International Journal of Research in Finance and Management

P-ISSN: 2617-5754
E-ISSN: 2617-5762
IJRFM 2024; 7(2): 140-149
www.allfinancejournal.com
Received: 01-08-2024
Accepted: 20-08-2024

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The global prosperity index and its impact on the gross domestic product of selected countries for the period (2010-2023)

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DOI: https://doi.org/10.33545/26175754.2024.v7.i2b.355

Abstract
The issue of well-being has taken a large part in the world's aspirations, and several indicators have emerged to measure it, but one of the most prominent of these indicators is the global prosperity index. The importance of this research stems from the lack of studies that have dealt with this indicator, which is somewhat new. The research aims to identify the global prosperity index. Its most important pillars and its impact on the GDP in selected countries are (Denmark, Norway, Switzerland, Sweden, and Finland). The research assumes that there is a positive relationship between this indicator and the GDP, using Panel Data for both the Global Prosperity Index and the GDP of the countries. Selected in search that also, the research combined the descriptive method in studying the prosperity index and economic variables, the analytical method by analyzing data, and the standard approach by studying the impact of prosperity on the gross domestic product using the statistical program. As for the most important conclusions, there is a positive significant effect of the prosperity index on the gross domestic product in the short term, as a one percentage point increase in the index leads to an increase in the gross domestic product (0.3388%) at a significant level (1%), in addition to that in the long term it turns out that there is a significant effect The GDP prosperity index is positive, as increasing the index by one percentage point and at a significant level (1%) led to an increase in the GDP by (0.8703%). The most important proposals were to shed light on the global prosperity index in international forums and introduce its sub-indices. Relationship with the life of societies as well as encouraging countries to obtain advanced ranks in the Global Prosperity Index.

Keywords: Global prosperity index, gross domestic product

Introduction
After the end of World War II, growth promotion was the main national policy of the majority of countries. Countries need a measure of state well-being or progress and prosperity in recent times. It is important for other goals targeting human progress, such as (climate, health, education, happiness, life satisfaction, and equality), not just for indicators of economic growth. However, it is wrong to impose this shift in focus from growth. To prosperity for developing countries. It remains the most powerful tool for reducing poverty, but focusing only on growth is counterproductive. Income inequality hinders long-term growth and therefore developing countries should give priority to making their growth fair and sustainable. From there, many standards have been created to determine the best development paths with standards to track their progress, and they use gross domestic product as an important factor in their classifications. Measuring prosperity is an indicator of the extent of social progress in a country, and with its increase, the goals of growth and development will be achieved in light of the inadequacy of the income method with increasing globalization. Therefore. There was a need to use new methods to measure prosperity, including the Global Prosperity Index, which was developed by the Institute, Legatum. In the year 2007 in the United Kingdom, it includes a number of sub-indices that deal with everything related to an individual's life and prosperity, and it began to issue an annual report for 167 countries and their rankings on this index, which was calculated from 100 degrees and the comparison between countries according to geographical regions, and the extent of each country's progress and decline. On this indicator, this indicator is very important for studying the prosperity or well-being of countries.

The first section: Research methodology

- **First: The importance of the research:** All countries seek to achieve a degree of prosperity or prosperity, and the global prosperity or prosperity index is the most important indicator that measures the level of prosperity of the countries of the world. The importance of this research stems from shedding light on this indicator due to the lack of studies that have dealt with it and showing its impact on the domestic product Total.
- **Second: The research problem:** The research problem is evident in studying the global prosperity index and its sub-indices, as it is an important indicator and knowing the extent of its impact on the gross domestic product.
- **Third: Research objective:** The research aims to analyze and measure the impact of the global prosperity index on the gross domestic product in the selected countries.
- **Fourth: Research hypothesis:** The research assumes the existence of a significant direct relationship between the global prosperity index as an independent variable and the gross domestic product as a dependent variable.
- **Fifth: Research methodology:** The research method adopted a combination of the descriptive method in studying the prosperity index and economic variables, the analytical method by analyzing data, and the standard approach by studying the impact of prosperity on the gross domestic product, using standard models.
- **Sixth: Research limits:** The research limits spatially included selected countries (Denmark, Norway, Switzerland, Sweden, Finland) and temporally for the period (2010-2023).

The second topic

The theoretical and conceptual framework for the global prosperity index and GDP

1. Global Prosperity

First: The concept of global prosperity: It is one of the modern indicators that measures the degree of prosperity or prosperity of countries by compiling a number of sub-indices. It is a measure or indicator developed by the British Legatum Institute in 2007. The Legatum Institute is an intellectual institution based in London, United Kingdom. Its goal is to promote public education in national and international political, social and economic policies. The Prosperity Index was developed as a practical tool to identify specific actions to be taken to advance the path to increased prosperity and to provide a road map at a time when countries face increasing poverty. Economic and political shocks. This index measures the efforts of 167 countries and publishes a report every year on the level of prosperity of these countries. This indicator is calculated between (1-100). The closer its value is to 100, the more prosperous the country is vice versa. The index consists of three main indicators, and each main indicator includes four sub-indices that form the twelve columns that make up the index. These columns contain sixty-seven elements. (Legatum insttute. Prosperity Index, 2023, 20).

