%. The indicators of that variable were divided into two axes, the first of which is the indicators of traditional military Power; Total military expenditures include "the volume of general military spending", and the proportion of that military spending to the GDP; This indicator aims to show the actual value of the general military spending by linking it to the domestic product, Members of the armed forces as a proportion of all population, arms exports; Where this indicator reveals the existence of a real sector of military industries that gained the confidence of other countries and led them to export them, and the arms import values index issued by SIPRI, the number of submarines and military aircraft, and the second indicators of unconventional military Power; Its indicators were nuclear and chemical capabilities; It is represented in the production of nuclear energy and even nuclear weapons, which is a high deterrent capability that indicates the greater Power of the political unit in the event of its possession, additionally to the quantity of nuclear reactors that are running, nuclear submarines. The rule is that the country that possesses these military assets is, of course, the most powerful, except for the values of the SIPRI index of arms imports, which means a lack of military capacity and dependence on others.

(B) Variables based on "invisible" soft power: they are:

Political components "government", cultural, scientific, and technological, international relations, space: The first internationally recognized systematic attempt was made by the British Institute of Government with Monocle magazine, which established in 2010 the soft power index IFG-Monocle (McClory: 2010). Another ranking that measures soft power is The public's creation of soft power relations agency Portland Communications (McClory: 2015).

- **Political power variables "government":** The indicators of this variable are embodied in 33 indicators, 16.18% of the total

indicators of the proposed model, with a relative weight of 12.5%, represented in indicators of freedom, number of coups in the state, national cohesion, freedom of the press, influx of refugees into the state, Internally displaced persons and refugees, and this indicates the extent of stability enjoyed by the state, government effectiveness, perceptions of corruption, democracy and elections, state legitimacy, human rights, external interference, the absence of violence and political stability; Political participation in elections, Intentional killings per 100,000 population, amount of think tanks in the state, gender equality, percentage of GDP that the shadow economy represents, prosperity index, control of corruption, execution of the death penalty, inequality, Income Inequality, Trust in Government, Government Integrity, Religious Freedom, Access to information and press freedom, State Control of Internet Access, Repression of Civil Society, Political Rights, Civil Liberties, Global Terrorism Index. It is clear from the study of these indicators that the higher the percentage trend, the more evidence of the state's Power, except for the indicators of the number of coups, the scale of the shadow economy, and the use of the death penalty, the state's control over access to the Internet, the repression of civil society, and global terrorism, this translates to a rise in the percentage of the state's authority and influence over its power and political weight.

- **Indicators of cultural Power:** The total indicators of the cultural Power variable amounted to 15 indicators, which constituted 7.35% of the total indicators of the proposed model, with a relative weight of 7.5%, indicated by the metrics for the number of UNESCO-designated World Heritage Sites, the number of television sets per 1000 inhabitants of Population, Daily Newspaper Distribution per 1000 Population, Number of Computers per 1000 Population, Literacy Percentage, Number of International Broadcasting Agencies, per 100,000 persons, the number of landlines and mobile phones, Number of Television Broadcasting Stations per Million Population, Number Arrivals to the country, total international tourism receipts, average OECD scores in science, mathematics and reading, number of books

published annually, number of Nobel laureates, index of cultural diversity in the country. What is certain is that the higher the percentages in the indicators of that variable, the more evidence of the greater power of the state and its differentiation from other countries.

- **Scientific and technological Power variables**: The number of indicators for that variable reached 18 indicators, representing 8.82% of the total number of indicators of the proposed model, with a relative weight of 9%. The practical and technological Power was analyzed through each of the entire workforce of researchers and technicians in the field and development per million people, Digital access index score, number of patents per million inhabitants, total articles per million individuals that have been published in scientific and technical journals, percentage of spending on development and research of GDP, ratio of high-tech exports to all exports of manufacturing goods, percentage of nuclear electricity production from Total electricity production, percentage of internet users of the population, fixed broadband subscriptions per 100 users, and Internet security servers per million users, online capacity, online government services index, e-participation index, IT exports as a share of all commodities exported, Index of global innovation, Global Talent Score, Number of Top Global Universities in the Top 1000 Global Universities. One thing to keep in mind is that the greater the percentage, the greater the average or number, whichever is greater, the greater the state's power, and evidence of a strong scientific base.
- **Cross-border international relations**: The number of indicators for that variable reached 25 indicators, which constituted 12.25% of the total indicators of the proposed model, with a relative weight of 9%. This variable was measured by indicators of the number of embassies abroad, State membership in international organizations, the number of general consulates abroad, and the number of permanent missions to multilateral organizations, and the number of asylum seekers are all factors to consider., Henley passport index; Which lists the nations that a citizen can travel to without a visa, environmental performance index, permanent and

temporary membership in the Security Council, total foreign development aid International migration as a proportion of the overall population, as a proportion of the national GDP, air transport infrastructure index, number of flights Registered air carriers worldwide, global peace index, state ports link index with world ports, number of international students in the country, IFPI music market size, number of best albums from the top ten international albums, number of Olympic and Paralympic medals won by the country, country ranking In FIFA, Michelin-starred restaurants, official language Power index, Heads of state's Facebook followers, Heads of state's Facebook engagement score.

It should be noted that the higher the percentage or the size of the index, the more evidence of the country's Power, except for the indicators of total foreign development aid, international migration, world peace; A decrease in value means a balance that adds to the state's power, and the higher the value, this is deducted from the balance of the state's power and political weight. It is noted in that variable the inclusion of new indicators in the proposed measure that has soft power characteristics.

- **Astral space force variables**: The total number of indicators for that variable reached 10, with a percentage of 4.90% of the total number of indicators of the proposed model, with a relative weight of 7.5%. These indicators could be measured through the dominance over the Earth's orbit as a proportion of the entire number of satellites in the globe, the number of satellites of different types present in the political unit, and it should be noted that the greater the value or the number, the greater the power that is added to the balance of the state and its political weight.

The Comprehensive of the state's power comes from the product of each of the previous Power components separately, then multiplying the value of each indicator by its corresponding weight and summing the result to obtain the comprehensive Power of the state. The proposed methodology is characterized by its inclusion of many variables that contribute strongly to the power of the state. As the components of soft power in terms of cultural, scientific,

and international affairs, threats to the security of states have mostly transformed from military to economic and environmental threats. The traditional power has declined to a large extent with the change in issues in international politics; As new issues emerged, including environmental changes such as "acid rain, global warming, epidemics and terrorism"; These are all issues that traditional power tools are not enough to deal with.

And accordingly, the proposed methodology did not ignore the “invisible” soft power elements but added them to the power equation along with the physical, geographical, economic, and military components of power. Giving it to each of these ingredients, its corresponding weight according to its impact on the overall state power equation.

(3) Methodological Steps for Calculating Total State Power:

The method of measuring state power is one of the vital, renewable, and non-static issues, whether related to the rates of assessment and calculation of the comprehensive power itself, or to the elements of comprehensive power and its quantitative value.

State power is a multidimensional phenomenon, which makes it more difficult to measure (Gelfert:2016). Indicators including the Power of the state can be created in a synthetic way (Angang, Honghua:2002), combines tangible and intangible material factors, and the proposed methodological model is built on a fundamental idea, which is that there is no absolute Power or absolute weakness, as each country has its aspects of Power and weakness together.

It should be noted that defining the components of state power is a matter of great controversy, whether in its importance or weight. However, these differences are discretionary, reflecting the authors' priorities rather than schools of thought. The clear difference is represented in determining the relative weights of the soft power components of the “moral” state, due to its need for an abundant amount of information in a numerical, statistical form that When determining the dimensions of these elements, it is challenging to undertake an exact objective study.

And accordingly, the study's Power Index was built using credible information from global sources like the World Bank, IMF, the International Energy Agency, "SIPRI", Pew Research Center, international rating agencies Moody's and Fitch, etc.

(4) Application Method:

An indicator for determining the state's Power was prepared through the following methodological steps figure 3:

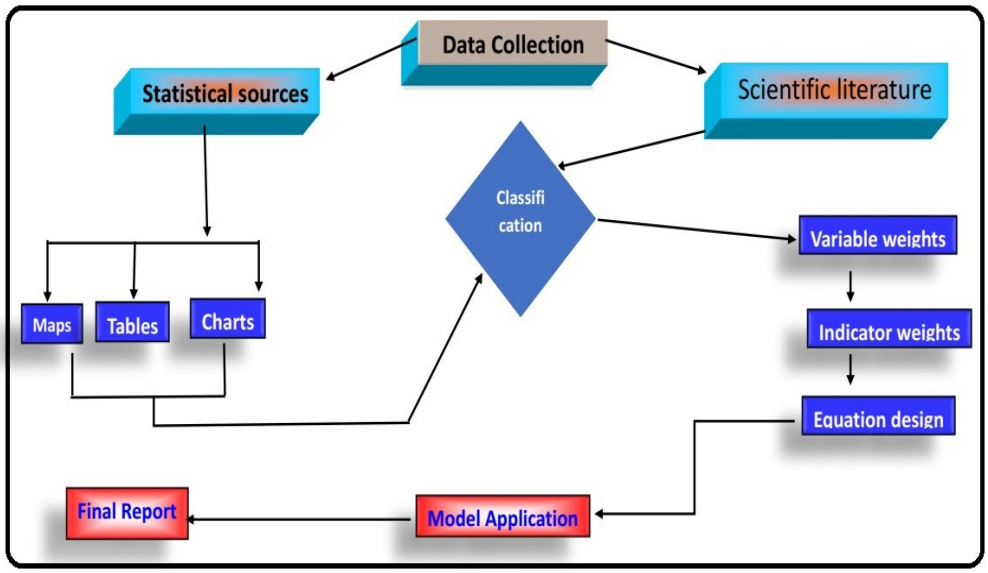

Figure 3: Model methodology

(a) Data collection stage:

In the information revolution that the world is experiencing today, and the flow of big data at the state level, which led to the emergence of new indicators suitable for entering into the state power equation, such as environmental sustainability, nuclear capabilities, indicators of freedom, national cohesion, government effectiveness, perceptions of corruption, democracy and election, legitimacy The state, human rights, external interference, Stability in politics and violence-free environment, trustworthy government, civil and political rights, and many others, which were subjected to international measurement by recognized international institutions, it was necessary to include these and other indicators in the power equation in the current study, so that the measurement comes

Consistent with current developments.

Based on the foregoing, a large amount of data affecting the power of the state was referenced from its original sources and included in the development of this proposed approach. Referring to the new literature in the field of study, the indicators have been modified and some of them moved from material variables to non-material ones, and new variables were introduced to them from indicators that enable access and differentiation between countries in the power race.

The proposed model, with its eight variables and its indicators, which exceeded 200 indicators, enables a deeper understanding of the theory of the balance of power, whose vocabulary has changed at the present time, and it is not based on material ingredients only, but rather the non-material components have their weight and weight in the equation of power and international balance.

(b) Classification of Information:

- The data were classified from its approved international sources, which were obtained, whether related to the "hard geographical, economic, military" components or those related to the soft power components "political, cultural, scientific and technological, international relations, space", and they were arranged in tables with similar units. Within each main component or sub-component separately.
- Giving the main components their relative weights, then distributing the weight of the main variable on the sub-indicators; This is to give each indicator its own relative weight.
- Each indicator and element are calculated, and the relative weight assigned to it is given, by adopting the equation for the sub-indicators in the state power equation:

$$z_{ijk} = \frac{x_{ijk}}{\sum_{i=1}^{n} x_{ijk}} \times w_{ijk},$$

$$z_{ijk} \in [0, 100],$$

Where:

x_{ijk}	Variable j's value of state I in year k
w_{ijk}	Weight j's value in state I in year k
z_{ijk}	Variable j's computed value of state I in year k

- All sub-elements gather within each major component, whether physical components or soft power components.
- The comprehensive state power index, which expresses the sum of the variable's indices and their weights, is calculated by multiplying each of the eight variables by its assigned weight and combining it with other variables, to arrive at the comprehensive state Power index, by applying the following equation:

$$CP=(GP\times 20\%)+(EC\times 17.5\%)+(MI\times 17\%)+(PL\times 12.5\%)+(CI\times 7.5\%)+(SC\times 9.0\%)+(TR\times 9.0\%)+(AS\times 7.5\%)$$

Where: CP=Comprehensive Power, GP= Geographical Power, EC= Economic power, MI= Military Power, Pl= Political Power, CI= cultural power, SC= Scientific and technological Power, TR= cross-border international relations, AS= cultural power.

(C) Difficulties encountered in developing the proposed methodological model:

- Difficulty in identifying Power measurement variables and indicators; There is no unanimous agreement about the elements and indicators of measuring the comprehensive Power of the state, in addition to the fact that some elements of the measurement require extensive and accurate survey procedures to convert them from descriptive estimates to numerical quantitative ones.
- Semi-permanent changes in some variables and indicators, as the power of the state is not permanent, as the measurement differs in peacetime from the state of war, which requires re-measurement at close intervals and considering the developments that occur in the state.
- The lack of reliable statistical sources for some countries on which the measurement and comparison process is based, where

some countries surround their information with secrecy and ambiguity or refrain from declaring it.

III. Measuring the power of the Caspian Sea's bordering States according to the proposed model:

The study was able to formulate a proposed model for measuring the Power of the state, and to identify that model in eight main variables; It includes 204 indicators of the Power of the state, and the current study deals with the application of that proposed model to the countries bordering the Caspian Sea.

(1) Measurement of Indicators of Geographical power:

Consistent with the proposed model and its application to the measurement of geographical power indicators of the bordering countries of the Caspian Sea, the total geographical power indicators reached 49 indicators, which were divided into two main variants; They are:

(a) Indicators of Natural Geographical power:

As shown in Appendix 2, and Figure 4

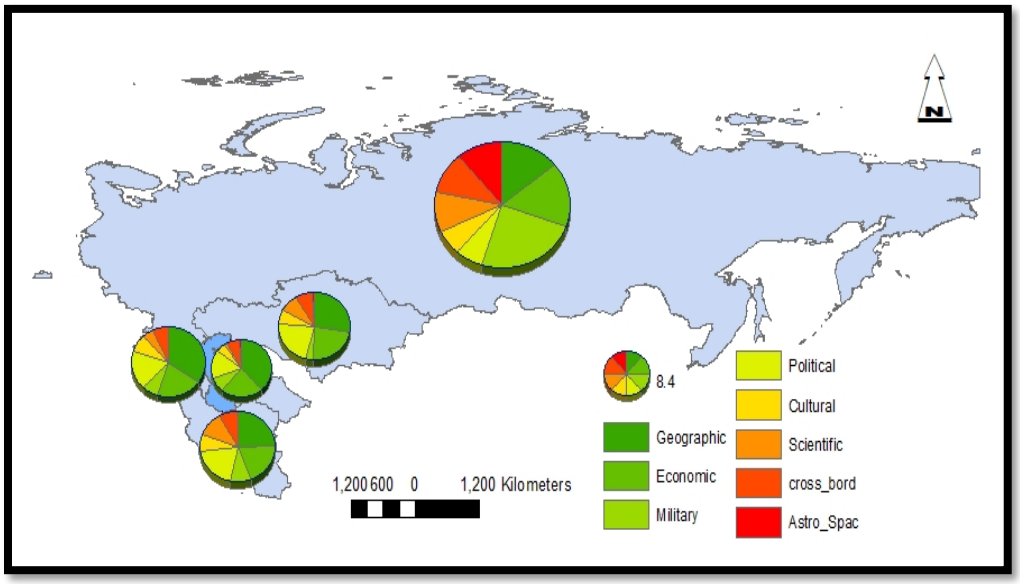

Figure 4: The weights of the state power in the countries bordering the Caspian Sea.