Second: The characteristics provided by the global prosperity index for countries and societies:

The Prosperity Index ensures an inclusive society, with a strong social contract that protects the basic freedoms and security of every individual in a prosperous society:

- People live in peace, free from the threat of violence, oppression and crime.
- The inherent dignity of every individual is respected, and freedom of expression, worship and assembly is protected.
- Government institutions operate with integrity and are accountable to individuals and subject to the rule of law.
- Stable families and supportive communities instill values that shape culture and build the bonds of trust necessary for a community to thrive.
- Every individual is able to build a life free of poverty. In a prosperous society, prosperity is built through empowered people, who create a society that enhances well-being.
- People take care of their physical and mental health and have access to effective health care.
- Learning is valuable and everyone receives a high-quality education, so they can reach their potential.
- The natural environment is managed wisely, as a legacy for present and future generations.
- Prosperity is driven by an open economy that harnesses ideas and talent to create sustainable paths out of poverty.
- Property rights are protected, so investment can flow.
- Entrepreneurship enables entrepreneurship, competition, and innovation.
- Open markets and high-quality infrastructure facilitate trade and commerce.
- Use fiscal and monetary policy responsibly to promote employment.

Productivity and sustainable economic growth. (Legatum institute, Prosperity Index, 2021, 8) [10].

Third: Components of the global prosperity index

This index consists of three sub-indices. This index includes four main elements, and in turn these elements are divided into four sub-elements. The index collects sub-indices to create elements and columns. It is possible for the index to compare the relative performance of each country with regard to overall prosperity and each of the twelve pillars of prosperity. , such as (investment environment, health, education, and social capital), as well as then creating elements to represent key policy areas, such as investor protection, basic education, government integrity, and air pollution, to help facilitate more targeted actions, and we explain each of these indicators The three main ones are as follows (Legatum institute, Prosperity Index, 2021, 16) [10].

A. Comprehensive Societies: This indicator studies everything related to countries' societies and how they are managed through sub-indices concerned with security, safety, personal freedom, and governance, as well as social capital. These themes are:

1. **Security and safety:** The security and protection axis measures the degree to which war, conflict, and crime violate the security of individuals, both immediately and through long-term effects, and includes the

following elements: (war and civil conflict, politically linked terrorism and violence, violent crimes and property rights crimes).

2. **Personal Freedom:** The Personal Freedom Center measures progress towards the standard of legal rights, individual freedoms, and Social tolerance includes the following elements: (freedom of assembly and association, freedom of expression and access to information, and the absence of legal discrimination).
3. **Governance:** The pillar of governance is the extent to which controls and restrictions are applied to authority, and if governments work.
   Efficient and corruption-free. This pillar includes the following elements: (executive restrictions, political accountability, rules of law, government integrity, government effectiveness, organizational quality, and institutional trust).
4. **Social capital:** The pillar of social capital is personal power, for example, social and institutional relationships, trust, social and civil norms, and participation in a country. It includes each of the following elements (personal and family relationships, social networks, personal trust, social tolerance, and civil and social participation). (Legatum Insttute Prosperity Index, 2021,17) [10].

B. Open economies.

This indicator measures almost everything related to the economy. it studies investment and what is related to it and its environment, as well as the conditions of projects in terms of legislation and competition. It also studies the country's infrastructure and the markets in it and their quality, in addition to measuring the quality of the economy and its effectiveness in employing the workforce and obtaining income. On capital in a sustainable manner, this indicator includes the following sub-indices:

1. **Investment environment:** The investment environment measures the extent to which investments are adequately protected through the existence of property rights, investor protection, and contract enforcement, as well as the availability of a diverse range of local and international capital for investment. The more a legal system protects investments, the more investment is able to drive economic growth by ensuring that good business proposals can be invested, and the availability of sufficient capital of the appropriate type for such investable proposals. The investment environment includes all of the elements (property rights, investor protection, contract enforcement). Ecosystem financing, and restrictions on international investment).
2. **Project conditions:** The general conditions of the facility or project measure the degree to which legislation allows companies to begin competing and growing, and includes the following elements (competition in the local market, business creation environment, burden of regulation, labor market flexibility, and price distortions).
3. **Infrastructure and Market Access:** Infrastructure and Markets This part measures access to the quality of infrastructure that allows trade without distortions in the market for goods and services and includes the following elements (market distortions, import tariff barriers, open market size, border management, transportation, water, energy, and communications), (Legatum Institute. Prosperity Index, 2020, 15) [11].
4. **Quality of the economy:** The economic quality axis measures the effectiveness of the economy and the extent of its success in generating wealth in a permanent and sustainable manner and with the participation of individuals in the labor market, the workforce. It is represented by each of the following elements (participation of the workforce, dynamism, productivity and competitiveness, the extent of macroeconomic stability, and financial sustainability).
5. T: Empowering people: It is an indicator concerned with the lives of individuals, as it focuses on their living conditions, the quality of life, and the services they receive. It also measures the health of individuals, diseases, health systems, and care for individuals. It also studies or measures the level of education of the country, enrollment in education at all levels, and the skills that one obtains. on individuals. This indicator includes the following sub-indicators:
6. **Conditions of living:** Focusing on conditions or conditions of living measures the degree and quality of life that is reasonable and acceptable to everyone, with access to material resources, and an amount of services and communications. It includes the following elements (material resources, nutrition, basic services, shelter, interconnectedness, and protection) from harm).
7. **Health:** The health column measures how healthy people are and the health services they receive to maintain good health, including health outcomes, health systems, diseases, risk factors, and mortality rates. It includes the following elements (behavioral risk factors, preventive interventions, care systems, mental health, and physical health).
8. **Education:** Basic measures of education, enrollment in education at all levels, results, and quality of education through four levels of education stages (below primary, primary, secondary, and higher education), as well as skills available to adults, which consists of the following elements: (adult skills, pre-primary education). Primary education, secondary education, and higher education).
9. **The natural environment:** This paragraph measures the natural and material environmental aspects that directly affect the daily lives of individuals and the changes that occur that could affect the prosperity, well-being and wealth of future generations. It includes the following elements (emissions, exposure to air pollution, forests, land, soil, oceans, water). Fresh water, and conservation efforts), (Legatum Institute, Prosperity Index, 2020, 14) [11].