By analyzing the above table and figure, it becomes clear that:

- Russia ranked first in the total variable indicators, followed by Iran, Azerbaijan, Kazakhstan, and finally Turkmenistan. This variable included eight indicators; The first came in the area index, where Russia topped states in the area having a weighted average area of 0.722, which is considered one of the giant countries according to the band's classification (Pounds:1963).
- Which provides it with great defensive depth; It allows it to manage its defensive battles to repel potential invasions, as evidenced by the failure of both Napoleon and Hitler's attempts to invade Russia. Next is Kazakhstan, Iran, Turkmenistan, and finally Azerbaijan with a weight of 0.004. The situation was repeated in the order of countries according to the index of the GX coefficient, and about the index of coast length, Russia returned to confirm its control over the countries of the region with a weight of 0.784, followed by Iran, then Kazakhstan, Turkmenistan, and finally Azerbaijan with a weight of 0.015. In terms of the degree of integration and regularity of the shape, the K index confirms the superiority of Iran and Turkmenistan over the countries of the region with a weight of 0.468, followed by Kazakhstan and Azerbaijan, while Russia has moved away from the regular shape and ranked last in the countries of the region with a weight of 0.187, which increases the burden of border defense more than should.
- By studying the indicator of the neighboring land location, it was found that Turkmenistan occupied the countries of the region with a weight of 0.468; It is bordered by only four countries, followed by Kazakhstan and Azerbaijan, which share their borders with five countries. It came in second place with a weight of 0.312, then Iran with a weight of 0.234, and finally Russia with a weight of 0.187; It shares its borders with 14 countries, which doubles the costs of border defense and deducts from the balance of the state's power and political weight. While Kazakhstan and Turkmenistan ranked first in terms of the neighboring maritime location index with a weight of 0.938, followed by Iran, then Russia in the last place with a weight of 0.187, as it shares maritime borders with 15 countries.

- By studying the strategic location indicated, which adds to the countries bordering them a strategic advantage, whether in peace or wartime. Russia and Iran have taken the first rank of the neighboring countries of the Caspian Sea, with a weight of 0.469 each, as they supervise the strategic Straits of Bering and Hormuz, respectively, which increases their political importance according to the degree of importance The two straits, and the other nations in the area have been denied access to the strategic seas.

(B) Indicators of Human Geographic power:

The indicators for that variable amounted to 41 indicators, which were distributed among three main variables; Its statement is as shown in appendix 3 and Figure 4.

Examining the appendix and figure, it becomes clear that:

- **Population components affecting the Power of the state:**

Population components affecting the power of the state: The population components are one of the most influential variables in the power of the state and its political weight, due to the fact that it stands for the human power that drives the creation and consumption of products and services, the defense of the state's territory, and the promotion of its interests both domestically and abroad. (Pounds: 1963, P. 18). The total indicators of that variable were 24 variables, with a weight of 3.75, and by analyzing them, it was found that:

- **Population**: According to the population index, Russia came in first place with a weight of 0.086, followed by Iran, then Kazakhstan, Azerbaijan, and finally Turkmenistan with a weight of 0.004. Azerbaijan ranked first in terms of general density index with a weight of 0.094, followed by Iran, then Turkmenistan, Russia, and finally Kazakhstan with a weight of 0.005. Azerbaijan ranked first among the nations in the region for life expectancy as a proportion of the population, with a weight of 0.033, followed by Iran, then Russia, and finally Turkmenistan and Kazakhstan, which were not far from the first place with a weight of 0.030. The situation was repeated in Azerbaijan; It ranked first in terms of total

dependency index with a weight of 0.156, followed by Iran, then Russia, Turkmenistan, and finally Kazakhstan with a weight of 0.039. As for the specificity gap index (GGI), Russia and Kazakhstan came first with a weight of 0.156, followed by Azerbaijan, then Iran, and Turkmenistan in the last place.

- **Health level:** The heat level is a main indicator of a state's Power. This was measured from the variable through nine indicators, in terms of the index measuring life expectancy at birth, Iran came out on top among the nations bordering the Caspian Sea with a weight of 0.033; In which life expectancy increased to more than 76 years, followed by Russia and Azerbaijan with a weight of 0.031 each, then Turkmenistan in the last place with a weight of 68 years and a weight of 0.029. In the region. Russian infant mortality rates were the lowest per 1,000 live births., with a weight of 0.156, followed by Kazakhstan, Iran, Azerbaijan, and finally Turkmenistan with a weight of 0.031. It is known that the lower the deaths, the more evidence of the power of the state and its ability to produce healthy generations. With 100,000 live births, Turkmenistan had the lowest rate of maternal death, with a weight of 0.156, followed by Kazakhstan, then Russia and Iran with a weight of 0.039 each, and finally Azerbaijan with a weight of 0.031. Iran ranked first in the area for current health expenditure (percentage of GDP) an estimated value of 8.66% and a weight of 0.050, followed by Turkmenistan, then Russia, Azerbaijan, and finally Kazakhstan, which did not exceed 2.92% of GDP and a weight of 0.017. Kazakhstan and Russia ranked first in terms of the Physicians per 1000 population index, with a rate of 3.98 Physician/1000 people and a weight of 0.041, followed by Azerbaijan, then Turkmenistan, and finally Iran with a rate of 1.58 Physician/1000 people and a weight of 0.016. In the Hospital Beds Index (per 1,000 people), Russia came back to take first place once again with a weight of 0.047, followed by Kazakhstan, then Azerbaijan, Turkmenistan and finally Iran with a weight of 0.010. The ranking of countries was also repeated in the Nurses and midwives index (per 1,000 people), with Russia ranked first with a weight of 0.046, followed by Kazakhstan, Azerbaijan,

Turkmenistan, and finally Iran with a weight of 0.014. Iran was distinguished in the Access to Clean Water Index, % of the population, with a rate of 91.38% and a weight of 0.037, followed by Turkmenistan, then Russia, Azerbaijan, and finally Kazakhstan with 66.3% and a weight of 0.027. Whereas Kazakhstan ranked first in terms of access to sanitation facilities % of population with a weight of 97.5% and a weight of 0.037, followed by Azerbaijan and Iran with a weight of 0.034 each, followed by Russia, and finally Turkmenistan with a weight of 0.024.

- **Educational level**: This variable was measured through three indicators, the first is the gross enrollment in elementary and secondary schools, the Gender Parity Index (GPI), and this indicator ranged with a weight between 0.032 from Kazakhstan, Azerbaijan, and Iran, to 0.030 in Russia. The second of these indicators is school enrollment, primary (% gross). Turkmenistan ranked first with a weight of 0.034, followed by Iran, then Russia, Kazakhstan, and finally Azerbaijan with a weight of 0.029. Government spending on education is the final of these indicators, total (% of GDP), where Russia ranked first with 4.68% of GDP with a weight of 0.044, followed by Iran, then Turkmenistan, Kazakhstan, and finally Azerbaijan with a weight of 0.023.
- **Immigration and unemployment**: This variable was measured through three variables, the first of which is the brain drain index. Russia ranked first with a weight of 0.156, followed by Kazakhstan, then Azerbaijan, Turkmenistan, and finally Iran with a weight of 0.031. The second of those indicators is the demographic pressures, and Kazakhstan, Azerbaijan and Turkmenistan are equal in weight by 0.078, then Russia and Iran have a weight of 0.052. The third indicator was the unemployment rate. Russia and Kazakhstan ranked first with a weight of 0.052, followed by Azerbaijan, then Iran and finally Turkmenistan.
- **Human development and poverty**: This variable was measured through two indicators, the first of which is the Human Development Index. Russia and Kazakhstan topped the countries in the region in that indicator with a weight of 0.033, followed by Iran with a weight of 0.031, then Azerbaijan, and Turkmenistan not

far from that and came in last place with a weight of 0.029. The second is the poverty rate index. Turkmenistan ranked first with a weight of 0.051, followed by Russia, then Iran, Azerbaijan, and finally Kazakhstan with a weight of 0.020.

- **Happiness and social progress**: The suggested model now includes these two variables. With a weight of 0.116, Kazakhstan ranked first among the study area's nations in terms of happiness index, followed by Russia, then Azerbaijan and Turkmenistan, and Iran ranked last with a weight of 0.009. The situation was confirmed again for Russia and Kazakhstan, which topped the region's countries in the social progress index with a weight of 0.034, followed by Iran, then Azerbaijan, and finally Turkmenistan with a weight of 0.027.
- **Ethnic composition**: The researcher assigned to this variable a relative weight of about 5.00, due to its extreme importance in showing the extent of the homogeneity and integration of the state's population and its impact on the power of the state and its political weight. This variable was measured through three variables, the first of which are: Ethnic Diversity Index, then Linguistic Diversity Index Finally, the Religious Diversity Index, and Russia topped the countries of the region in that variable with a total weight of 3.669, followed by Azerbaijan, then Turkmenistan, Kazakhstan, and finally Iran with a weight of 1.847, which indicates the extent of the ethnic diversity it suffers from and is a major weakness in the geopolitical formation of the Iranian state, and therefore Deducted from the political weight of the state.
- **Political borders**: This variable was measured through 14 indicators, with a weight of 3.75 of the total weight of the proposed model. In terms of that variable, Azerbaijan was the best performing state in the Caspian Sea region, with a total weight of 1.562, followed by Russia, then Iran, Turkmenistan, and finally Kazakhstan with a weight of 0.960. Although the five countries differed in the order of their positions among these indicators. The overall length of the land border index, which gives Russia first place and has a weight of 0.124, followed by Kazakhstan, then Iran,

Turkmenistan, and finally Azerbaijan with a weight of 0.012. Azerbaijan, on the other hand, came in first place with a weight off for the ratio between total and ideal borders with a weight of 0.063, followed by Russia, Iran, Turkmenistan, and finally Kazakhstan with a weight of 0.046. The same was repeated for Azerbaijan, which ranked first in terms of the ratio between land borders and ideal borders with a weight of 0.072, followed by Kazakhstan, then Turkmenistan, Kazakhstan, and finally Russia with a weight of 0.031.

Russia ranked first in terms of the ratio of both types of borders to the area of the country with a weight of 0.097, followed by Kazakhstan, then Iran, Turkmenistan, and finally Azerbaijan with a weight of 0.010. Russia reconfirmed its leadership in the index of the ratio of land borders of the area of the country, with a weight of 0.146, followed by Iran, Kazakhstan, Turkmenistan, and Azerbaijan, with a weight of 0.007. As for the indicator of the ratio of maritime borders of the area of the country, Kazakhstan ranked first with a weight of 0.120, followed by Turkmenistan, then Iran, Russia, and finally Azerbaijan with a weight of 0.010.

As for the continental coefficient index, Russia ranked first, with a weight of 0.268, then Iran, Turkmenistan, Azerbaijan, and finally Kazakhstan, with a weight of 0.134. Azerbaijan ranked first in terms of the coefficient of border friction, with a weight of 0.268, followed by Iran, then Turkmenistan, Kazakhstan, and finally Russia, with a weight of 0.134. As for the indicator of the ratio of borders to the armed forces, Azerbaijan returned to confirm its leadership in that indicator with a weight of 0.115, followed by Iran, then Russia, Turkmenistan, and finally Kazakhstan 0.003.

By analyzing the index of total border density per 100 km^2, Azerbaijan ranked first in that index with a weight of 0.150, followed by Turkmenistan, then Kazakhstan and Iran with a weight of 0.024 each, and finally Russia with a weight of 0.016. Azerbaijan again confirmed this in the maritime border density index per 100 km^2 with a weight of 0.132, followed by Turkmenistan, then Russia, Iran, and finally Kazakhstan with a weight of 0.011. Azerbaijan has maintained its position in the Land

Border Density Index with a weight of 0.158, followed by Turkmenistan, then Kazakhstan, Iran and finally Russia with a weight of 0.008. The same is true for the theoretical density index of the boundary. Azerbaijan ranked first with a weight of 0.136, followed by Iran, Turkmenistan, Kazakhstan, and finally Russia with a weight of 0.016. As for the common border index, Azerbaijan ranked first, with a weight of 0.268, followed by Turkmenistan, then Iran, Kazakhstan, and finally Russia, with a weight of 0.134.

In the final analysis of Geographical Power, Russia ranked first in the countries bordering the Caspian Sea, with a weight of 1.702, as it ranked first in 23 indicators with a rate of 46.9% of the total geographical Power indicators. followed by Azerbaijan with a weight of 1.239; Where it outperformed in 13 indices by 26.5% of the total indices. Kazakhstan ranked third with a weight of 0.995 and took the lead in eleven indicators with a rate of 22.4% of the total variable indicators. While Iran ranked fourth with a weight of 0.971, beats six of the region's countries on six indicators, with a percentage of 12.2% of the total geographical Power indicators. Finally, Turkmenistan with a weight of 0.951, which outperformed in seven indicators by 14.2% of the total indicators of the variable.

(2) Measuring Indicators of Economic Power:

He led the application of measuring the economic power indicators, which amounted to 44 indicators, and by following all the previous methodological steps for a result that was arranged according to the appendix 4 and the figure 4.

By analyzing the appendix (4) and figure of the 44 economic power indicators, the following becomes clear:

Gross Domestic Product (GNP): by studying this indicator with its data from GDP per capita; Russia topped the region's countries with a weight of 0.119, followed by Kazakhstan, then Turkmenistan, then Iran, and finally Azerbaijan with a weight of 0.049. While Kazakhstan was ranked first in terms of GDP's share of global GDP, with a weight of 0.028, followed by Russia, Iran, Azerbaijan, and Turkmenistan. Turkmenistan topped the region's countries in the average annual growth of GDP with a weight of 0.138, followed by Kazakhstan, then Iran, Azerbaijan, and finally

Russia with a weight of 0.029.

This; Russia ranked first in terms of total international reserves with a value of more than $555 billion and a weight of 0.316, followed by Iran, then Kazakhstan, Azerbaijan, and finally Turkmenistan with a weight of 0.008.

- **Score of the Index of Economic Freedom:** Kazakhstan ranked first with a weight of 0.94, followed by Azerbaijan, then Russia, Iran, and finally Turkmenistan with a weight of 0.063.
- **Economic inequality:** Azerbaijan ranked first with a weight of 0.398, followed by Kazakhstan, Turkmenistan, then Iran, and Russia ranked fifth and last with a weight of 0.199.
- **Agricultural resources, food, and self-sufficiency:** This variable was measured through eleven indicators, which mean the state's inability to provide them, the weakness of the state's capacity and the increase in dependence on the outside, which exposes it to the state's economic dependence and its political decision. The first of these indicators is the food share in total imports; Kazakhstan topped the countries in the region with a weight of 0.398, followed by Russia, Turkmenistan, Azerbaijan, and finally Iran in fifth place with a weight of 0.199. The rule is that this indicator is deducted from the weight of the political power of the state, and the second is the size of arable land; The higher the percentage of agricultural land, this indicates the agricultural Power of the state, as this increases its ability to be self-sufficient and export and achieve its food security, in addition to diversifying plant production. Kazakhstan ranked first with a weight of 0.127, then Turkmenistan, Azerbaijan, followed by Iran, and finally Russia with a weight of 0.021. The third is the grain production index; Russia ranked first with a weight of 0.296, followed by Iran with a weight of 0.047, then Kazakhstan, Azerbaijan, and Turkmenistan ranked last with a weight of 0.003. These indicators raise the relative weight of the state's power. The fourth of those indicators is the Global Hunger Index; Turkmenistan ranked first with a weight of 0.124, followed by Iran, Azerbaijan, Kazakhstan, and finally Russia with a weight of 0.058, an indicator that is deducted from the relative balance of the state's power. It was the fifth indices of agricultural resources

and food in the food production index. Azerbaijan ranked first with a weight of 0.089, followed by Russia, Kazakhstan, then Iran and Turkmenistan with a weight of 0.068 each.

Iran ranked first in terms of the expenditure index on agriculture with a weight of 0.135, followed by Azerbaijan, then Kazakhstan and Russia with a weight of 0.047 each, and finally Turkmenistan. Russia ranked first in terms of the water resources index, with a weight of 0.268, followed by Kazakhstan, Turkmenistan, Azerbaijan, and finally Iran, with a relative weight of 0.014.

Russia and Kazakhstan ranked first in terms of Average food energy supply index with a weight of 0.083, followed by Azerbaijan and Iran, and finally Turkmenistan 0.073.

Russia topped the region's countries in the food export index with a weight of 0.256, followed by Iran, Kazakhstan, Azerbaijan, and finally Turkmenistan. This situation was reflected in the food imports index; Where Turkmenistan ranked first in terms of food imports with a weight of 0.398, followed by Kazakhstan, then Azerbaijan, Iran, and finally Russia, with a weight of 0.199, and translated the previous situation of the indicators of food imports and exports represented in the difference between them, which is known as self-sufficiency; The countries of the region topped Kazakhstan in the ratio of self-sufficiency in food resources with a relative weight of 0.134, followed by Russia with a weight of 0.131, then Iran with a weight of 0.117, Azerbaijan with a weight of 0.011, and finally Turkmenistan with a weight of 0.004 due to the high percentage of its food imports and the decrease in its exports.