Fourth: The importance of the global prosperity index

The importance of the index is determined by its composition, as it relies in its evaluation of countries on a variety of economic, social, educational and pedagogical factors that constitute well-being in any country. Its purpose is to evaluate countries, determine their sequence, and display the degree of their evaluation in this index is to highlight their strengths and weaknesses as a civilizational

entity to evaluate. The institutional, economic and social policies of the state, and this is achieved by identifying the economic choices that must be made to continue building inclusive societies, opening the way for innovation and empowering. People achieve prosperity and prosperity. The index relies for its data on global databases that include what is published by some international organizations such as the United Nations, the World Bank, the International Monetary Fund, the World Health Organization, and some non-governmental organizations and independent centers, (Legatum Institute. Prosperity Index, 2021, 17) [10].

2. Gross Domestic Product

Gross domestic product is one of the most important macroeconomic concepts because it is the most complete and widely used measure to calculate the rate of economic growth, as it represents the entire economic activity of society in a certain period of time, as well as using gross domestic product to compare the economic performance of countries at the present time.

First: The concept of gross product

It is the quantity or value of goods and services produced by members of a society for a period of time, usually a year, by those who live in the geographical area of a country, regardless of their nationality (Najm, 198, 2020) [6]. It can also be defined as the sum of the total value added achieved in economic sectors within the borders of geographical countries using and contributing to local and non-local production factors. That is, it represents the total value created in the production of goods and services after subtracting the value of consumer desires and needs or production inputs (Hussein and Ahmed, 2022, 347) [5].

Second: The importance of gross domestic product

- Gross domestic product summarizes all economic activities of a society for a specific period of time, usually one year.
- The GDP also records the income that production factors receive in exchange for their participation in the internal production process.
- It is an important economic indicator that can be used in economic analysis, preparing economic and financial plans, and formulating development policies and forecasts to know current trends and the future of the economy.
- It is used as an indicator used to compare countries to determine the level of economic performance of countries.
- It shows the consumption of the main sectors of the economy on the basis of the gross domestic product according to the spending method. (Al-Azzawi, 2022, 23) [2].

Third: Factors determining GDP

A. There is a significant impact of natural conditions that humans have no ability to control or predict, such as earthquakes and various weather and climatic conditions.

B. Unstable political and security conditions, such as wars, which have a very large impact, leading to the closure of factories or fluctuations in the quantity of goods and services produced locally. Therefore, their effects are devastating on the gross domestic product because of their impact on most of the activities that consist of it.

C. The impact of the relationship between the factors of production and the environment and the extent to which the state applies the principle of division of labor in production and technical progress.

D. The economic resources used in production, in terms of quantity and quality, greatly affect both the quantity and quality of goods produced locally. Thus, the value of the gross domestic product is affected, as it increases with their quality and decreases with their scarcity. (Jacob, 38, 2024) [14].

Fourth: Methods of measuring GDP

A. Production method: GDP is measured by measuring national income, which is measured in two ways: The final product method, where national income is measured by measuring the values of final products and services produced during a specific period (year) without measuring the values of intermediate goods, and we add to that The value of the production of local companies operating abroad, and we subtract the value of the production of foreign companies operating in the country. The value-added method means that the value of the gross domestic product is equal to the sum of the values collected in all sectors and how to measure it as follows (Kamel and Sami, 2016, 5) [15].

Value added = Total production values-intermediate consumption + net taxes.

B. Income method: The method of looking at GDP through what they receive as income and not through what they buy. In this, the GDP is measured by calculating the total output of the production factors that contributed to the production process and the value of these factors. The national and total income can be determined by taking the value of wages during the year. You can add the estimated value of rent for owner-occupied housing, the net interest paid during the year, and the value of distributed profits measured by the following equation (Al-Jarrah and Al-Muhaimid, 39, 2017) [4]:

GDP by income method = employee compensation + total labor surplus + net taxes

C. Spending method: It is based on the total value of goods and services that aim to meet the needs of the total demand of society, that is, the total expenditures in their final form. It includes both private consumption spending, investment spending, public spending, and finally net foreign trade, the method of spending in the gross domestic product, or spending in the gross domestic product with the values of purchasing customers and how to represent the gross domestic product in a way, and spending can be divided into the following sections (Al-Zubaidi, 39, 2019) [1], Expenditure can be divided into the following sections:

- Consumer spending: represents spending on goods and services that provide direct satisfaction, such as the household sector's spending on purchasing durable goods such as cars.
- Investment spending: represents spending on goods and

services that are used in the production process, such as machines, buildings, etc.
- The external sector meaning that a portion of the domestic product is sold outside the country (exports), which is met with a counter-current of the domestic product of other countries (imports).
- Government spending, which is divided into two parts.
- Investment spending: It is the government's spending in exchange for which it obtains goods and services.
- Consumer spending: It is government spending for which you do not obtain goods and services.

Fifth: GDP indicators

A-The relative importance of the structure of the GDP: It represents the ability to make a relative contribution to the various productive and economic sectors in creating the GDP (Al-Jarrah and Al-Muhaimid, 34, 2017) [4].

B-Compound annual growth rate of productive sectors: It is the growth rate of all sectors of the economy that share the GDP. Usually, the rate is positive except for some cases in which the rate is negative, and this phenomenon is considered extremely dangerous in the growth of the GDP.

C-Per capita GDP: It is the per capita share of the gross domestic product. This indicator shows the volume of total production and its level, so it can be calculated by dividing the domestic product by the number of population. It is an indicator of the solidity of domestic demand and also shows the level of consumption. It is a distinct means of calculating the wages earned. On individuals. (Al-Zubaidi, 45, 2019) [1].

The third topic

The analytical aspect of the global prosperity index and the gross domestic product in the selected countries

1. The global prosperity index

First: the global prosperity index

From observing Table 1, it is clear that the prosperity index was (83.199) in 2010, that is, at the beginning of the study period in Denmark, and maintained approximately the same value. Then the value of the index increased to (84) for the years 2019, 2020, and 2022, and at the end of the study period its value was (84.55) is the highest value during the study period. The compound growth rate of the prosperity index for Denmark was (0.115%). We note that the values of the index are very close and that its compound growth rate was positive. As for Norway, the value of the index began (82.06) in 2010 and varied between... (82 and 81) until 2018, it rose to reach its level during the study period, which is (84.47) then, It gradually decreased to reach (83.59) at the end of the period, and the compound growth rate was positive and reached (0.131%). In Switzerland, the index begins with a value of (81.828) and then gradually increases until its value in 2019 reaches (83.689), which is the highest value in the study period. At the end of the period, its value decreased to (83.42), with a positive compound growth rate of (0.137%). As for Sweden, the index in 2010 (83.24) was slightly higher than other countries at the beginning of the period, and it maintained approximately the same value for most of the study period. Its highest value during the study period was in 2023, where it reached (83.67), and the compound growth rate was positive (0.036%). As for the last country, Finland, the value of the index at the beginning was (81.80), then it rose slightly to reach (82.04) in 2014, and it continued to rise until the year 2018 to (83.29). Its value decreased in the following years, but at the end of the study period it returned. To rise to (83.47), which is its highest value in the entire study period, with a compound growth rate of (0.143%). From the reading of the previous analysis, we note that the index values in the selected countries ranged between 80, which is the lowest value in the study period, and 84, which is the highest value, meaning there was no There is a large discrepancy between the indicator values for these countries, and this is evidence of their interest in this indicator and their work to stabilize it, as is clear from Chart.

Table 1: Global prosperity index calculated from 100 points

Finland	Sweden	Switzerland	Norway	Denmark	Year
81.80718	83.2423	81.82891	82.06202	83.19939	2010
81.52891	83.53224	81.90515	82.19669	82.62035	2011
81.91858	83.52409	82.02544	81.70991	83.20001	2012
82.04624	83.40847	82.44279	82.19159	82.92786	2013
82.04833	82.54001	82.42377	82.25273	82.57436	2014
82.44789	82.72993	82.41044	82.48023	82.374	2015
82.01738	82.71065	82.66421	82.93885	83.11415	2016
82.29104	82.99842	82.73122	83.91267	83.46803	2017
83.29465	83.6738	83.35012	84.47869	83.88483	2018
82.99225	83.21192	83.68935	84.07467	84.00757	2019
83.05273	83.14595	83.34871	83.8148	84.36812	2020
80.96	83.11	82.89	83.5	83.86	2021
82.006	83.127	83.119	83.657	84.114	2022
83.47	83.67	83.42	83.59	84.55	2023
0.143	0.036	0.137	0.131	0.115	Compound growth rate

Source: Prepared by the researcher based on: https://data.albankaldawli.org/indicator
The Legatum Institute, Prosperity Index, 2010-2023
Knoema, World and National Data, Maps & Rankings https://knoema.com/ATLAS