It should be noted that there are several glitches in this variable; The area of agricultural land decreases from the total area in the countries of the study area, which has caused a significant failure to achieve self-sufficiency in some agricultural products, which pushes them to import, which negatively affects industrialization, production, and the economy’s ability to compete and grow, as well as the financial burdens borne by them. The economy of the food-importing country, which, in accordance with the notions of, has

an impact on the state's overall economic status self-sufficiency policies in the power analysis approach in political geography.

- **Employment in economic activities**: It is an important variable on the Power of food security that is achieved through it. If the workforce is large, this indicates the power of the state, as well as shedding light on the nature of the national economic structure. This criterion is distributed on four indicators, among which the first is employment in the activity Azerbaijan outperformed all other nations in the region in the agricultural sector, with a relative weight of 0.150, followed by Turkmenistan, then Iran, Kazakhstan, and finally Russia, with a relative weight of 0.024. The second indicators are Employment in the industry from the total labor force, Turkmenistan ranked first with a relative weight of 0.126, then Iran, Russia, then Kazakhstan, and finally Azerbaijan, with a relative weight of 0.078. The index of Employment in service activities came as the third of those indicators, and Russia came in the first place with a weight of 0.099, followed by Kazakhstan, then Iran, Azerbaijan, and finally Turkmenistan in the last place with a weight of 0.056. As a last point, the public services index is referred to Core governmental tasks include maintaining public health, education, infrastructure for transportation, power and energy, the internet, and communications. The higher the index value, however, the better the state's capacity to use police forces to safeguard its citizens against dangers like terrorism and violence, the worse the state's public services, and deducting this from the relative weight of the state's power, and this was translated into Turkmenistan's occupation of the first rank in terms of weight of 0.097, followed by Azerbaijan, then Iran, Russia, and finally Kazakhstan with a relative weight of 0.064.
- **Economic resources**: This variable was measured through four indicators, the first of which was the volume of production of energy sources, and Russia ranked first; Its production volume from energy sources reached 33226 petajoules with a weight of 0.269, followed by Iran with a weight of 0.089, then Kazakhstan, Turkmenistan, and finally Azerbaijan with a weight of 0.005. The

second indicator is the average per capita share of electrical energy; Russia also ranked first with a weight of 0.131, followed by Kazakhstan, then Iran, Turkmenistan, and finally Azerbaijan with a weight of 0.044. This indicator reflects the degree of well-being, which is the volume of mass production in the field of various economic resources. The same applies to the index of strategic mine resources such as bauxite, uranium, cobalt, and gold. Russia ranked first with a weight of 0.263, followed by Iran with a weight of 0.073, followed by Kazakhstan, Turkmenistan, and finally Azerbaijan, which ranked last, with double its production of mineral resources, with a weight of 0.009. The situation reasserted itself once again in the indicator of proven petroleum reserves. Where Russia topped the countries of the region with a relative weight of 0.261, then Iran, Kazakhstan, Azerbaijan ranked fourth, and finally Turkmenistan ranked fifth with a weight of 0.005.

It should be mentioned that, with the exception of Russia, the economic strength of the region's countries rests in major part on economic resources that are threatened with depletion in a global system that is experiencing constant and changing economic and political changes and is witnessing fluctuations in oil prices.

- **Industry:** The developed industry represents a base of political and economic progress and a cornerstone of political independence, especially for developing countries, if they succeed in eliminating the factors of economic dependence and advancing an independent national economy based on a strong economic base in which the industry occupies a privileged position, which moves it with rapid steps towards the ranks of advanced countries. This variable was measured through two indicators, represented in services and goods exports out of GDP; Azerbaijan ranked first with a weight of 0.121, then Kazakhstan, Russia, Iran, also in fifth place, Turkmenistan, with a relative weight of 0.056. The second is the industry’s share of the gross national product. Turkmenistan ranked first, with a weight of 0.112, then Azerbaijan, then Kazakhstan, followed by Russia, and finally Iran, with a weight of 0.062.

- **Inflation rates and public debt:** By studying these two indicators, it was found that Azerbaijan ranked first in inflation rates with a weight of 0.398, followed by Russia, then Kazakhstan, Turkmenistan, and finally Iran, with a relative weight of 0.199. While Russia is in the first place in terms of the public debt-to-GDP ratio index, with a weight of 0.398, followed by Azerbaijan, then Kazakhstan, Turkmenistan, and finally Iran, with a relative weight of 0.199. Undoubtedly, the balance of the country's political and economic weight is reduced by the high rates of the two indicators.
- **Transport and Communications**: Transport and communications are one of the important service sectors in the state, as it helps to complete the unity of the national state by linking the regions of one state and imposing its dominance over all its parts, and often resembles the transport system in the state with the blood circulation, without which life cannot survive in any part. organic. This economic variable was measured through nine indicators, represented in the indicators of the total paved roads out of the total road network; Russia ranked first among the countries in the region with a weight of 0.286, followed by Iran, then Kazakhstan, Turkmenistan, and finally Azerbaijan. The situation was repeated in the index of total railways; Where Russia also topped the first place with a weight of 0.387, followed by Kazakhstan, then Iran, Turkmenistan, and finally Azerbaijan. Russia has once again confirmed its leadership in the field of transportation and communication networks through the road network length index with a weight of 0.387, followed by Iran, then Kazakhstan, Azerbaijan, and finally Turkmenistan.

By examining the index of the density of land roads to the area, Azerbaijan ranked the Caspian riparian countries with a weight of 0.206, followed by Iran, then Russia, Kazakhstan, and finally Turkmenistan with a weight of 0.021. As for the railway network density index to area, Azerbaijan also came first with a weight of 0.175, followed by Turkmenistan, then Kazakhstan, Russia, and finally Iran with a weight of 0.038.

When compared to other nations around the world, these indices are low, with France, the United Kingdom, United States

standing out., and China, as each recorded about 1796, 1678, 743, and 324.3 km / 1000 km^2, respectively.

Regarding the per capita road index, Russia led the other nations in the area; With a value estimated at 8.89 m/people, and a weight of 0.164, followed by Kazakhstan, then Iran, Azerbaijan, and finally Turkmenistan with a value of 2.39 m/people, and a weight of 0.044. In terms of railway per capita, Turkmenistan ranked first with a weight of 0.167, then Kazakhstan, Russia, followed by Azerbaijan, and Iran ranked last with a weight of 0.014. These rates are low in all countries of the region compared to developed countries. Russia also ranked first in terms of the number of international airports and ports index with a weight of 0.286, followed by Iran, then Kazakhstan, Azerbaijan, and finally Turkmenistan with a weight of 0.006.

- **Investment and development:** Five indicators were used to assess this variable, the first of which is the investment freedom index. Azerbaijan ranked first with a weight of 0.169, followed by Kazakhstan, then Russia, Turkmenistan, and finally Iran, with a weight of 0.012. Azerbaijan again ranked first in terms of competitiveness index with a weight of 0.104, followed by Russia, then Iran, Kazakhstan, and finally Turkmenistan. While Turkmenistan ranked first in terms of the weighted average of GDP-shared foreign direct investment is 0.157, then Azerbaijan, followed by Russia, Kazakhstan, and finally Iran with a weight of 0.017.

Azerbaijan ranked first in terms of the degree of Index of business accessibility having a weight of 0.113, followed by Kazakhstan, following that are Russia, Iran, and Turkmenistan. With a weight of 0.112, Azerbaijan's dominance over the other nations in the region was reiterated in the economic development and growth index, followed by Russia, then Kazakhstan, Iran, Finally, Turkmenistan ranked last with a weight of 0.050.

In the final analysis of indicators of economic power; It can be said that the economic sectors in the countries of the study area, with the exception of the Russian Federation, are still poor, and they lack

developed economies, Even though all of these nations are oil-producing and earn a sizable portion of their income from exporting oil, but those revenues were not employed in the areas of development, which is an indicator of economic weakness, which He called on multinational companies to invest in the countries of the region. When compared to the other nations bordering the Caspian Sea, Russia had the strongest economy, with a weighted average of 1.702. It also ranked first in fifteen indicators representing economic Power, accounting for 36.3% of the total components of those indicators. Next is Kazakhstan, with a weight of 0.744, and it took the lead in about 13.6% of the total indicators of economic Power. Then came Azerbaijan in third place, with a weight of 0.728, and ranked first in eleven indicators: 25% of the total measurement indicators. Iran then came in fourth place with a weight of 0.620, Finally, with a weight of 0.601, Turkmenistan came in fifth.

(3) Indicators of Military power:

By applying the proposed model to the military force, 10 indicators have been allocated to this important variable, with a total weight of 17 out of the total comprehensive power of the state. appendix 5 and figure 4

By studying the appendix and figure, it was possible to come up with the following analyzes:

(a) Conventional military power indicators:

This variable was measured through 7 indicators with a weight of 7.00. The first of these indicators was the indicator of the volume of public military spending; Russia accounted for this index with a weight of 0.799, followed by Iran with a weight of 0.155, then Azerbaijan, Kazakhstan, and finally Turkmenistan with a weight of 0.001. Azerbaijan ranked first in terms of the military spending ratio of GDP, at 3.99%, with a weight of 0.283, followed by Russia, which allocated 3.87% of its GDP, with a weight of 0.274, then Turkmenistan, Iran, and finally Kazakhstan; In which the military spending percentage of GDP did not constitute 1.05%, with a weight of 0.074. Regarding the percentage of armed pimps in the workforce, Iran led the other nations in the area by an estimated

amount 2.34% and a weight of 0.283, while Russia ranked second with a weight of 0.237, then Azerbaijan, Turkmenistan, and finally Kazakhstan with a weight of 0.094.

Russia ranked first in the arms exports index, according to the SIPRI index, with a weight of 0.995. This indicator indicates the availability of the country's military industrial base, and therefore the volume of export abroad means exceeding self-sufficiency. Iran came second with a weight of 0.004, then Kazakhstan 0.001, while Azerbaijan and Turkmenistan lost this indicator due to the lack of military industries capable of exporting, which deducts the balance of the two countries in the balance of comprehensive power. Iran ranked first among the nations in the region in terms of the SIPRI index values measuring arms imports, with a weight of 1.000, followed by Azerbaijan, then Russia, Turkmenistan, and finally Kazakhstan with a weight of 0.500. Russia ranked first in the index of the number of military submarines, with 59 submarines, with a weight of 0.573, followed by Iran with a weight of 0.388, then Azerbaijan with four military submarines, with a weight of 0.034. No data were available for that indicator in Kazakhstan and Turkmenistan. Regarding the indicator of the number of military aircraft, Russia and Iran came back to the fore, with a weight of 0.782 and 0.150, respectively, followed by Kazakhstan 0.032, then Azerbaijan and finally Turkmenistan with 83 military aircraft, with a weight of 0.015.

and accordingly, Russia ranked first in terms of traditional military Power indicators with its seven indicators, with a weight of 4.360, followed by Iran with a weight of 2.144, then Azerbaijan with a weight of 1.360, Turkmenistan with a weight of 1.013, and finally Kazakhstan came with a weight of 0.724.

(b) unconventional Military power indicators:

Three indicators were assigned to this variable, with a weight of 10.00 of the total comprehensive State's power; As a result of this variable significantly affects the state's power, and these indicators were represented in both nuclear and chemical capabilities; Russia alone possessed this capacity with a weight of

3.333, while all other countries in the region lacked it. Russia has the largest nuclear arsenal now, with 8,500 nuclear warheads, as well as 1,800 strategic warheads installed on intercontinental ballistic missiles, ballistic missiles launched from submarines and strategic bombers, and 2,700 strategic and tactical warheads. As for the indicator of the number of operational nuclear reactors, Russia also ranked first with 38 reactors with a weight of 3.248, then Iran 0.085, and Kazakhstan, Azerbaijan and Turkmenistan lacked that Power. The indicator of the presence of nuclear submarines was limited to Russia, not to other countries in the region; With 33 nuclear submarines and a weight of 3,333.

Based on the foregoing, Russia topped the region's countries in the unconventional military power indicators with a weight of 9.915, and at a distance from it came Iran with a weight of 0.085, and in the overall balance of power however, the other states in the region lacked that important and influential skill.

In the overall analysis of Military power indicators, Russia ranked first with a weight of 2.427, and its superiority represented about 80% of the total indicators measuring military Power, which demonstrates that it has a very wide gap with the other countries in the region. The Russian superiority in military power over the Caspian Sea-adjacent States are the result of a continuous scheme since the Second World War's end, which guarantees it military superiority on the regional scale and reaches international influence, making it able to wage wars and bear their consequences. Iran ranked second with a weight of 0.379, which outperformed in only one indicator, which is the members of the armed forces in proportion to the workforce. Azerbaijan came in third place with a weight of 0.231, outperforming the countries of the region in only one indicator by 10% of the total indicators and represented in total Deficiency budget as a percentage of GDP. Turkmenistan ranked fourth with a weight of 0.172, and Kazakhstan came in fifth and last place with a weight of 0.132.

(4) Indicators of political power "the government":

This variable was measured through 33 indicators and was assigned a weight of 12.5 of the total weight of the proposed model. By analyzing these indicators by following the methodological

steps followed in the proposed model, the results came as shown in appendix 6 and Figure 4, Examining them, the following becomes evident.

- **Public freedoms:** This variable was measured through seven indicators. Kazakhstan ranked first in the Freedom Index with a weight of 0.101, followed by Russia, then Azerbaijan, Iran, and finally Turkmenistan with a weight of 0.029. However, the latter topped the region's countries in the Press Freedom Index, with a weight of 0.104, followed by Iran, then Azerbaijan, Kazakhstan, and Russia in the last place, with a weight of 0.059. Azerbaijan ranked first in the religious freedom index, with a weight of 0.110, followed by Kazakhstan, Russia, and then Iran, with a weight of 0.073, while no data was available for that indicator for Turkmenistan. Iran topped the region's countries in the media freedom index with a weight of 0.379, and the rest of the region's countries did not record weights in that index. As for the Freedom of Access to Information Index, Russia and Kazakhstan topped the region's countries with a weight of 0.142 each, followed by Iran 0.095, then Azerbaijan, and finally Turkmenistan, for which no data was available. Iran came up on top in the ranking of countries that restrict access to the Internet, with a weight of 0.303, Turkmenistan was last, ranking second with a weight of 0.256 among the remainder of the countries in the region, for which data are available in that index. Kazakhstan ranked first for the region's states in the civil liberties index, which has a weighted average score of 0.129, followed by Russia, then Iran, Azerbaijan, and finally Turkmenistan, which recorded a weight of 0.014.
- **The absence of violence and political stability:** Six indicators were used to assess this variable, the first of which is the number of coups, and Kazakhstan and Turkmenistan ranked first with a weight of 0.379; Followed by Azerbaijan, then Russia, and finally Iran, which witnessed 25 coups with a weight of 0.189. The second is an indicator of the legitimacy of the state; Turkmenistan came first with a weight of 0.082, followed by Iran, then Azerbaijan, Kazakhstan, and finally Russia with a weight of 0.070. Kazakhstan ranked first in the index of The absence of violence

and political stability, with a weight of 0.120, followed by Turkmenistan, then Russia, Azerbaijan, and finally Iran, with a weight of 0.016. Fourth, the Global Terrorism Index; Russia topped the countries in the region with a weight of 0.193, followed by Iran, then Kazakhstan, Azerbaijan, and finally Turkmenistan. The fifth of these indicators is premeditated murders per 100,000 inhabitants; Russia ranked first with a weight of 0.140, followed by Kazakhstan, then Turkmenistan, Iran, and finally Azerbaijan with a weight of 0.038. The latest indicators of this variable are the implementation of the death penalty in 2018; Kazakhstan, Russia, Azerbaijan, and Turkmenistan scored a weight of 0.379, as those countries abolished the death penalty, while that penalty was implemented in Iran with a weight of 253 and a weight of 0.189, and therefore ranked last in that indicator among the countries of the region.

- **Internal conditions in the state:** This variable was measured through seven indicators, the first of which is the National Cohesion Index; Kazakhstan ranked first with a weight of 0.087, followed by Iran, then Russia, Azerbaijan, and finally Turkmenistan with a weight of 0.062. Iran ranked first in terms of the index of the number of refugees by country of origin, with a weight of 0.362, followed by Russia, with a weight of 0.016, furthermore to the rest of the area's countries did not achieve significant weights in that index. Azerbaijan was the region's top country in the ranking for refugees and internally displaced people (IDPs), with a weight of 0.112, then Russia, Iran, followed by Turkmenistan, and finally Kazakhstan, with a weight of 0.038. In the number of think tanks index, Russia topped the region's countries with 215 think tanks with a weight of 0.250, followed by Iran, then Kazakhstan, and Azerbaijan, and there were no think tanks in Turkmenistan. As for the gender equality index, Kazakhstan ranked first with a weight of 0.131, followed by Russia and Azerbaijan with a weight of 0.124, and no data was available for that indicator in Iran and Turkmenistan. Kazakhstan, in terms of the proportion of the shadow economy to GDP, Turkmenistan came in last, with a weight of 0.303, ahead of Azerbaijan, Iran,

Russia, and then Azerbaijan, for which no data were available in that indicator. On the income inequality index, the Gini coefficient; Iran ranked first with a weight of 0.146, followed by Russia, then Kazakhstan, and no data were available for Azerbaijan and Turkmenistan.

- **Democracy and political participation**: This variable was measured through three indicators, the first of which is the Democracy and Election Index; Russia ranked first with a weight of 0.134, followed by Kazakhstan, then Iran, Azerbaijan, and finally Turkmenistan with a weight of 0.035. The second indicator is the percentage of political participation in the elections; Russia came first with a weight of 0.129, followed by Kazakhstan, Iran, then Azerbaijan, and finally Turkmenistan with a weight of 0.007. The third of these indicators is political rights; Iran ranked the countries in the region in that index with a weight of 0.140, followed by Russia, then Azerbaijan, Kazakhstan, and finally Turkmenistan.
- **Government efficiency**: This variable was measured through two indicators, the first of which is the government effectiveness indicator; Russia topped the countries in the region with a weight of 0.107, followed by Kazakhstan, then Azerbaijan, Iran, and finally Turkmenistan with a weight of 0.020. The second is the Government Integrity Index; The ranking of countries in that indicator coincided with the government effectiveness index, even if their weights varied.
- **Human development and corruption**: The Corruption Perceptions Index was the first of four indicators used to measure this variable; Kazakhstan ranked first among the countries in the region with a weight of 0.101, followed by Russia and Azerbaijan in second place, then Iran, and finally Turkmenistan with a weight of 0.051. The second is the Human Development Index; Russia and Kazakhstan ranked first among the countries in the region with a weight of 0.080, followed by Azerbaijan, then Iran, and finally Turkmenistan with a weight of 0.069. The third is the prosperity index; Kazakhstan ranked first with a weight of 0.083, followed by Azerbaijan, then Russia, Turkmenistan, and finally Iran with a

weight of 0.066. The fourth of these indicators is the Corruption Control Index; Kazakhstan ranked first with a weight of 0.160, then Russia, Azerbaijan, Iran, and finally Turkmenistan.

- **Human rights**: This variable was measured through two indicators, the first of which is the human rights indicator; Iran took the lead with the weight of 0.085, followed by Russia, then Turkmenistan, Azerbaijan, and finally Kazakhstan with the weight of 0.059. The second is the civil society suppression index. Russia and Kazakhstan topped that index, with a weight of 0.139 each, followed by Iran, then Azerbaijan. No data was available for Turkmenistan.
- **Dependency and external intervention**: This variable was measured through the external intervention index, and Iran topped that variable with a weight of 0.108, followed by Azerbaijan, then Russia, Kazakhstan, and finally Turkmenistan with a weight of 0.049.

Based on the foregoing, Russia ranked first in terms of indicators of political power "the government" with a weight of 0.494, and it topped 33.3% of the total indicators of that variable. Kazakhstan came in second with a weight of 0.480, and it excelled in about 39.3% of the total indicators of political power. Then Iran ranked third, with a weight of 0.464, and took the lead in six indicators with a rate of 18.8% of the total variable indicators. Azerbaijan came fourth with a weight of 0.494 and topped four indicators with a 12.1% of the political Power indicators. Finally, Turkmenistan ranked fifth and last among the countries of the region, with a weight of 0.217, and only three indicators of political power topped the list with a percentage of 9% of the total indicators of political power "the government".

(5) Indicators of Cultural power:

This variable was measured by following the methodological steps followed in the proposed and model. 15 indicators were assigned to this variable, with a relative weight of 7.50 of the total weights of the overall Power according to the proposed model. By analyzing these indicators, the results came as shown in appendix 7 and Figure 4, Examining them, the following becomes evident.

- **Media:** This variable was measured through four indicators, the first of which is the indicator of the number of television sets per 1000 inhabitants; Russia topped the countries in the region in that index with 418.9 TVs/1000 people with a weight of 0.222, followed by Kazakhstan, Turkmenistan, then Iran, and finally Azerbaijan, which ranked last with 20.65 TVs/1000 people with a weight of 0.011. and secondly, the daily newspaper distribution index per 1000 inhabitants; Russia ranked first among the countries of the region, with a score of 91.78 newspapers/1,000 people, followed by Azerbaijan, Turkmenistan, and Kazakhstan and Iran. While the third of those indicators is in the index of the number of international broadcasting agencies, Russia topped the Caspian Sea countries with five international broadcasting agencies with a weight of 0.250, followed by Turkmenistan with a weight of 0.100, and all of Kazakhstan, Azerbaijan and Iran had one international broadcasting agency with a weight of 0.050 each. The fourth indicator of this variable is the number of television broadcasting stations per million inhabitants; Azerbaijan ranked first among the countries of the region with 80.255 stations/million people and a weight of 0.305, followed by Russia, then Kazakhstan, Iran, and finally Iran with a weight of 0.002.
- **Means of communication**: This variable was measured through three indicators, the first of which came in the indicator of the number of computers per 1000 people; Russia topped the countries in the region with 121.55 computers/1000 people and a weight of 0.242, followed by Iran, then Azerbaijan. No data were available for Kazakhstan and Turkmenistan. The second is the indicator of the proportion of fixed telephone connections to every 100,000 people; Iran ranked first among the Caspian Sea countries with a weight of 0.170, then Russia, Kazakhstan, followed by Azerbaijan, and finally Turkmenistan with a weight of 0.058. The third is the mobile phone lines index per 100,000 people. Russia ranked first among the countries in the region in that index with a weight of 0.115, followed by 0.114, then Iran, Kazakhstan, and finally Azerbaijan ranked last with a weight of 0.075.

- **International tourism**: this variable was measured through three indicators, the first of which is the number of World Heritage sites listed within UNESCO; Russia ranked first with 29 sites with a weight of 0.227, followed by Iran with a weight of 0.188, then Kazakhstan, and finally Azerbaijan and Turkmenistan with three World Heritage sites with a weight of 0.023 each. and secondly, the international tourism index "number of arrivals"; Russia topped the countries in the region with a weight of 0.284, then Kazakhstan, Iran, Azerbaijan, and finally Turkmenistan. And thirdly, the index of international tourism revenues from total exports; Russia ranked first with a weight of 0.265, followed by Kazakhstan 0.094, then Russia, Iran, and finally Turkmenistan.
- **Cultural diversity**: according to this indicator, Kazakhstan topped the countries bordering the Caspian Sea, with a weight of 0.153, followed by Iran, then Turkmenistan, Russia, and finally Iran, with a weight of 0.138.
- **Reading and published books:** This variable was measured through three variables, the first of which is literacy in proportion to the entire population. Kazakhstan, Russia, Azerbaijan, and Turkmenistan each gained a weight of 0.103, due to the high indicator of literacy, where literacy reached 99.7% of the total population in the mentioned countries, and this indicator decreased only in Iran by 85.5% and a weight of 0.088. It is an important indicator as it gives a clear idea of school dropout, and its significance comes from the fact that it serves as the foundation for students' enrolment in the subsequent educational stages, as they are the nucleus of the workforce in all fields. second, the OECD average score index in science, mathematics, and reading; Russia ranked first with a weight of 0.188, then Azerbaijan, then Kazakhstan, and neither Iran nor Turkmenistan took part in this indicator. The quantity of books released each year serves as the third indicator; Russia ranked first among the countries in the region in that variable with 120,521 published books/year with a weight of 0.308, followed by Iran, then Kazakhstan, and finally Turkmenistan and Azerbaijan with a weight of 0.001 each.

- **The Nobel Prize**: Russia ranked the Caspian countries in that index with 25 prizes, with a weight of 0.463, followed by Azerbaijan and Iran with one prize each, with a weight of 0.019 each. Kazakhstan and Turkmenistan did not score any weight in that index.

In the final analysis of the cultural power variable in the Caspian Sea's bordering states; Russia ranked first among the countries of the region, with a weight of 0.244, and was at the forefront of about eleven indicators with a rate of 73.3% of the total variable indicators. Then Iran ranked second with a weight of 0.099, which only excelled in a single indicator represented in the total phone lines per 100,000 inhabitants. Azerbaijan came in third place with a weight of 0.096 and topped the countries of the region in two indicators with a rate of 13.3% of the total variable indicators. In fourth place, Kazakhstan came with a weight of 0.077, and it took the lead in two indicators with a rate of 13.3%. Finally, Turkmenistan came with a weight of 0.046, and topped the countries of the region in one indicator represented in literacy as a proportion of the entire population.

(6) Indicators of scientific and technological Power:

The total indicators of that variable amounted to 18 indicators, with a weight of 9 according to the proposed model, and by analyzing these indicators, their results came as shown in appendix 8 and Figure 4, and examining them, the following becomes evident:

- **The scientific and technological base:** to measure this variable, six indicators were relied upon, the first of which came in the index of researchers in the field of research and development per million inhabitants; Russia ranked first among the countries of the region with a weight of 0.283, followed by Iran, then Kazakhstan, while no data were available for Azerbaijan and Turkmenistan. The second of these indicators is the technicians working in research and development per million inhabitants; Iran ranked first among the countries of the region with a weight of 0.235, followed by Russia, then Kazakhstan. No data was also available for that indicator in Azerbaijan and Turkmenistan. As for the third indicators, Scientific and technical periodicals published

articles per million people; Russia topped the Caspian riparian countries, with 81,579 published articles per million people, with a weight of 0.307, followed by Iran, then Kazakhstan, Azerbaijan, and finally Turkmenistan, with 3.96 published articles per million people, with a relative weight that is negligible. Fourthly, the Research and Development Expenditure (% of GDP) indicator; Russia ranked first with 0.98% of GDP and a weight of 0.232, followed by Iran, Azerbaijan, Kazakhstan, and Turkmenistan follow. In the ranking of the top international institutions in every country among the top 1,000 universities worldwide, Russia came out on top among the countries in the area; With 11 universities, with a weight of 0.275, while Iran came second with nine universities, with a weight of 0.225, and the remainder of the region's states did not register any university in the top 1000 global universities according to the Times classification. The last of these indicators came in Internet users as a proportion of the populace; Russia took the lead among the countries of the region with a percentage of 82.6% and a weight of 0.123, followed by Kazakhstan second, then Azerbaijan, followed by Iran, and Turkmenistan ranked fifth and last among the State's region with a percentage of 21.2% with a weight of 0.032.

- **Scientific innovation:** This variable was measured through three indicators, the first of which is the number of patents per million inhabitants; Russia topped the countries in the region with 24,926 inventions/million people with a weight of 0.230, followed by Iran, then Kazakhstan, Azerbaijan, and finally Turkmenistan, with 44 inventions/million people, with a relative weight of 0.001. The second is the Global Innovation Index score; Russia topped that index with a weight of 0.139, followed by Iran, then Kazakhstan, Azerbaijan, and finally Turkmenistan with a weight of 0.023. The third is the Global Talent Score Index; Azerbaijan topped the countries in the region with a weight of .0139, followed by Russia, then Kazakhstan, and Iran. No data was available for the country of Turkmenistan.
- **The scientific and technological structure**: ten variables were assigned to measure this variable, the first of which came in

the indicator of the degree of digital access; Iran came first with a weight of 0.116, followed by Russia, then Turkmenistan, Kazakhstan, and finally Azerbaijan with a weight of 0.065. Kazakhstan topped the region's countries in the index of advanced as a proportion of all exports, technology, manufactured goods, accounting for 29.7 percent of total exports, with a weight of 0.307, followed by Russia, Azerbaijan, then Iran, and finally Turkmenistan, for which no data was available. Russia ranked first in the nuclear electricity production index in proportion to the overall electricity production; With a weight of 17.1% and a weight of 0.445, followed by Iran with a weight of 0.055, while the countries of the region did not represent any weights due to the absence of nuclear electricity production in them. Russia continued to rank first in the index of secure Internet servers per million inhabitants; With a weight of 0.455, followed by Iran, then Kazakhstan, Azerbaijan, and finally Turkmenistan. Russia ranked first among the countries of the region in the Internet bandwidth index "1,000 megabytes / second" with a weight of 0.353, followed by Iran, then Kazakhstan, Azerbaijan, and finally Turkmenistan. As for the online government services index, Kazakhstan ranked first with a weight of 0.166, followed by Russia, then Azerbaijan, Iran, and finally Turkmenistan; for which no data were available. Kazakhstan topped the Caspian countries in the e-participation index; With a weight of 0.142, followed by Russia, Azerbaijan, Iran, and finally Turkmenistan with a weight of 0.032. Russia returned to the top in the index of subscriptions to fixed broadband per 100 residents, with a weight of 0.172, followed by Azerbaijan, then Kazakhstan, Iran, and finally Turkmenistan, with a weight of 0.001. The latest indicators of that variable came in ICT exports as a proportion of all exports; Russia ranked first one of the Caspian Sea states region with a weight of 0.379, followed by Kazakhstan, then Azerbaijan, Iran, and finally Turkmenistan with a weight of 0.008.

In the final study of the Caspian Sea bordering states' scientific and technological power indicators, Russia ranked first among the countries of the region with a weight of 0.396, by a large difference from the remainder of the region's states; This indicates the existence

of a large gap between it and the rest of the region, as it took the lead in twelve indicators with 66.6% of the total indicators measuring scientific and technological Power. Followed by Iran, with a weight of 0.083, which excelled in two indicators by 11.1% of the total indicators of the scientific and technological Power variable. While Kazakhstan ranked third with a weight of 0.134 and excelled in three indicators with a rate of 16.6% of the total indicators. And Azerbaijan ranked fourth with a weight of 0.083, which outperformed in a single indicator, which is the degree of global talent by 5.5% of the total variable indicators, and finally Turkmenistan ranked fifth and last with a weight of 0.018, which did not excel in any variable indicators, as it ranked last among the countries of the region in about 88.8% of the total indicators of scientific and technological Power.

(7) Power indicators of international cross-border relations:

This variable was measured through 25 indicators and was assigned a weight of 9 out of the total weight of the proposed model. By analyzing these indicators by following the methodological steps followed in the proposed model, the results came as shown in appendix 9 and Figure 4, Examining them, the following becomes evident:

- **Foreign diplomatic capacity:** This variable was measured by eleven indicators, represented in each of the indicator of the number of embassies abroad; Russia ranked first with 144 embassies and a weight of 0.165, followed by Azerbaijan, then Kazakhstan, Iran, and finally Turkmenistan with 24 embassies and a weight of 0.027. Russia ranked first among the countries of the region in the index of the number of consulates abroad, with 85 consulates and a weight of 0.225, while Kazakhstan came second, then Azerbaijan and Iran with 14 consulates, with a weight of 0.027, and finally Turkmenistan with a weight of 0.005. As for the index of the number of permanent missions to multilateral organizations, Russia accounted for that index with 11 permanent missions, with a weight of 0.360, while the remainder of the region's countries did not record a presence in permanent missions to multilateral organizations. Russia returned to the lead in the membership index of international organizations among the

countries of the Caspian Sea region, with 78 members, with a weight of 0.102, followed by Kazakhstan, with a weight of 0.070, then Azerbaijan and Iran, with 52 memberships each, with a weight of 0.068, while Turkmenistan ranked last with a weight of 0.052. on the Asylum Seekers Index, Russia ranked first among the countries of the region with a weight of 0.278, followed by Kazakhstan, then Azerbaijan, Iran and finally Turkmenistan. Russia also ranked first among the countries of the region in the Environmental Performance Index with a weight of 0.078, then Iran, Azerbaijan, Kazakhstan, and finally Turkmenistan with a weight of 0.068.

Russia returned to the index of permanent membership in the Security Council "United Nations", with a weight of 0.360. However, some countries in the region reappeared in the index in the Security Council's temporary membership count since 1946; Where Kazakhstan, Azerbaijan and Iran appeared twice each in the Security Council with a weight of 0.113, Turkmenistan has not appeared in the temporary membership of the Council so far. Kazakhstan ranked first in the Global Peace Index with a weight of 0.360, followed by Turkmenistan, Azerbaijan, Iran, and finally Russia with a weight of 0.180. Iran ranked first among the countries of the region in the Facebook Followers Index of Heads of State with a weight of 0.292, followed by Russia, Kazakhstan, and Azerbaijan. No data was available for Turkmenistan in that index. In resolved, Russia accounted for the degree of participation index on Facebook for heads of state, with several 34 posts/day, and a weight of 0.360.