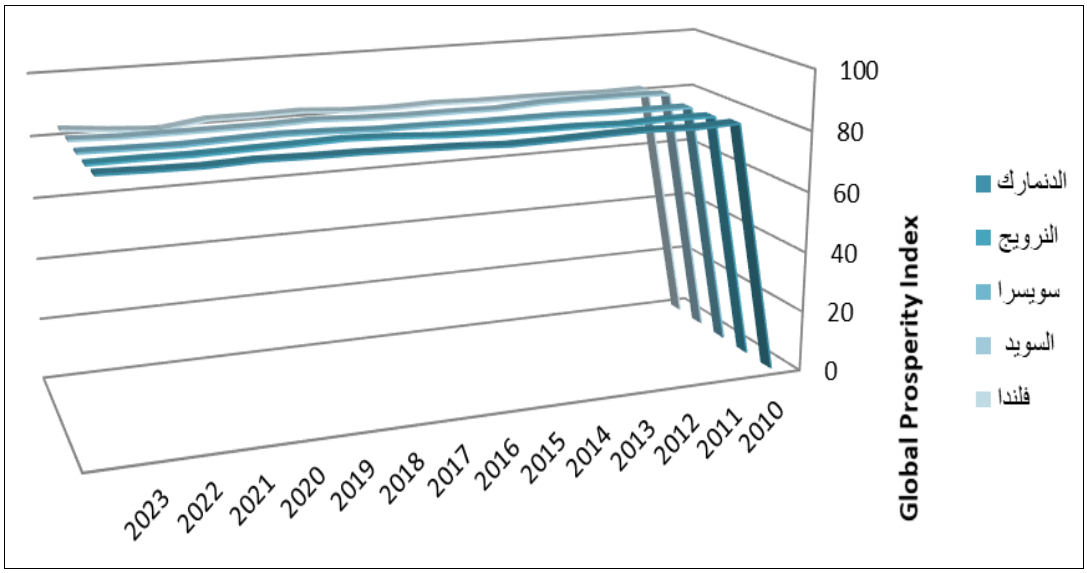


Fig 1: Global prosperity index for selected countries

The source was prepared by the researcher based on data from Table 1

Second The gross domestic product of the selected countries: From Table 2 we note that the gross domestic product in Denmark in 2010 was (283,894) million dollars. It increased in subsequent years until its value reached (362,953) million dollars in 2023, which is the highest value that the GDP has reached. During the study period, its compound growth rate was (1.770%), and Norway's domestic product reached (355,959) at the beginning of the study period. The output continued at a high pace throughout the study period until it reached (435,713) million dollars at the end, the duration of the study, i.e. the year 2023, is its highest value, with a compound growth rate of (1.454%). As for Switzerland, the gross domestic product was (636,285.) million dollars. As is the case in Norway, the GDP continued to rise in Switzerland during the study period approximately until it reached the year In 2023, it reached (795,978) million dollars, which was its highest value. As for the compound rate of its growth, it was a positive value, which is (1.612). In Sweden, the matter was no different, as the domestic product rose from (453,619) million dollars to (586,158) million dollars in 2022, which is its highest value in The duration of the study, but at the end of the period it decreased slightly to (585,008) million dollars, with a compound growth rate of Finally, the amount of GDP in Finland in 2010 was (233,646) million dollars, which is a smaller amount than other countries, but it continued to rise at a fluctuating pace for almost most of the study period until its value reached its highest level in 2022, when it was (259,221) million dollars after that. Its value decreased slightly in 2023, that is, at the end of the study period, reaching (256537), and with a compound growth rate of (0.669%), it was also positive. Figure 2 shows the analysis of the GDP of the selected countries. From following the previous analysis, it becomes clear that the GDP of the selected countries was increasing throughout the period. The study indicates the success of the economic and financial policies followed by those countries.

Table 2: GDP of selected countries (million dollars)

Finland	Sweden	Switzerland	Norway	Denmark	Year
233646.7721	453619.111	636285.7842	355959.0369	283894.1683	2010
239599.3087	468113.7532	647822.3339	359894.7194	287689.2024	2011
236250.7988	465359.8186	655461.8036	369676.5113	288340.8178	2012
234120.5341	470887.2495	667208.6234	373433.1301	291032.0208	2013
233266.2092	483402.4827	682887.2339	381081.5335	295744.9754	2014
234534.3824	505103.7813	694118.1864	388159.5122	302673.0708	2015
241128.2175	515562.4256	708477.3376	392680.5002	312497.7085	2016
248826.0179	528801.6796	718132.4636	402355.1514	321315.5699	2017
251661.9329	539113.4332	738674.2535	405690.2759	327708.2631	2018
254744.1597	549821.2819	747109.7829	410249.3335	332602.5433	2019
248745.0235	537888.988	731108.6547	405005.6422	324538.5524	2020
255804.854	570953.1567	770529.2148	420836.0442	346751.6647	2021
259221.0442	586158.7785	790318.9337	433484.8403	356222.0576	2022
256537.1325	585008.905	795978.1458	435713.4649	362953.2666	2023
0.669	1.833	1.612	1.454	1.770	Compound growth rate