- **External exposure and dependency:** This variable was calculated using the total foreign development assistance as a proportion of GDP; Azerbaijan ranked first in terms of receiving such aid, with a weight of 0.180, followed by Iran, then all of Kazakhstan, and Turkmenistan, while Russia did not receive any foreign development aid and acquired a weight of 0.360.
- **International transport:** This variable was measured through three indicators; The first is the number of flights of registered air carriers worldwide; Russia ranked first in the region

with a weight of 0.277, followed by Iran, then Kazakhstan, Azerbaijan, and finally Turkmenistan with a weight of 0.005. The second is the air transport infrastructure index; Azerbaijan ranked first with a weight of 0.122, followed by Russia, then Kazakhstan, and Iran. No data were available for the country of Turkmenistan. The third of these indicators measures the states' ports' accessibility to international ports; Russia ranked first with a weight of 0.237, followed by Iran with a weight of 0.123, while the rest of the region did not record weights in this indicator.

- **External soft power:** This variable was measured through eight indicators, the first of which was the state's population of international students. Russia came in the lead with a weight of 0.304, followed by Kazakhstan, then Iran, Azerbaijan, and finally Turkmenistan. And the IFPI Music Market Size Index, and none of the countries in the region recorded weights in that variable, and this was repeated in the index of several the top ten international albums.

As for the Olympic medal count indicator, Russia ranked first among the Caspian Sea's countries surrounding it, with 547 medals, with a weight of 0.269, while Kazakhstan ranked second, Iran ranked third, then Azerbaijan, and finally Turkmenistan, which achieved one medal. On the Paralympic medals index, Russia ranked first with 501 medals and a weight of 0.266, followed by Iran, Azerbaijan, Kazakhstan, and finally Turkmenistan. On the FIFA ranking index, Russia ranked first, as it scored 39th in the world with a weight of 0.023, followed by Iran, then Azerbaijan, followed by Kazakhstan, and finally Turkmenistan, which ranked 132nd in the world. As for the indicator of the number of Michelin-starred restaurants; Russia accounted for that index with a weight of 0.360, and no restaurants in the countries of the study area showed a Michelin star.

on the official language Power index, Russia ranked first with a weight of 0.123, followed by Kazakhstan, then Azerbaijan, and Iran ranked fourth, and finally Turkmenistan, for which no data were available for that indicator.

In the final analysis of the Power indicators of international cross-border relations, Russia topped the countries bordering the Caspian Sea, with a weight of 0.464, far ahead of the region's closest neighbors; It took the lead in about 19 indicators, with 76% of the total variable indicators. Followed by Iran in second place with a weight of 0.173, and it came to the fore in one index with 4% of the total indices. In third place came Kazakhstan with a weight of 0.148, and the countries of the region topped the global peace index with 4% of the total variable indicators. Azerbaijan came fourth with a weight of 0.146 and took the lead among the countries of the region in two indicators with a percentage of 8% of the total indicators. In the fifth and last place, Turkmenistan came with a weight of 0.100, and it did not surpass any of the countries in the region in any of the 25 indicators of Power for cross-border international relations.

(8) Astro space Power Indicators:

The power of that variable was measured by ten indicators; With a weight of 7.5 on the proposed model, and by applying the methodological steps followed in that model, the results came as shown in appendix 10 and Figure 4, Examining them, the following becomes evident:

Russia took the lead in the countries bordering the Caspian Sea in all indicators of that variable, with a large difference from the remainder of the region's states, in the index of dominance over the Earth’s orbit the percentage of the entire amount of satellites in the world with a rate of 5.16% and a weight of 0783, followed by Kazakhstan, then Iran and Azerbaijan ranked Third, and finally Turkmenistan.

On the indicator of the number of civilian satellites; Russia possessed eleven civil satellites, which ranked first among the countries of the region with a weight of 0.655, followed by Kazakhstan, and the rest of the region's countries did not possess civil satellites. As for the indicator of the number of civil/governmental satellites, the countries of the Caspian Sea region had one satellite owned by Russia, with a weight of 0.714. In the index of the number of commercial satellites, Russia, as usual, ranked first with 37 commercial satellites, with a weight of

0.661, followed by Kazakhstan with three commercial satellites, with a weight of 0.054. Azerbaijan, Iran, and Turkmenistan did not have commercial satellites. Russia returned to the index of the number of commercial/civilian satellites with three satellites and a weight of 0.714, and none of the countries in the region possessed satellites designated for commercial/civil uses. As for the index of the number of government satellites, Russia possessed 15 satellites with a weight of 0.536, followed by Kazakhstan and Azerbaijan with two satellites each and a weight of 0.071, then Iran with one satellite with a weight of 0.036, and Turkmenistan came in the last place as it did not have any satellites in that the field. None of the countries in the region have government/civilian satellites except for Russia with one satellite and a relative weight of 0.714. Regarding the indicator of the number of government/commercial satellites, Russia acquired three satellites with a weight of 0.536, and Turkmenistan came in second place with two satellites designated for government/commercial use, with a weight of 0.179. Kazakhstan, Iran, and Azerbaijan do not have satellites designated for this use.

For military/commercial satellites; It was assigned a relative weight of 0.833; Given the importance of this indicator; Russia was unique in that index among the countries of the region, with 33 satellites, with a relative weight of 0.833, and the rest of the region's countries did not have any satellites designated for that use. in the military satellite index, Russia topped the region with 70 satellites intended for military uses with a weight of 0.822, followed by Iran with one satellite intended for military uses with a weight of 0.012, while Kazakhstan, Azerbaijan and Turkmenistan lacked military satellites.

and accordingly, Russia - undisputedly - topped the space power indicators, with a weight of 0.523, and was unique among all the countries bordering the Caspian Sea in all indicators of the variable. It was followed by a big difference: Kazakhstan with a weight of 0.016, Turkmenistan came in third with a 0.014 weight, with a weight of 0.006, Azerbaijan came in fourth, Finally, with a weight of 0.004, Iran came in fifth among the countries bordering the Caspian Sea.

IV. The Final result of measuring the overall Power of The states bordering the Caspian Sea:

The proposed methodological model was applied to measure the comprehensive power of the states bordering the Caspian Sea with its eight variables, and its indicators that exceeded 200 indicators. Table (3) and Figure (3) show the final weights of the comprehensive power of the countries of the study area.

Table (3) the final weights of the comprehensive force in the countries bordering the Caspian Sea.

State power variables	weight	power indicator	Kazakhstan	Russia	Azerbaijan	Iran	Turkmenistan
Geographical Power	20	Weight	4.973	8.510	6.197	4.856	4.757
		Rank	3	1	2	4	5
Economic power	17.5	Weight	4.249	7.281	4.162	3.545	3.434
		Rank	2	1	3	4	5
Military power	17	Weight	0.724	14.274	1.360	2.229	1.013
		Rank	5	1	3	2	4
Political power "government"	12.5	Weight	3.839	3.952	2.945	3.713	1.735
		Rank	2	1	4	3	5
Cultural power	7.5	Weight	1.020	3.253	1.282	1.325	0.619
		Rank	4	1	3	2	5
Scientific and technological Power	9	Weight	1.485	4.399	0.921	1.998	0.196
		Rank	3	1	4	2	5
Cross-border international relations	9	Weight	1.649	5.151	1.622	1.926	1.114
		Rank	3	1	4	2	5
Astro space power	7.5	Weight	0.212	6.968	0.081	0.057	0.183
		Rank	2	1	4	5	3
Total	100		18.151	53.788	18.57	19.649	13.051
The Rank			4	1	3	2	5

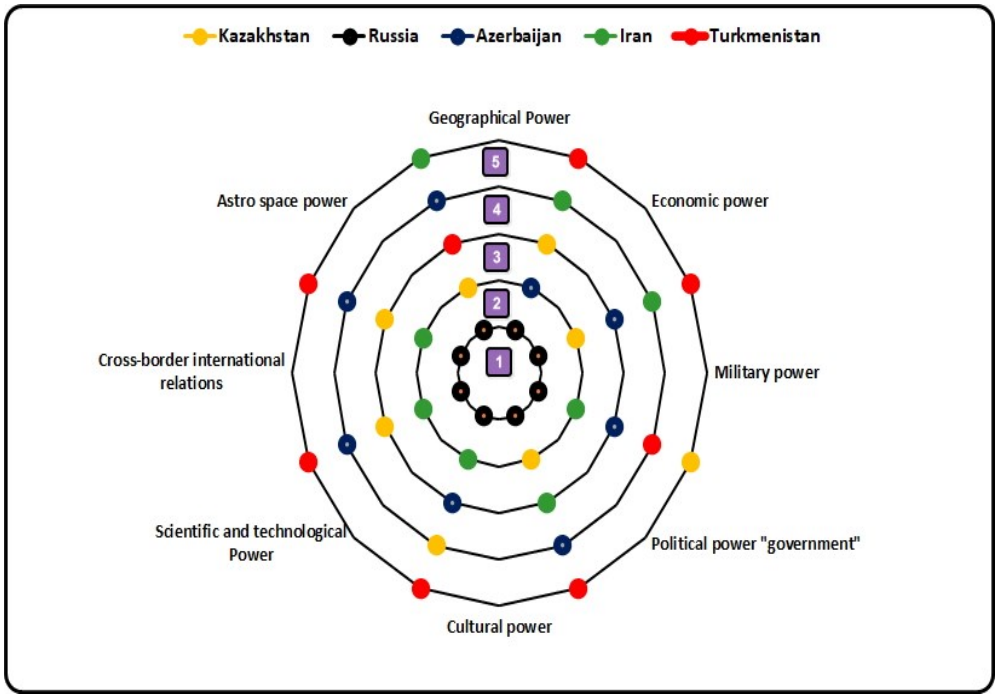

Figure 5: The results of state power in the States bordering the Caspian Sea according to the proposed model.

By studying the previous table and figure, the following results were obtained:

- Russia ranked first one of the Caspian Sea's neighboring countries, with a weight of 53.788, constituting 43.66% of the research states' combined power weights.
- The combined power of any state in the region is not greater than 40% of the total power of Russia; This makes it the main superpower in the region's states, and its influence extends to the international sphere.
- Iran ranked second with a weight of 19.649, and 15.95% of the total weights of the comprehensive Power of the countries of the region, with a difference of about 27.1% from Russia; This indicates a large gap in weight, which indicates the great superiority of Russia over other countries in the region, and by a large difference from them, its weight exceeds the weight of other countries in the region by almost three times, and the

comprehensive Power of the state of Azerbaijan did not exceed 34.5% of Russia's power.

- Azerbaijan came in third place with a weight of 18.57, and 15.07% of the total weights of the countries of the region, with a very small difference from the second place, not exceeding 1.07%, and equivalent to 34.5% of the power of Russia, the country that occupies the first place in terms of power for the countries bordering the Caspian Sea. This means that Russia's power is more than two and a half times that of both Iran and Azerbaijan.
- Kazakhstan ranked fourth with a weight of 18.151, constituting 14.73% of the total weights of the countries in the region, and equivalent to 33.74% of Russia's comprehensive power, which means that Russia's power exceeds that of Kazakhstan a little less than three times.
- Turkmenistan ranked fifth and last, with a weight of 13.051, and 10.59% of the total weights of the countries in the region, equivalent to 24.26% of the power of Russia, and accordingly, Russia's power is three and a half times greater than that of Turkmenistan.

and accordingly, the study led to an unprecedented superiority of Russia in comparison to the other states in the region, whether collectively or individually, as its power exceeds both Iran and Azerbaijan combined, which are the two powers that follow, which demonstrates the stark power imbalance in the study area in favour of Russia, even though Homogeneity and perhaps equivalent in the remaining states in the area.

Appendes

appendix 1

Previous models for measuring the state's power.

Model Developers	Year	power equation	Power variables	Comments
Stewart (Stewart:1954, PP.127-134)	1945-1955	political potential = technology × population / distance	Technology, population, distance	Stewart's formula stands out because it is geopolitical in the truest sense, suggesting that a country's impact varies depending on where it sits in the world (the "geo"). (Jones, 1953: 423)
German (German :1960, PP.138-144)	1960	$N(L+P+I+M)$	G stands for global power, N for nuclear capacity, L for land, P for people, I for industry, and M for strength of the armed forces	Everyone agrees that German measurement is overly difficult.
Fucks	1965	$\frac{(EP^{1/3})+(SP^{1/3})}{2}$	E stands for energy creation. P = population; S = production of steel	ignored the potential of whole continents like South America, Africa, and the Indian subcontinent, he claimed. "(MICHAELS 1966, p. 3110)
Shinn (Shinn :1969, PP.932-951)	1969	Pt is equal to 0.37, POP to 0.41, GNP to 0.62, and MIL to 0.28	Pt, POP, and GNP all stand for "total power," respectively. GNP; MIL stands for military spending as a proportion of GNP	In relation to the averaged perceptions of the 25 students, this calculation yields a squared Pearson correlation coefficient of 0.962. Shinn did not create a real-world index based on the formula, hence there are no results from him.
Alcock & Newcombe (Alcock, & Newcombe: 1970, PP.355-344)	1970	$Population \times (\frac{GNP}{Population}) = GNP$	GNP = Gross National Income	Only the population and the total national wealth were chosen by the researchers as markers to gauge the state's power, and they used this approach in a field study.
Singer & Small	1972	$\frac{(tpop+upop+sp+fc+mb+saf)}{6}$	tpop stands for "total population," "upop," "x," "iron production," "fc," "military budget," and "Saf" stands for "military personnel."	Only the arithmetic mean of six factors were used by the researchers, without any explanation as to why those variables were chosen rather than others, such as the preference for iron and coal over other natural resources.
Cline (cline:1980)	1975	(C + E + M) × (S + W)	Pp stands for perceived power, C for critical mass, which is determined by combining territory's population and size, E for economic and M for military	According to Richard Head, mobilisation is what separates potential power from real power. (HEAD 1978: 669). Why human competence is only a secondary component of military capability and not also economic capability baffles Roy Melbourne (MELBOURNE 1979: 140). Clark Reynolds says that Cline's formula serves
			capabilities, S for strategic goal, and W for political will.	more as a conceptual framework than as a technical answer (REYNOLDS 1981: 210). Cline solely works with power resources, not influence, according to Ilan Peleg (PELEG 1982: 446). In a theoretical study on power analysis, David Baldwin criticises Cline for ignoring situational considerations, which means that power resources that are advantageous in one circumstance could be harmful or ineffective in another (BALDWIN 1979: 171–173).
Meira Mattos	1977	Pp is equal to (C + E + M) (S + W + P)	Perceived Power (Pp) is an acronym for "perceived power," "critical mass," which is "population plus territory," "economic capability," "military capability," "strategic purpose," and "national will."	The new P value is denoted by the phrases "persuasive force" (força de persuaso) and "persuasion capacity" (capacidade de convencer). He mentions the Vietnam War as an example of how the US lost its traditional allies because it was unable to persuade them to join the battle. (MEIRA MATTOS 1976: 126; further 1977: 131–132; 1984: 143)
Fukushima	1982	Pp equals (C + E + M) (G + D)	Pp is an acronym for "perceived power," "critical mass," "economic power," "military power," "domestic political strength," and "national diplomatic strength."	Fukushima also altered the natural resources that Cline had previously put in E, while economic development, industrial, agricultural, and business power were added to C and E, respectively. The Fukushima formula is mentioned by Ou-Yang Guo-Hua in section 14.8 of his article. The outcomes were calculated. (WANG 2006: 150)
Snider (Sinder:1988, PP.461-484)	1983	VALMFG + APC + RPC = Strategic Power	APC stands for average penetration capacity, relative political capacity, and value added in manufacturing.	Strategic power is the capacity of governments to change their internal structures quickly in response to rapid changes in the external environment and to unilaterally alter the global environment (SNIDER 1988: 464)
Beckman (Beckman:1984, PP.3-56)	1984	$\frac{[steel+(pop \times pol\_stab)]}{2}$	pop, steel, and pol_stab all refer to percentages of the world's steel production, population, and political stability, respectively.	The power equation for the years 1920 through 1939 is modified using this way. Steel plus pop plus pol_stab plus engy equals power / 3. The power formula is once again altered as follows for the years 1947–1975: steel + pop pol_stab engy nuc_weap power = 4
Sullivan (Sullivan:1990, PP.103-135)	1990	summed_ranks = populationrank + defense_expenditures rank + GNPrank	ranks of population, defense expenditures, GNP	In section 13.10, he again discusses Fucks' formula, albeit he gives Oskar Morgenstern and his colleagues the proper credit for just reviewing Fucks' work. He is aware of Norman Alcock and Alan Newcombe's perception-based power index.
Sułek (Sułek :1990, PP.157-162)	1990	P = Pk = W 0.652, L 0.217, and p0.109	Pk stands for coercive power, W stands for war budget, and P is for power, L is for population, and p is for territory.	In 2010, he changed this model by replacing the populace with soldiers.

Caro (Caro :2000, PP.11-39)	1998	exponent (Power i) = Ti0.42 × GNP at PPPi0.72 × NCi0.20 × DEatPPPi0.53	T stands for technology, GNPatPPP for gross national product at purchasing power parity, NC for nuclear capability, DEatPPP for defense spending at purchasing power parity, and i for the country in question	The findings of this complete algorithm and the ratings for power perception have a 0.98 Pearson correlation coefficient. The formula must necessarily have a higher coefficient because it is more inclusive than the previous two. The technology factor is calculated by dividing the total number of fixed and mobile phone lines by the typical number of computers per person.
Volgy & Bailin (Volgy & Bailin :2003)	2003	RS is equal to (Group GDP + Group MilSpend) / 2.	relative power (RS), military expenditure (MilSpend), and group (aggregate scores for selected group powers)	The relational power-based multivariate formula for calculating capacity appears to be the simplest one.
Ageev (Ageev :2007)	2004	IPI is calculated as (M+T+NR+P+1.5E+C&R+S&E+A+FP) /9.5.	A (armed forces), FP (foreign policy and geopolitical environment), M (management), T (territorial), NR (natural resources), P (population), and E (economics) are some of the terms used. Culture and religion are C&R, and science and education are S&E	In 2008, Ageev produced data for 100 countries and made 2025 outcome projections. He envisions a future in which the Euro-Atlantic Union still controls the global economy.
Virmani (Virmani :2006)	2004	VIP2 = L × y 1.5	The letters VIP2, Y, L, and Y represent for the Virmani Index of Potential Power, the GDP-PPP, the population, and the per capita. GDP-PPP	A rise in wealth and worldwide influence might not always be enough to offset a decrease in local security. (Jain:2007)
CIA	2005	Tech Power = GDPPC2 + population	GDPPC (GDP per capita) and Tech Power (economic-technological capability)	The formula's key question is whether a country has the ability to design and oversee the complex systems required for modern military and economic development. If one only considers GDP and population, one does not truly understand the power dynamics, such as those between Egypt and Israel or the US and China. The GDP per person in Luxembourg is very high when compared to other nations. Although not perfect, the metric performs a respectable job of using readily available data to express the concept of technological "capacity."
McCool & Gerth & Ferguson	2007	World Power Index = MPU - IPU - Resources - Financial	Resources include the production of coal, metals, and oil; MPU stands for "manpower" or "number of workers," IPU for "industrial production," and financial for "debt/excess due to budget deficits/surpluses."	Each epoch must be understood on its own terms, as was previously mentioned. He emphasises that understretching can be just as damaging as overstretching, and that a nation's superiority in military might and organisational savviness of its government may more than make up for its adversary's economic dominance. In conclusion, he rejects a merely materialist understanding of power while recounting the history of money and its essential linkages to power. He declares explicitly that the psychological is the final component of power in an article from 2003.

appendix 2

Natural Geographical Power variables of the states bordering the Caspian Sea.

States / Indications	weight	Kazakhstan		Russia		Azerbaijan		Iran		Turkmenistan	
		Value	weight	Value	weight	Value	weight	Value	weight	Value	weight
Area [1]	0.938	2699700	0.119	16376871	0.722	82670	0.004	1628760	0.072	469930	0.021
GX coefficient [2]	0.938	2.65	0.312	1.89	0.468	3.05	0.234	2.48	0.312	2.68	0.312
coasts length	0.938	1894	0.039	38503	0.784	713	0.015	3180	0.065	1768	0.036
Indicator K of the shape of the country [3]	0.938	2.55	0.312	4.28	0.187	2.91	0.312	2.22	0.468	2.09	0.468
neighboring site	0.938	5	0.938	14	0.187	5	0.312	7	0.234	4	0.468
Maritime site	0.938	3	0.000	15	0.187	4	0.468	10	0.234	3	0.938
strategic location	0.938	0	0.213	1	0.469	0	0.000	1	0.469	0	0.000
environmental sustainability [4]	0.938	0.55	0.213	0.60	0.232	0.57	0.221	0.36	0.139	0.34	0.132
Total	7.500		0.371		2.394		0.707		0.979		0.188

Sources: Table and weights prepared and calculated by the researcher depending on:

(1) Distances and lengths were measured using ArcGIS 10.8

(2) Some people have created a scale called (G) to measure the importance of the country's area through the equation: $GX = \log\frac{GA}{RX}$, where: Ga = logarithm of the area of the world, RX = logarithm of the area of the country, and the smallness of the result means the large area and vice versa.

(3) The IC or K index: It can be obtained through the following equation $K = 0,28\frac{P}{\sqrt{A}}$; where: P = the perimeter of the country "km", A = the area of the country "km 2", and if the result of this indicator is equal to the right one, then the country takes the circular shape, in Whereas if it exceeds one the state takes an irregular shape.

(4) World Economic Forum (viewed 6/2/2021) available at: https://reports.weforum.org/

appendix 3

Indicators of Human Geographical Power in the States bordering the Caspian Sea.

States / Indications	weight	Kazakhstan		Russia		Azerbaijan		Iran		Turkmenistan	
		Value	weight	Value	weight	Value	weight	Value	weight	Value	weight
(a) Population components affecting the Power of the state:											
Population "people" [1]	0.156	18513930	0.011	144373535	0.086	10023318	0.006	82913906	0.049	5942089	0.004
The general density is people/km2	0.156	6.86	0.005	8.82	0.007	121.24	0.094	50.91	0.040	12.64	0.010
Life expectancy at birth [2]	0.156	73.15	0.031	72.65	0.031	72.86	0.031	76.47	0.033	68.07	0.029
Rate of infant death (per 1,000 live births)[3]	0.156	9.3	0.078	4.9	0.156	18.2	0.039	12	0.052	36.3	0.031
Middle-aged (15-64) % [4]	0.156	63.46	0.030	66.75	0.031	70.11	0.033	68.98	0.032	64.64	0.030
Rate of maternal death per 100,000 live births [5]	0.156	10	0.078	17	0.039	26	0.031	16	0.039	7	0.156
Current health expenditure (% of GDP) [6]	0.156	2.92	0.017	5.31	0.031	3.51	0.020	8.66	0.050	6.60	0.038
Physicians per 1000 population [7]	0.156	3.98	0.041	4.01	0.041	3.44	0.035	1.58	0.016	2.22	0.023
Hospital beds (per 1,000 people)[8]	0.156	6.06	0.040	7.12	0.047	4.82	0.032	1.56	0.010	4.03	0.027
Midwives and nurses (per 1,000 persons) [9]	0.156	7.29	0.039	8.54	0.046	6.43	0.034	2.62	0.014	4.42	0.024
Access to Clean Water % of population [10]	0.156	66.3	0.027	75.51	0.030	71.52	0.029	91.38	0.037	86.15	0.034
Access to sanitation facilities % of population [11]	0.156	97.5	0.037	72.2	0.027	89.3	0.034	90	0.034	62.70	0.024
Age dependency ratio (% of working-age population) [12]	0.156	57.5	0.039	49.81	0.078	42.62	0.156	44.95	0.156	54.68	0.052
GGI [13]	0.156	0.710	0.156	0.706	0.156	0.687	0.078	0.584	0.052	N. A	0.000
brain drain index [14]	0.156	3.90	0.078	3.50	0.156	4.30	0.052	5.60	0.031	4.80	0.039
Demographic pressures Index [15]	0.156	3.60	0.078	4.10	0.052	3.70	0.078	4.50	0.052	3.60	0.078
Index of Human Development [16]	0.156	0.825	0.033	0.824	0.033	0.756	0.030	0.783	0.031	0.715	0.029
Unemployment Rate [17]	0.156	4.8	0.052	4.6	0.052	5.5	0.039	10.6	0.031	N. A	0.000
Enrolment in primary and secondary schools, gross enrollment, and the GPI for gender parity) [18]	0.156	1.01	0.032	0.97	0.030	1.01	0.032	1.01	0.032	0.98	0.031
School enrollment, primary (% gross) [19]	0.156	104.37	0.030	104.67	0.031	97.93	0.029	110.70	0.032	117.91	0.034
Social Progress Index [20]	0.156	72.66	0.034	72.56	0.034	64.11	0.030	67.49	0.031	58.35	0.027

Happiness Index [21]	0.156	60.06	0.116	5.55	0.011	5.16	0.010	4.67	0.009	5.12	0.010
Government expenditure on education, total (% of GDP) [22]	0.156	2.61	0.024	4.68	0.044	2.45	0.023	3.95	0.037	3.04	0.028
Poverty rate [23]	0.156	11.82	0.020	19.93	0.034	13.9	0.024	16.23	0.028	30	0.051
Total	3.750		1.127		1.283		0.999		0.929		0.809
(b) ethnic composition:											
Ethnic Diversity Index [24]	1.667	0.883	0.833	0.333	1.333	0.188	1.667	0.669	1.000	0.392	1.167
Linguistic Diversity Index [25]	1.667	0.699	1.000	0.331	1.667	0.455	1.167	0.822	0.833	0.386	1.333
Religious Diversity Index [26]	1.667	5.0	0.683	4.9	0.669	0.7	0.096	0.1	0.014	1.5	0.205
Total	5.000		2.516		3.669		2.930		1.847		2.705
(c) Political Boundaries:											
The total length of the land border "km"	0.268	12012	0.074	20017	0.124	2013	0.012	5440	0.034	3736	0.023
The ratio between the total limits and the ideal limits [27]	0.268	96.38	0.046	123.89	0.059	133.05	0.063	107.57	0.051	105.64	0.050
The ratio between the wild boundary and the ideal boundary [28]	0.268	83.26	0.061	42.38	0.031	98.02	0.072	67.89	0.050	71.71	0.053
Ratio of both types of borders to the area of the country: 1 km	0.268	193.14	0.067	278.85	0.097	29.33	0.010	187.95	0.065	84.38	0.029
Ratio of land borders to the country's area: 1 km2	0.268	223.75	0.040	817.15	0.146	40.07	0.007	298.40	0.053	124.78	0.022
The ratio of the maritime borders to the area of the country 1: km²	0.268	1424.40	0.120	424.34	0.036	114.95	0.010	511.19	0.043	694.80	0.059
Continental coefficient	0.268	5.34	0.134	- 0.48	0.268	1.82	0.161	0.71	0.214	1.11	0.188
boundary friction coefficient [29]	0.268	33.10	0.161	92.65	0.134	0.33	0.268	5.94	0.214	10.02	0.188
Border to Armed Forces Ratio Km: Soldier	0.268	4.07	0.003	71.16	0.059	139.11	0.115	104.92	0.087	5.63	0.005
Total boundary density per 100 km2	0.268	0.52	0.024	0.36	0.016	3.30	0.150	0.53	0.024	1.17	0.053
Density of maritime borders "coasts per 100 km²"	0.268	0.07	0.011	0.24	0.037	0.86	0.132	0.20	0.031	0.38	0.058
Density of land borders per 100 km2	0.268	0.44	0.029	0.12	0.008	2.43	0.158	0.33	0.021	0.80	0.052
Theoretical boundary density km²	0.268	0.53	0.029	0.29	0.016	2.48	0.136	0.49	0.027	1.11	0.061
Common border "km"	0.268	13364	0.161	22408	0.134	2468	0.268	5894	0.188	4158	0.214
Total	3.750		0.960		1.163		1.562		1.102		1.055
General total	12.50		4.603		6.116		5.490		3.877		4.569

Sources: Table and weights prepared and calculated by the researcher depending on:

[1] The World Bank (viewed 25/1/2021) Population, total. – available at: https://data.worldbank.org/indicator/SP.POP.TOTL

[2] The World Bank (viewed 2/2/2021) Life expectancy at birth, total (years). – available at: https://data.worldbank.org/indicator/SP.DYN.LE00.IN

[3] The World Bank (viewed 9/2/2021) Mortality rate, infant (per 1,000 live births). - available at: https://data.worldbank.org/indicator/SP.DYN.IMRT.IN

[4] The World Bank (viewed 10/2/2021) Population ages 15-64 (% of total population). – available at: https://data.worldbank.org/indicator/SP.POP.1564.TO.ZS

[5] The World Bank (viewed 15/1/2021) Maternal mortality ratio (modeled estimate, per 100,000 live births). – available at: https://data.worldbank.org/indicator/SH.STA.MMRT

[6] The World Bank (viewed 15/1/2021) Current health expenditure (% of GDP). – available at: https://data.worldbank.org/indicator/SH.XPD.CHEX.GD.ZS

[7] The World Bank (viewed 15/1/2021) Physicians (per 1,000 people). – available at: https://data.worldbank.org/indicator/SH.MED.PHYS.ZS

[8] The World Bank (viewed 15/1/2021) Hospital beds (per 1,000 people). – available at: https://data.worldbank.org/indicator/SH.MED.BEDS.ZS

[9] The World Bank (viewed 15/1/2021) Nurses and midwives (per 1,000 people). -available at: https://data.worldbank.org/indicator/SH.MED.NUMW.P3

[10] Our World in Data (viewed 22/1/2021) Clean Water. – available at: https://ourworldindata.org/water-access

[11] Our World in Data (22/1/2021) Sanitation. – available at: https://ourworldindata.org/sanitation

[12] The World Bank (viewed 15/1/2021) Age dependency ratio (% of working-age population). – available at: https://data.worldbank.org/indicator/SP.POP.DPND

[13] Lewis, M. Paul (ed.) 2009, *Table 7. Linguistic diversity of countries (from highest to lowest)*, Ethnologue, 16th Edition, SIL International, Dallas, available at: http://www.ethnologue.com/ethno_docs/distribution.asp?by=country

[14] *The Fund for Peace (*viewed *21/2/2021) Fragile States index. - available at*: https://fragilestatesindex.org/excel/

[15] The Global Economy (viewed 21/2/2021) Demographic pressures index - Country rankings. - available at: https://www.theglobaleconomy.com/rankings/demographic_pressures_index/

[16] United Nations Development Programme (viewed 20/2/201) Human Development Reports 2020.- available at: http://hdr.undp.org/en/2020-report

[17] Focus Economics (viewed 15/2/2021) Economic Data by Region and Country. – available at: https://www.focus-economics.com/countries?region=asean

[18] The World Bank (viewed 15/1/2021) School enrollment, primary and secondary (gross), gender parity index (GPI). – available at: https://data.worldbank.org/indicator/SE.ENR.PRSC.FM.ZS

[19] The World Bank (viewed 15/1/2021) School enrollment, primary (% gross). – available at: https://data.worldbank.org/indicator/SE.PRM.ENRR

[20] Social progress Imperative (viewed 25/2/2021) 2020 Social Progress Index Executive Summary. – available at: https://www.socialprogress.org/static/37348b3ecb088518a945fa4c83d9b9f4/2020-social-progress-index-executive-summary.pdf

[21] Sustainable Development Solutions Network (viewed 25/2/2021) The World Happiness Report 2020. – available at: https://happiness-report.s3.amazonaws.com/2020/WHR20.pdf

[22] The World Bank (viewed 15/1/2021) Government expenditure on education, total (% of GDP). – available at: https://data.worldbank.org/indicator/SE.XPD.TOTL.GD.ZS