Source: Prepared by the researcher based on: https://data.albankaldawli.org/indicator

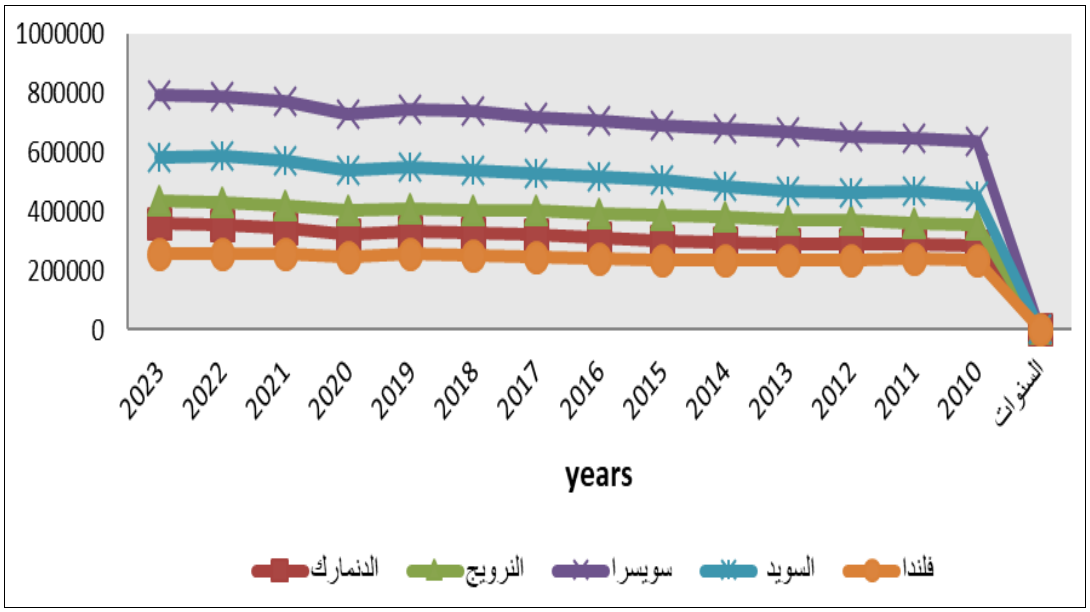


Fig 2: GDP of selected countries for selected countries

2. Measuring the impact of the prosperity index on the gross domestic product of selected countries

First: Measuring the impact of prosperity on the gross domestic product

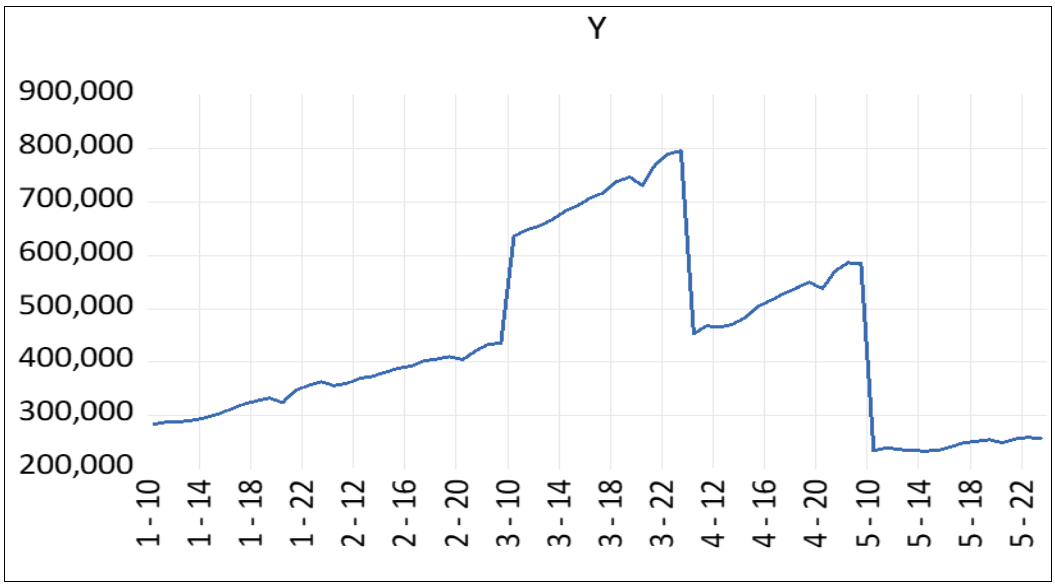
There are two types of standard analysis: the static model is used in short-term time periods and does not take temporal changes into account, while dynamic analysis takes into account changes that occur over time, and the approach followed in the analysis and special tests differs for each analysis from the other. Cross-sectional time series data (Panel Data), which is a group of observations in which the same individuals, companies, or countries are repeated over several time periods, and combines the characteristics of the time series and the cross-sectional sample in one period. On the other hand, cross-sectional data represents behavior Which is followed by individuals, companies or countries over a specific period of time, while temporal smoothness describes the behavior of individuals, companies or countries across all time periods, so Panel Data takes into account both the temporal and cross-sectional dimensions at the individual or country level.