Happiness Index [21]	0.156	60.06	0.116	5.55	0.011	5.16	0.010	4.67	0.009	5.12	0.010
Government expenditure on education, total (% of GDP) [22]	0.156	2.61	0.024	4.68	0.044	2.45	0.023	3.95	0.037	3.04	0.028
Poverty rate [23]	0.156	11.82	0.020	19.93	0.034	13.9	0.024	16.23	0.028	30	0.051
Total	3.750		1.127		1.283		0.999		0.929		0.809
(b) ethnic composition:											
Ethnic Diversity Index [24]	1.667	0.883	0.833	0.333	1.333	0.188	1.667	0.669	1.000	0.392	1.167
Linguistic Diversity Index [25]	1.667	0.699	1.000	0.331	1.667	0.455	1.167	0.822	0.833	0.386	1.333
Religious Diversity Index [26]	1.667	5.0	0.683	4.9	0.669	0.7	0.096	0.1	0.014	1.5	0.205
Total	5.000		2.516		3.669		2.930		1.847		2.705
(c) Political Boundaries:											
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Continental coefficient	0.268	5.34	0.134	- 0.48	0.268	1.82	0.161	0.71	0.214	1.11	0.188
boundary friction coefficient [29]	0.268	33.10	0.161	92.65	0.134	0.33	0.268	5.94	0.214	10.02	0.188
Border to Armed Forces Ratio Km: Soldier	0.268	4.07	0.003	71.16	0.059	139.11	0.115	104.92	0.087	5.63	0.005
Total boundary density per 100 km2	0.268	0.52	0.024	0.36	0.016	3.30	0.150	0.53	0.024	1.17	0.053
Density of maritime borders "coasts per 100 km^2"	0.268	0.07	0.011	0.24	0.037	0.86	0.132	0.20	0.031	0.38	0.058
Density of land borders per 100 km2	0.268	0.44	0.029	0.12	0.008	2.43	0.158	0.33	0.021	0.80	0.052
Theoretical boundary density km^2	0.268	0.53	0.029	0.29	0.016	2.48	0.136	0.49	0.027	1.11	0.061
Common border "km"	0.268	13364	0.161	22408	0.134	2468	0.268	5894	0.188	4158	0.214
Total	3.750		0.960		1.163		1.562		1.102		1.055
General total	12.50		4.603		6.116		5.490		3.877		4.569

Sources: Table and weights prepared and calculated by the researcher depending on:

[1] The World Bank (viewed 25/1/2021) Population, total. – available at: https://data.worldbank.org/indicator/SP.POP.TOTL

[2] The World Bank (viewed 2/2/2021) Life expectancy at birth, total (years). – available at: https://data.worldbank.org/indicator/SP.DYN.LE00.IN

[3] The World Bank (viewed 9/2/2021) Mortality rate, infant (per 1,000 live births). - available at: https://data.worldbank.org/indicator/SP.DYN.IMRT.IN

[4] The World Bank (viewed 10/2/2021) Population ages 15-64 (% of total population). – available at: https://data.worldbank.org/indicator/SP.POP.1564.TO.ZS

[5] The World Bank (viewed 15/1/2021) Maternal mortality ratio (modeled estimate, per 100,000 live births). – available at: https://data.worldbank.org/indicator/SH.STA.MMRT

[6] The World Bank (viewed 15/1/2021) Current health expenditure (% of GDP). – available at: https://data.worldbank.org/indicator/SH.XPD.CHEX.GD.ZS

[7] The World Bank (viewed 15/1/2021) Physicians (per 1,000 people). – available at: https://data.worldbank.org/indicator/SH.MED.PHYS.ZS

[8] The World Bank (viewed 15/1/2021) Hospital beds (per 1,000 people). – available at: https://data.worldbank.org/indicator/SH.MED.BEDS.ZS

[9] The World Bank (viewed 15/1/2021) Nurses and midwives (per 1,000 people). -available at: https://data.worldbank.org/indicator/SH.MED.NUMW.P3

[10] Our World in Data (viewed 22/1/2021) Clean Water. – available at: https://ourworldindata.org/water-access

[11] Our World in Data (22/1/2021) Sanitation. – available at: https://ourworldindata.org/sanitation

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[14] *The Fund for Peace (viewed 21/2/2021) Fragile States index. - available at*: https://fragilestatesindex.org/excel/

[15] The Global Economy (viewed 21/2/2021) Demographic pressures index - Country rankings. - available at: https://www.theglobaleconomy.com/rankings/demographic_pressures_index/

[16] United Nations Development Programme (viewed 20/2/201) Human Development Reports 2020.- available at: http://hdr.undp.org/en/2020-report

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[18] The World Bank (viewed 15/1/2021) School enrollment, primary and secondary (gross), gender parity index (GPI). – available at: https://data.worldbank.org/indicator/SE.ENR.PRSC.FM.ZS

[19] The World Bank (viewed 15/1/2021) School enrollment, primary (% gross). – available at: https://data.worldbank.org/indicator/SE.PRM.ENRR

[20] Social progress Imperative (viewed 25/2/2021) 2020 Social Progress Index Executive Summary. – available at: https://www.socialprogress.org/static/37348b3ecb088518a945fa4c83d9b9f4/2020-social-progress-index-executive-summary.pdf

[21] Sustainable Development Solutions Network (viewed 25/2/2021) The World Happiness Report 2020. – available at: https://happiness-report.s3.amazonaws.com/2020/WHR20.pdf

[22] The World Bank (viewed 15/1/2021) Government expenditure on education, total (% of GDP). – available at: https://data.worldbank.org/indicator/SE.XPD.TOTL.GD.ZS

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[26] Pew Research Center (viewed 21/2/2021) Religion and Public Life. – available at: https://www.pewforum.org/2014/04/04/religious-diversity-index-scores-by-country/

[27] From the researcher's calculation by dividing the length of the land and sea borders ÷ the length of the ideal boundaries of the circle × 100, for more: Foucher, M., (1991) Front et Frontiers: Un Tour du Monde. Paris: Geopolitiqu, Librairie Fayard, p.16

[28] From the researcher's calculation by dividing the length of the land boundaries ÷ the length of the ideal boundaries of the circle × 100, for more: Foucher, M., op.cit, P.16

[29] From the researcher's calculation by dividing the ratio of land borders to area ÷ population density.

appendix 4

indicators of Economic power in the states bordering the Caspian Sea.

States / Indications	weight	Kazakhstan		Russia		Azerbaijan		Iran		Turkmenistan	
		Value	weight	Value	weight	Value	weight	Value	weight	Value	weight
Total international reserve "US$" [1]	0.398	28957509	0.016	555179641	0.316	7042996	0.004	93950000	0.053	13620000	0.008
GDP per capita " US$" [2]	0.398	9812	0.101	11584	0.119	4793	0.049	5550	0.057	6966	0.072
proportion of GDP relative to global GDP [3]	0.398	0.20	0.028	1.95	0.276	0.05	0.007	0.56	0.079	0.05	0.007
Average annual GDP growth % [4]	0.398	4.5	0.099	1.3	0.029	2.2	0.048	3.8	0.084	6.3	0.138
Index of Economic Freedom [5]	0.398	69.6	0.094	61.0	0.082	69.3	0.093	49.2	0.066	46.5	0.063
Economic Inequality [6]	0.398	35.4	0.318	48.4	0.199	34.7	0.398	47.4	0.239	40.8	0.278
Food imports, % [7]	0.398	9.89	0.398	11.69	0.318	13.78	0.239	25.55	0.199	11.74	0.278
Employment in agriculture% [8]	0.398	15.44	0.065	5.61	0.024	35.50	0.150	17.81	0.075	19.49	0.083
Employment in industry% [9]	0.398	20.48	0.060	26.58	0.078	14.9	0.044	30.32	0.089	42.60	0.126
Employment in services % [10]	0.398	64.06	0.094	67.80	0.099	49.53	0.073	51.85	0.076	37.90	0.056
The volume of production of energy sources "PJ" [11]	0.398	3103	0.025	33226	0.269	607	0.005	10992	0.089	1160	0.009
Average per capita electrical energy kilowatt-hour [12]	0.398	5600	0.111	6602	0.131	2202	0.044	3022	0.060	2678	0.053
arable land % [13]	0.398	80.37	0.127	13.2	0.021	57.73	0.091	28.21	0.045	72.00	0.114
Cereal production "metric tons" [14]	0.398	20129018	0.045	131143688	0.296	2823836	0.006	20980942	0.047	1191719	0.003
GDP percentage for exports of goods and services [15]	0.398	36.23	0.089	28.31	0.070	49.17	0.121	25.26	0.062	22.66	0.056
Inflation % [16]	0.398	6.0	0.278	2.9	0.318	2.3	0.398	31.2	0.199	13.6	0.239
Investment Freedom [17]	0.398	50	0.121	30	0.072	70	0.169	5	0.012	10	0.024
Public Debt % of GDP [18]	0.398	21.9	0.278	14.0	0.398	19.4	0.318	33.2	0.199	29.3	0.239
Global Hunger Index [19]	0.398	5.40	0.060	5.20	0.058	6.00	0.067	7.90	0.088	11.10	0.124
Food Production Index Score [20]	0.398	141.4	0.085	147.5	0.088	148.1	0.089	113.3	0.068	113	0.068
Total paved roads out of the total road network "km" [21]	0.398	97418	0.028	982000	0.286	52942	0.015	172927	0.050	58592	0.017
Total railway lines "km" [22]	0.398	16060.8	0.053	85626.0	0.282	2139.9	0.007	9306.0	0.031	7680.0	0.025
The length of the road network "km" [23]	0.398	95409	0.003	12883387	0.387	24981	0.001	223485	0.007	14210	0.000
Road network density per area km/100 km² [24]	0.398	3.53	0.024	7.84	0.053	30.22	0.206	13.72	0.094	3.02	0.021
Railway network density to area km/100 km² [25]	0.398	0.59	0.040	0.52	0.035	2.59	0.175	0.57	0.038	1.63	0.110
Per capita land roads "m" [26]	0.398	5.15	0.095	8.89	0.164	2.49	0.046	2.70	0.050	2.39	0.044
per capita railway "m" [27]	0.398	0.87	0.113	0.59	0.076	0.21	0.027	0.11	0.014	1.29	0.167
Strategic mine resources "bauxite, uranium, cobalt, gold...." "meters" [28]	0.398	266598710	0.042	1665722615	0.263	54515097	0.009	460977323	0.073	67178200	0.011
International airports and ports	0.398	96	0.023	1218	0.286	37	0.009	319	0.075	26	0.006
Proven petroleum reserves "thousand barrels" [29]	0.398	167100	0.045	959400	0.261	67200	0.018	251300	0.068	19000	0.005
Electricity production by hydroelectric power "billion kilowatts" [30]	0.398	9.84	0.017	192.43	0.327	1.55	0.003	30.07	0.051	0	0.000
public services index [31]	0.398	3.1	0.064	3.3	0.068	4.5	0.093	3.7	0.076	4.7	0.097
Industry's share of the gross national product [32]	0.398	33.02	0.065	32.16	0.063	48.68	0.096	31.67	0.062	56.96	0.112
Competitiveness Index [33]	0.398	4.3	0.096	4.6	0.102	4.7	0.104	4.3	0.096	n. a	0.000
Foreign Direct Investment % of GDP [34]	0.398	1.97	0.063	1.88	0.060	3.13	0.101	0.52	0.017	4.87	0.157
Ease of Doing Business [35]	0.398	84.46	0.112	83.53	0.110	85.8	0.113	47.11	0.062	n. a	0.000
Energy Engineering Performance Indicator [36]	0.398	0.62	0.086	0.65	0.090	0.67	0.093	0.46	0.064	0.47	0.065
Economic Growth and Development [37]	0.398	0.54	0.093	0.55	0.095	0.65	0.112	0.27	0.047	0.29	0.050
Spending on agriculture% [38]	0.398	1.7	0.074	1.7	0.074	2.6	0.114	3.1	0.135	n. a	0.000
Water Resources " Cubic meters" [39]	0.398	5955	0.051	31426	0.267	3529	0.030	1688	0.014	4302	0.036
Average dietary energy supply % [40]	0.398	138	0.083	138	0.083	131	0.079	131	0.079	121	0.073
Food exports "million US$" [41]	0.398	1956	0.035	14485	0.256	540	0.010	5526	0.098	12	0.000
Food imports "million US$" [42]	0.398	2580	0.318	19635	0.199	8354	0.278	8354	0.239	540	0.398
Food self-sufficiency % [43]	0.398	75.81	0.134	73.77	0.131	6.4	0.011	66.14	0.117	2.22	0.004
Total	17.50		4.249		7.281		4.162		3.545		3.434

Sources: Table and weights prepared and calculated by the researcher depending on:

(1) The World Bank (viewed 22/2/2021) Total reserves (includes gold, current US$). – available at: https://data.worldbank.org/indicator/FI.RES.TOTL.CD

(2) The World Bank (viewed 22/2/2021) GDP per capita (current US$). – available at: https://data.worldbank.org/indicator/NY.GDP.PCAP.CD

(3) World Meter (viewed 24/1/2021) GDP by Country. – available at: https://www.worldometers.info/gdp/gdp-by-country/

(4) Focus Economics (viewed 15/2/2021) Economic Data by Region and Country. – available at: https://www.focus-economics.com/countries?region=asean

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(24) The density of the land roads was extracted by the researcher by dividing the sum of the lengths of the land roads ÷ the area of the country x 100

(25) The density of railways was extracted by the researcher using the division of the sum of the railway lengths ÷ the country's area × 100

(26) Per capita land roads were calculated by dividing the road lengths ÷ total population x 1000

(27) Rail per capita has been calculated by dividing the lengths of the railways ÷ total population x 1000

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(43) The self-sufficiency ratio was extracted through the researcher by dividing the value of exports ÷ value of imports x 100

appendix 5

Indicators of Military power in the states bordering the Caspian Sea.

States / Indications	weight	Kazakhstan		Russia		Azerbaijan		Iran		Turkmenistan	
		Value	weight	Value	weight	Value	weight	Value	weight	Value	weight
(a) Conventional military power indicators:											
Total military expenditures "the volume of general military spending" US$ [1]	1.00	1766369	0.022	65102596	0.799	1854235	0.023	12623163	0.155	111923	0.001
Military spending as % of GDP (US$) [2]	1.00	1.05	0.074	3.87	0.274	3.99	0.283	2.31	0.164	2.90	0.205
Members of the armed forces % of the workforce [3]	1.00	0.78	0.094	1.96	0.237	1.60	0.194	2.34	0.283	1.58	0.191
Arms exports "SIPRI index values" [4]	1.00	6000000	0.001	4718000000	0.995	0	0.000	20000000	0.004	0	0.000
Arms Imports "SIPRI Index Values" [5]	1.00	312000000	0.500	26000000	0.700	25000000	0.800	3000000	1.000	92000000	0.600
Number of military submarines [6]	1.00	n. a	0.000	59	0.573	4	0.039	40	0.388	n. a	0.000
Number of military aircraft [7]	1.00	181	0.032	4441	0.782	127	0.022	850	0.150	83	0.015
Total	7.00		0.724		4.360		1.360		2.144		1.013
(b) Non-conventional military power indicators:											
Nuclear and Chemical Capacity [8]	3.333	0	0	6500	3.333	0	0	n. a	0.000	0	0
Number of operational nuclear reactors until April 2020 [9]	3.333	0	0	38	3.248	0	0	1	0.085	0	0
Nuclear Submarines [10]	3.333	0	0	33	3.333	0	0	0	0.000	0	0
Total	10.000		0		9.915		0		0.085		0
General total	17.00		0.724		14.274		1.360		2.229		1.013

Sources: Table and weights prepared and calculated by the researcher depending on:

[1], [2] , [3] SIPRI (2020) Yearbook: Armaments, Disarmament and International Security. – available at: https://www.sipri.org/

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[8] International Energy Agency IEA (viewed 18/2/2021) Country Nuclear Power Profiles 2017 ed. – available at: https://www.iaea.org/publications/12350/country-nuclear-power-profiles

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appendix 6

Political power indicators "government in the states bordering the Caspian Sea.