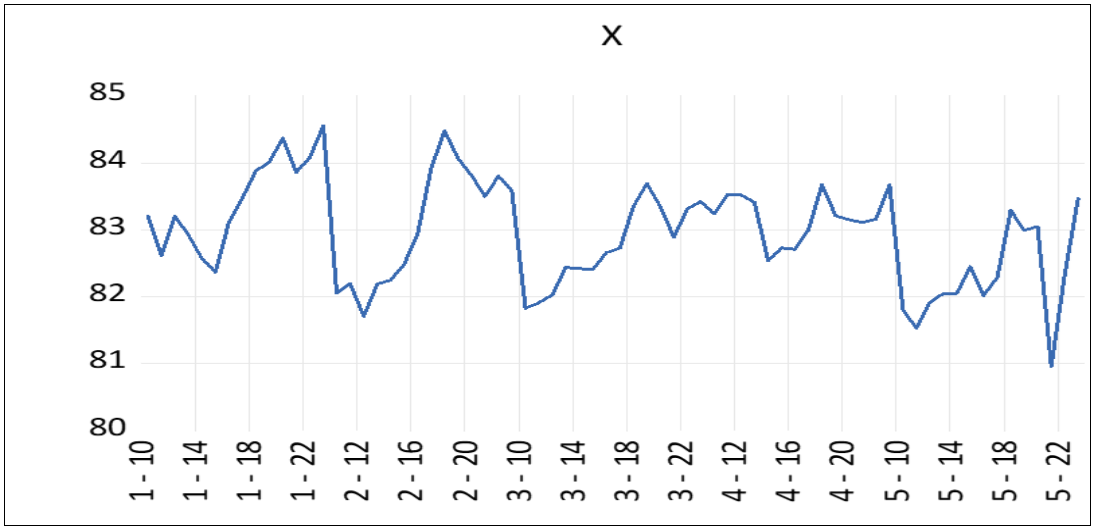
Second: Research variables: The research variables are represented by two variables, which are as follows:

1. The dependent variable, GDP: calculated in the current value of the US$ dollar.
2. The independent variable is the Global Prosperity Index: The scale adopted by the British Legatum Institute in 2007 is calculated from 100 points and consists of 12 sub-indices.
3. The mathematical formula of the model: It is as follows:

$$OG(Y)_t = fLOG((x)_t) + U_{1,t} \quad \ldots\ldots\ldots(1)$$

Third: Drawing the time series: We note from Figure (1), which represents the trend of both the global prosperity index and the gross domestic product of the selected countries within the study period.





Drawing 1: The trend of the global prosperity index and the gross domestic product of the selected countries during the study period

Fourth: Unit root test

Test (Levin, Lin & Chu t): In this test, at the level (At Level), the variable (Y) is non-stationary and has a root alone at the individual intercept, as well as at the individual intercept and the direction (Individual intercept and trends) is stationary, and as for the independent variable (X), it is stationary at the level, and in the first difference (At First Difference), we notice that all the dependent and independent variables are stationary, that is, stable at the first difference, whether at the individual intercept (Individual intercept), Or at the individual intercept and trends.

Fifth: Determining the degree of slowdown

The appropriate period of slowdown can be determined in the standard model. The researcher used (VAR) models according to common statistical standards such as (Akaike) and the (Schwarz) criterion. From the results of these standards, the model can be estimated to three degrees and based on the (Akaike) criterion. To analyze the relationship between the independent variable (X) and the dependent variable (Y), see Table 4.

Table 4: Optimum degree of slowing down

VAR Lag Order Selection Criteria						
Endogenous variables: Y X						
Exogenous variables: C						
Date: 08/13/24 Time: 19:23						
Sample: 2010 2023						
Included observations: 45						
Lag	**LogL**	**LR**	**FPE**	**AIC**	**SC**	**HQ**
0	-654.754	NA	1.63E+10	29.18907	29.26936	29.219
1	-508.961	272.1472	29852858	22.88715	23.12804*	22.97695
2	-503.653	9.435751	28208155	22.82903	23.23051	22.9787
3	-496.577	11.95028*	24684069*	22.69233*	23.2544	22.90186*
4	-493.679	4.63702	26074741	22.7413	23.46397	23.0107
5	-493.05	0.950917	30570976	22.89111	23.77437	23.22038

Source: Prepared by the researcher based on the statistical program (12. EViews)

Sixth: Pedroni Residual Cointegration Test: From the results obtained from testing the cointegration relationship between the global prosperity index and GDP, and from the results of the Pedroni test, there are five tests in (Individual intercept), in addition to four tests. In (Individual intercept and trends) out of a total of seven tests confirming the existence of a long-term cointegration relationship between the prosperity index and GDP at a significance level (5%), see Table 5.