States / Indications	weight	Kazakhstan		Russia		Azerbaijan		Iran		Turkmenistan	
		Value	weight	Value	weight	Value	weight	Value	weight	Value	weight
Freedom Index [1]	0.379	6.99	0.101	6.31	0.092	6.29	0.091	4.53	0.066	2	0.029
number of coups [2]	0.379	0	0.379	6	0.227	2	0.265	25	0.189	0	0.379
National Cohesion [3]	0.379	5.08	0.087	4.42	0.076	4.40	0.075	4.61	0.079	3.64	0.062
press freedom [4]	0.379	54.11	0.066	48.92	0.059	58.48	0.071	64.81	0.079	85.4	0.104
Refugees by country of origin [5]	0.379	518	0.000	42413	0.016	1109	0.000	979435	0.362	21	0.000
government effectiveness [6]	0.379	57.69	0.106	58.17	0.107	46.15	0.085	32.21	0.059	11.06	0.020
Corruption Perceptions [7]	0.379	38.00	0.101	30.00	0.080	30.00	0.080	25.00	0.067	19.00	0.051
Democracy and Election [8]	0.379	5.36	0.110	6.55	0.134	2.38	0.049	2.45	0.050	1.72	0.035
State legitimacy [9]	0.379	8.5	0.072	8.3	0.070	9.1	0.077	9.2	0.078	9.7	0.082
human rights [10]	0.379	6.4	0.059	8.8	0.081	8.0	0.074	9.2	0.085	8.6	0.079
Refugees and Internally Displaced Persons [11]	0.379	2.3	0.038	4.9	0.081	6.8	0.113	5.6	0.093	3.2	0.053
External Intervention [12]	0.379	3.3	0.051	5.1	0.079	5.9	0.091	7.0	0.108	3.2	0.049
Political stability and absence of violence [13]	0.379	45.71	0.120	25.71	0.068	21.90	0.057	6.19	0.016	44.76	0.118
The percentage of political participation in the elections [14]	0.379	14.78	0.104	18.23	0.129	7.39	0.052	12.32	0.087	0.99	0.007
Human Development 2019 [15]	0.379	0.825	0.080	0.824	0.080	0.756	0.073	0.783	0.076	0.715	0.069
Number of think tanks [16]	0.379	31	0.036	215	0.250	16	0.019	64	0.074	0	0.000
Gender Equality [17]	0.379	71.1	0.131	67.6	0.124	67.5	0.124	ن. أ	0.000	N. a	0.000
The size of the shadow economy % of GDP [18]	0.379	20	0.303	38.42	0.189	24.8	0.265	31.1	0.227	N. a	0.000
Intentional homicides (per 100,000 people) [19]	0.379	5.06	0.086	8.20	0.140	2.20	0.038	2.49	0.043	4.22	0.072
Prosperity Index [20]	0.379	60.57	0.083	58.04	0.080	57.69	0.079	48.12	0.066	51.64	0.071
control corruption [21]	0.379	43.75	0.160	21.63	0.079	19.71	0.072	14.90	0.054	3.85	0.014
Implementation of the death penalty 2018 [22]	0.379	0	0.379	0	0.379	0	0.379	253	0.189	0	0.379

Income inequality "Gini coefficient" [23]	0.379	27.5	0.098	37.5	0.134	n. a	0.000	40.8	0.146	n. a	0.000
trust in government [24]	0.379	3.76	0.093	3.43	0.085	4.65	0.115	3.45	0.085	n. a	0.000
Government Integrity [25]	0.379	40.9	0.088	41.3	0.089	38.7	0.083	33.5	0.072	21.4	0.046
Religious Freedom [26]	0.379	5.2	0.108	4.2	0.087	5.3	0.110	3.5	0.073	n. a	0.000
Media Freedom [27]	0.379	0	0.000	0	0.000	0	0.000	2.5	0.379	n. a	0.000
Freedom of Access to Information [28]	0.379	7.5	0.142	7.5	0.142	0	0.000	5.0	0.095	n. a	0.000
State Control of Internet Access [29]	0.379	7.5	0.256	7.5	0.256	7.5	0.256	5.0	0.303	n. a	0.000
Civil Society Repression [30]	0.379	4.1	0.139	4.1	0.139	1.2	0.041	1.8	0.061	n. a	0.000
political rights [31]	0.379	5	0.100	5	0.100	2	0.040	7	0.140	0	0.000
civil liberties [32]	0.379	18	0.129	15	0.107	8	0.057	10	0.071	2	0.014
Global Terrorism Index [33]	0.379	0.934	0.033	5.43	0.193	0.346	0.012	3.949	0.140	0	0.000
Total	12.500		3.839		3.952		2.945		3.713		1.735

Sources: Table and weights prepared and calculated by the researcher depending on:

[1] CATO Institute (2020) The Human Freedom Index 2020. – available at: https://www.cato.org/sites/cato.org/files/2020-12/human-freedom-index-2020.pdf

[2] Center for Systemic Peace (viewed 23/2/2021) Center for Systemic Peace, Coups d'Etat, 1946-2018. – available at: http://www.systemicpeace.org/inscrdata.html

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[9], [10], [11], [12] *The Fund for Peace (viewed 3/2/2021)* Data for Peace. – available at: https://fundforpeace.org/what-we-do/data-for-peace/

[13], [14] Worldwide Governance Indicators WGI. – available at: http://info.worldbank.org/governance/wgi/Home/Reports

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[26], [27], [28], [29], [30] CATO Institute (2020) The Human Freedom Index 2020. – available at: https://www.cato.org/sites/cato.org/files/2020-12/human-freedom-index-2020.pdf

[31], [32] Freedom House (viewed 14/2/2021) available at: https://freedomhouse.org/countries/nations-transit/scores

[33] *The Fund for Peace (viewed 21/2/2021) Fragile States index. - available at*: https://fragilestatesindex.org/excel/

appendix 7

indicators of Cultural Power in the states bordering the Caspian Sea.

States / Indications	weight	Kazakhstan		Russia		Azerbaijan		Iran		Turkmenistan	
		Value	weight	Value	weight	Value	weight	Value	weight	Value	weight
Number of World Heritage Sites [1]	0.500	5	0.039	29	0.227	3	0.023	24	0.188	3	0.023
Televisions/1000 people [2]	0.500	260.27	0.138	418.9	0.222	20.65	0.011	67.26	0.036	176.42	0.093
Distribution of daily newspapers / 1000 people [3]	0.500	n. a	0.000	91.78	0.391	16.12	0.069	n. a	0.000	9.44	0.040
Computer/1000 people [4]	0.500	n. a	0.000	121.55	0.242	23.2	0.046	105.9	0.211	n. a	0.000
Literacy % [5]	0.500	99.8	0.103	99.7	0.103	99.8	0.103	85.5	0.088	99.7	0.103
Number of international broadcasting agencies	0.500	1	0.050	5	0.250	1	0.050	1	0.050	2	0.100
Fixed telephone / 100,000 inhabitants [6]	0.500	17.30	0.084	21.95	0.107	16.65	0.081	34.92	0.170	11.84	0.058
Mobile /100,000 inhabitants [7]	0.500	138.58	0.097	164.39	0.115	106.99	0.075	142.39	0.100	162.86	0.114
TV broadcasting stations/million people [8]	0.500	0.79	0.003	49.37	0.187	80.255	0.305	0.488	0.002	0.852	0.003
International tourism "number of arrivals" [9]	0.500	8789000	0.102	24551000	0.284	2633000	0.030	7295000	0.084	8200	0.000
International tourism "% revenue of total exports" [10]	0.500	3.94	0.094	3.67	0.087	11.10	0.265	2.27	0.054	n. a	0.000
Cultural Diversity Index [11]	0.500	0.602	0.153	0.311	0.079	0.187	0.047	0.542	0.138	0.328	0.083
OECD average scores in science, math, and reading [12]	0.500	397	0.155	481.66	0.188	402.33	0.157	n. a	0.000	n. a	0.000
Number of books published annually [13]	0.500	1226	0.003	120512	0.308	542	0.001	72871	0.186	450	0.001
Number of Nobel Laureates [14]	0.500	صفر	0.000	25	0.463	1	0.019	1	0.019	0	0.000
Total	7.500		1.020		3.253		1.282		1.325		0.619

Sources: Table and weights prepared and calculated by the researcher depending on:

[1] UNESCO (viewed 23/2/2021) World Heritage List. - available at: https://whc.unesco.org/en/list

[2] The World Bank (viewed 22/2/2021) Television Sets (Per 1,000 People). – available at: https://datacatalog.worldbank.org/television-sets-1000-people

[3] The world Bank (viewed 22/2/2021) Daily Newspapers (Per 1,000 People). – available at: https://datacatalog.worldbank.org/daily-newspapers-1000-people

[4] The world Bank (viewed 22/2/2021) Personal Computers (Per 1,000 People). – available at: https://datacatalog.worldbank.org/personal-computers-1000-people

[5] World by Map (viewed 19/2/2021) LITERACY RATES. – available at: https://www.citypopulation.de/en/world/bymap/literacyrates/

[6] The world Bank (viewed 22/2/2021) Fixed telephone subscriptions (per 100 people). – available at: https://data.worldbank.org/indicator/IT.MLT.MAIN.P2

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II. [9] The World Bank (viewed 14/2/2021)International Tourism, Number of arrivals . – available at: https://data.worldbank.org/indicator/ST.INT.ARVL

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appendix 8

indicators of Scientific and Technological power in the states bordering the Caspian Sea.

States / Indications	weight	Kazakhstan		Russia		Azerbaijan		Iran		Turkmenistan	
		Value	weight	Value	weight	Value	weight	Value	weight	Value	weight
Research and development researchers/million people [1]	0.500	666.94	0.068	2784.33	0.283	n. a	0.000	1474.91	0.150	n. a	0.000
Technicians in R&D /Million People [2]	0.500	123.85	0.059	437.83	0.207	n. a	0.000	496.81	0.235	n. a	0.000
digital access index score [3]	0.500	0.32	0.086	0.50	0.134	0.24	0.065	0.43	0.116	0.37	0.099
Number of patents / million people [4]	0.500	789	0.010	24926	0.330	155	0.002	11908	0.157	44	0.001
Scientific and technical journal articles / million people [5]	0.500	2367.46	0.009	81579.36	0.307	761.43	0.003	48305.64	0.182	3.69	0.000
Research and Development expenditure (%of GDP) [6]	0.500	0.12	0.028	0.98	0.232	0.18	0.043	0.83	0.197	n. a	0.000
High-tech exports % of manufactured goods exports [7]	0.500	29.78	0.307	13.00	0.134	4.95	0.051	0.82	0.008	n. a	0.000
Nuclear electricity production from electricity production% [8]	0.500	0	0.000	17.1	0.445	0	0.000	2.1	0.055	0	0.000
Internet users % of population [9]	0.500	81.87	0.122	82.64	0.123	79.8	0.119	70.00	0.104	21.25	0.032
Secure internet servers/1 million people [10]	0.500	43674	0.015	1348308	0.455	3697	0.001	85822	0.029	119	0.000
Internet bandwidth "thousands of megabytes/secs" [11]	0.500	875600	0.041	7575800	0.353	485050	0.023	1793000	0.084	3000	0.000
Online Government Services Index [12]	0.500	0.75	0.166	0.71	0.157	0.43	0.095	0.37	0.082	n. a	0.000
E-Participation Index [13]	0.500	0.88	0.142	0.86	0.139	0.69	0.112	0.46	0.074	0.20	0.032
Fixed broadband subscriptions/100 people [14]	0.500	13.21	0.101	22.64	0.172	19.33	0.147	10.40	0.079	0.08	0.001
Exports of ICT goods % of total goods [15]	0.500	0.11	0.089	0.47	0.379	0.02	0.016	0.01	0.008	0.01	0.008
GII score [16]	0.500	28.60	0.111	35.60	0.139	27.20	0.106	30.90	0.120	6.02	0.023
Global Talent Score [17]	0.500	46.02	0.132	47.07	0.135	48.57	0.139	32.68	0.094	n. a	0.000
Number of the world's best universities "Top 1000" [18]	0.500	0	0.000	11	0.275	0	0.000	9	0.225	0	0.000
Total	9.000		1.485		4.399		0.921		1.998		0.196

Sources: Table and weights prepared and calculated by the researcher depending on:

[1] The World Bank (viewed 17/2/2021) Researchers in R&D (per million People). – available at: https://data.worldbank.org/indicator/SP.POP.SCIE.RD.P6?most_recent_value_desc=false

[2] The World Bank (viewed 17/2/2021) Technicians in R&D (per million People). – available at: https://data.worldbank.org/indicator/SP.POP.TECH.RD.P6

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appendix 9

power indicators for international cross-border relations of the states bordering the Caspian Sea.

States / Indications	weight	Kazakhstan		Russia		Azerbaijan		Iran		Turkmenistan	
		Value	weight	Value	weight	Value	weight	Value	weight	Value	weight
Number of embassies abroad [1]	0.360	42	0.048	144	0.165	79	0.090	26	0.030	24	0.027
Number of Consulates General Abroad [2]	0.360	21	0.056	85	0.225	14	0.037	14	0.037	2	0.005
Number of permanent missions to multilateral organizations [3]	0.360	0	0.000	11	0.360	0	0.000	0	0.000	0	0.000
Membership of International Organizations [4]	0.360	54	0.070	78	0.102	52	0.068	52	0.068	40	0.052
asylum seekers [5]	0.360	218	0.041	1462	0.278	180	0.034	33	0.006	0	0.000
Henley Passport Index [6]	0.360	75	0.077	116	0.119	67	0.069	41	0.042	53	0.054
EPI Index [7]	0.360	44.7	0.069	50.5	0.078	46.5	0.072	48	0.074	43.9	0.068
Permanent membership in the United Nations Security Council	0.360	0	0.000	1	0.360	0	0.000	0	0.000	0	0.000
Number of temporary memberships in the Security Council since 1946 [8]	0.360	2	0.113	Permanent	0.360	2	0.113	2	0.113	0	0.000
Total Foreign Development Assistance % of Gross National Income [9]	0.360	0.04	0.252	0	0.360	0.18	0.180	0.03	0.288	0.04	0.252
International migration % of total population [10]	0.360	20.12	0.180	8.11	0.216	2.70	0.360	3.44	0.288	3.65	0.252
Air transport "Number of flights of registered carriers worldwide" [11]	0.360	70980	0.020	986608	0.277	22254	0.006	186006	0.052	17075	0.005
Air Transport Infrastructure Index [12]	0.360	4	0.080	4.64	0.093	5.61	0.112	3.73	0.075	n. a	0.000
Global Peace Index [13]	0.360	1.92	0.360	3.05	0.180	2.30	0.252	2.67	0.216	2.28	0.288
Index of the country's ports' connection with the world's ports [14]	0.360	0	0.000	38.07	0.237	0	0.000	19.79	0.123	0	0.000
Number of international students in the country [15]	0.360	22728	0.026	262416	0.304	4862	0.006	20580	0.024	175	0.000
IFPI Music Market Size [16]	0.360	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
Number of Top 10 International Albums [17]	0.360	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
Olympic Medals [18]	0.360	72	0.035	547	0.269	42	0.021	69	0.034	1	0.000
Paralympic medals [19]	0.360	3	0.002	501	0.266	37	0.020	137	0.073	0	0.000
FIFA Ranking [20]	0.360	122	0.102	39	0.033	109	0.091	29	0.024	132	0.110
Michelin-starred restaurants [21]	0.360	0	0.000	4	0.360	0	0.000	0	0.000	0	0.000
Official Language Power Index [22]	0.360	35.7	0.094	46.56	0.123	28.57	0.075	25.53	0.067	n. a	0.000
Followers on Facebook for Heads of State [23]	0.360	714K	0.023	856k	0.028	5 M	0.016	89 M	0.292	n. a	0.000
Facebook engagement score for Heads of State "Post/Day" [24]	0.360	n. a	0.000	34	0.360	n. a	0.000	n. a	0.000	n. a	0.000
Total	9.000		1.649		5.151		1.622		1.926		1.114

Sources: Table and weights prepared and calculated by the researcher depending on:

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appendix 10

Indicators of Astro space power in the states bordering the Caspian Sea.

States / Indications	weight	Kazakhstan		Russia		Azerbaijan		Iran		Turkmenistan	
		Value	weight	Value	weight	Value	weight	Value	weight	Value	weight
Dominance over Earth's orbit % of the total number of satellites	0.833	0.18	0.027	5.16	0.783	0.06	0.009	0.06	0.009	0.03	0.005
The number of civilian satellites	0.714	1	0.060	11	0.655	0	0.000	0	0.000	0	0.000
Number of civil/government satellites	0.714	0	0.000	1	0.714	0	0.000	0	0.000	0	0.000
The number of commercial satellites	0.714	3	0.054	37	0.661	0	0.000	0	0.000	0	0.000
Number of commercial/civilian satellites	0.714	0	0.000	3	0.714	0	0.000	0	0.000	0	0.000
Number of government satellites	0.714	2	0.071	15	0.536	2	0.071	1	0.036	0	0.000
Number of government/civilian satellites	0.714	0	0.000	1	0.714	0	0.000	0	0.000	0	0.000
Number of government/commercial satellites	0.714	0	0.000	3	0.536	0	0.000	0	0.000	1	0.179
Number of military/commercial satellites	0.833	0	0.000	33	0.833	0	0.000	0	0.000	0	0.000
The number of military satellites	0.833	0	0.000	70	0.822	0	0.000	1	0.012	0	0.000
Total	7.500		0.212		6.968		0.081		0.057		0.183

Sources: Table and weights prepared and calculated by the researcher depending on:

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