Table 5: Co-integration test (Pedroni Test)

Pedroni Residual Cointegration Test					
Series: Y X					
Alternative hypothesis: common AR coefs. (within-dimension)					
				Weighted	
		Statistic	**Prob.**	Statistic	Prob.
Panel v-Statistic		14.03952	0.0000	8.366359	0.0000
Panel rho-Statistic		0.795455	0.7868	0.861362	0.8055

Panel PP-Statistic	-4.323473	0.000	-1.201886	0.1147
Panel ADF-Statistic	-4.719102	0.000	-3.374976	0.0000
Alternative hypothesis: Individual AR coefs. (between-dimension)				
	Statistic	**Prob.**		
Group rho-Statistic	1.712364	0.9566		
Group PP-Statistic	-4.107909	0.0000		
Group ADF-Statistic	-3.794867	0.0001		

Source: Prepared by the researcher based on the statistical program (12.EView)

Seventh: Impact results

1. Long-term relationship

There is a positive significant effect of the global prosperity index on GDP, and an increase of one percentage point leads to an increase in GDP by (0.8703%) at a significance level of (1%).

2. Short-term relationship

- A-There is a positive significant effect of the global prosperity index on GDP, and an increase of one percentage point leads to an increase in GDP by (0.3388%) at a significance level of (1%).
- B-B. The error correction factor or cointegration factor appears with a negative and significant value at (1%) and its value is estimated at (-0.1750), which means that (18%) of the error is corrected, Deviations in the variables (the global prosperity index in the dependent variable (Gross Domestic Product)) are corrected in the coming period in order to return to the long-term equilibrium situation. This means that the GDP takes approximately five and a half years because 1/(o,1750) ≅5.714. , returning to its equilibrium value in the long term after the effects of shocks in the independent variable, the Global Prosperity Index, which is a very slow degree of response.

The impact at the single country level in the short term:

- **Denmark:** There is a positive significant effect of the Global Prosperity Index on GDP. An increase of one percentage point increases GDP by (0.391%) at a significant level (1%).
- **Norway:** There is a positive significant effect of the Global Prosperity Index on GDP, and increasing it by one percentage point leads to an increase in GDP by (0.081%) at a significant level (1%).
- **Switzerland:** There is a positive significant effect of the Global Prosperity Index on GDP, and an increase of one percentage point leads to an increase in GDP by (0.288%) at a significance level of.(1%).
- **Sweden:** We note from the results that there is a positive significant effect of the global prosperity index on GDP, meaning that an increase of one percentage point increases GDP by (0.0655%) at a significant level (1%).
- **Finland:** There is a positive significant effect of the Global Prosperity Index on GDP, and an increase of one percentage point increases GDP by (0.048%) at a significant level. (1%).

Table 6: Long-term and short-term results

Dependent Variable: DLOG(Y) (PMG)				
Variable	**Coefficient**	**Std. Error**	**T-Statistic**	**Prob.***
Long term				
LOG(X)	0.8703	1.31672	6.609661	0.0000
Short term				
COINTEQ01	- 0.175091	0.069500	-2.519293	0.0151
DLOG(X)	0.338858	0.224449	1.509729	0.1375
C	4.487304	1.782745	2.517075	0.0152
Short term at the country level				
Denmark	0.391540	0.049249	7.950191	0.0042
Norway	0.081239	0.005104	15.91732	0.0005
Switzerland	0.288696	0.026934	10.71880	0.0017
Sweden	0.065528	0.006656	9.845445	0.0022
Finland	0.048454	0.00839	5.770042	0.0010

Source: Prepared by the researcher based on the statistical program (12.E Views)

Conclusions

1. From the results of the analytical aspect, it was found that there was an increase in the gross domestic product of the selected countries, and Sweden had the highest compound growth of. (1.833).
2. The selected countries had a high level of the global prosperity index, and the increase in it was relatively small, and Denmark maintained first place.
3. There is a direct relationship between the global prosperity index and the gross domestic product, as the results of the analysis showed, with the continuous increase of the two variables.
4. There is a long-term cointegration relationship between the two variables at a significance level (5%), and this was demonstrated by cointegration tests.
5. The percentage of deviations in the dependent variable, GDP, caused by the independent variable, the flower index, is (18%). It is corrected for the purpose of returning to long-term equilibrium, meaning that the GDP needs five and a half years because 1/(o,1 750)≅ 5.714, returning to its equilibrium value in the long term after the effects of shocks in the independent variable, the Global Prosperity Index, which is a very

slow degree of response.
6. It was also noted that there is a positive significant effect of the prosperity index on the domestic product in the short term, as a one percentage point increase in the index leads to an increase in the gross domestic product (0.3388%) at a significant level (1%).
7. Among the long-term results, it was found that there was a positive significant effect of the prosperity index on the gross domestic product. Increasing the index by one percentage point at a significant level (1%) led to an increase in the gross domestic product by (0.8703%).

Recommendations
1. Shedding light on the global prosperity index in international forums and introducing its sub-indices in relation to the life of societies.
2. Encouraging countries to obtain advanced ranks in the global prosperity index.
3. Introducing and supporting academic and scientific institutions in countries in assisting and supervising integrated programs whose purpose is to achieve development in the global prosperity index.
4. Benefiting from the experiences of countries that have achieved advanced ranks in this indicator.
5. Emphasizing the factors that affect the global prosperity index, including economic and political improvement, the quality of education, and infrastructure that guarantee global prosperity and quality of life.

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