Acumen: International Journal of Multidisciplinary Research
ISSN: 3060-4745 IF(Impact Factor)10.41 / 2024
Volume 2, Issue 4

SAMARQAND IQTISODIYOT VA SERVIS INSTITUTI

SOCIO-ECONOMIC DESCRIPTION OF THE GERMAN STATE

Akhmedov Abdulla

Samarkand state institute of economics and servis

"Economy" branch

Student of IK421 group

Abstract: This article analyzes the history of the German state, its socio-economic development, current situation and changes in its economic indicators in the last decade. Based on the analysis, the changes of each indicator in Germany over the years were calculated and conclusions were given.

Key words: Germany, gross domestic product, export, import, economy, innovation, technology, geographical description, research, capital, republic, system, population, history.

Introduction

The German economy is one of the most developed economies in the world, and its growth potential is very large. Germany will mainly have developed industry, engineering expertise and innovative technologies. One of the main factors influencing this economic growth is always the advancement of new technologies and digital exchange. The German economy is currently looking to grow through the introduction and management of digital technologies. Innovative start-ups and technology companies are driving change, particularly in the areas of digital services and Industry 4.0.

In addition, Germany pays great attention to the development of environmentally friendly technologies along with its sustainable economic policy. The energy revolution and the green economy are seen as a new source of growth for

Germany. Investments in green energy sources, offering more efficient and environmentally friendly solutions in their production and use processes, have a significant impact on the growth of the German economy. Best practices and experiences in this field are creating opportunities for growth, especially in the development of solar and wind energy.

Another important area of growth is the economy based on innovation and research. German universities and research institutes, as well as industrial enterprises, are establishing mutual cooperation, opening up opportunities to create new products and services. This process boosts development in various sectors of the economy, particularly in pharmaceuticals, the automotive industry, and new materials.

As a result, growth opportunities in the German economy lie in activities focused on digital technologies, green energy and innovation. Each of them is important in its own way and defines the next phase of German growth.

The German financial system is one of the strongest and most developed systems in Europe. It plays an important role in ensuring economic stability and priority. The German financial system consists of the central bank, commercial banks, insurance companies and other financial institutions. The central bank, the Bundesbank, conducts monetary policy and supports economic growth. The Bundesbank maintains economic stability by controlling inflation. The German economy is based on large industry and exports, which is one of the main parts of the banking system.

Analysis of references

Germany or Germany (German: Deutschland), the Federal Republic of Germany (German: Bundesrepublik Deutschland) is a country in Central Europe. It is located on the coast of the Northern Baltic Sea. The area is 357,098 thousand km2. The population is 84,832,670 people (as of 2024). The capital is the city of Berlin. Administratively, it is divided into 16 regions (states), regions into districts, districts into districts, districts into communities.

Economy: GFR is a highly developed industrial country. It ranks third in the world by total economic power and second in world trade. The share of industry and construction in the composition of the gross domestic product is 33.6%, and the share of agriculture is 1.2%.

Industry: Mechanical engineering is the backbone of the German economy. Brown coal (first place in the world), hard coal, oil, natural gas, polymetallic ores, potash and ashtuzi are mined. Power engineering, ferrous and non-ferrous metallurgy, mechanical engineering, shipbuilding, chemistry and petrochemicals, woodworking,

food industry, china industry are highly developed. German industry consists mainly of medium-sized enterprises. More than 32% of all employees in industry (2.2 million people) work in large firms. Siemens concern, automotive companies such as Volkswagen, BMW and Daimler Benz, chemical concerns such as Hoechst, Bayer and BASF, coal mining company Rurkole AG, electrical engineering concern FEBA and RVE. or "Bosh" group is known all over the world and has branches, enterprises or research institutions all over the world. Large companies are mostly customers of small and medium-sized enterprises. The decisive factor in these successes was the transition from a controlled economy to a market economy in 1948. The main industries are vehicle manufacturing, mechanical engineering, chemical industry, electrical engineering, food, metallurgy, mining, precision mechanics and optics, aviation and space industry. In the field of technical development, German industry occupies one of the leading positions in the world. Thanks to the use of high technologies, the German economy is a world leader in the production of pharmaceutical products, the latest organic chemicals and artificial materials, medical electronics, optics and measuring instruments, the creation of new cars and machinery, telecommunications, and environmental protection technologies. Handicrafts with a long and beautiful tradition have flourished in Germany.

Agriculture: Germany has 36 million hectares of agricultural land. It supplies an abundance of high-quality food products. The main agricultural products are: wheat, barley, sugar beets, potatoes, as well as grapes, fruits, vegetables, etc. Livestock farming produces beef, pork, chicken and milk.

About a third of Germany's territory (10.7 million people) is covered with forests. About 30-40 million cubic meters of wood is produced in the country every year, which covers two-thirds of the domestic production. Germany is one of the largest wood exporting countries. Fish is caught in the North and Baltic seas, around Greenland.

Research methodolgy

It used correlation and regression types of analysis and in this analysis it used worldbank open informations. The article describes how the economic indicators of the Federal Republic of Germany changed in the last decade, i.e. from 2014 to 2023, and how much they amounted to each year. The country's GDP volume, population, GDP per capita, export, import, share of export in GDP and share of import in GDP were

Acumen: International Journal of Multidisciplinary Research
ISSN: 3060-4745 IF(Impact Factor)10.41 / 2024
Volume 2, Issue 4

analyzed as economic indicators. It used correlation and regression types of analysis and in this analysis it used worldbank open informations.

Analysis and results:

Economic indicators of the Federal Republic of Germany in 2014-2023: (1-table)

	YaIM	Aholi	Aholi jon boshiga YaIM	Eksport	Import	YaIMdagi eksport ulushi	YaIMdagi import ulushi
2014	3 880 000 000 000	81 200 000	47 783	1 490 000 000	1 210 000 000	3,84%	3,12%
2015	3 360 000 000 000	82 180 000	40 885	1 330 000 000	1 100 000 000	3,96%	3,27%
2016	3 470 000 000 000	82 520 000	42 050	1 330 000 000	1 100 000 000	3,83%	3,17%
2017	3 690 000 000 000	82 790 000	44 570	1 450 000 000	1 200 000 000	3,93%	3,25%
2018	3 970 000 000 000	83 020 000	47 819	1 560 000 000	1 300 000 000	3,93%	3,27%
2019	3 890 000 000 000	83 170 000	46 771	1 490 000 000	1 200 000 000	3,83%	3,08%
2020	3 890 000 000 000	83 160 000	46 777	1 390 000 000	1 200 000 000	3,57%	3,08%
2021	4 280 000 000 000	83 240 000	51 417	1 640 000 000	1 400 000 000	3,83%	3,27%
2022	4 080 000 000 000	84 360 000	48 364	1 680 000 000	1 600 000 000	4,12%	3,92%
2023	4 460 000 000 000	84 670 000	52 675	1 690 000 000	1 500 000 000	3,79%	3,36%

[1]

If we analyze the economic statistics of the Federal Republic of Germany in 2014, this year the GDP was 3.88 trillion dollars and the population was 81.2 million people. If we calculate GDP per capita by dividing GDP by population, it is 47738 dollars. This year, the volume of export was greater than the volume of import, that is, export - 1.49 billion dollars and import - 1.21 billion dollars. If we consider these indicators as a percentage of GDP, the share of export, which was 0.04% and import - 0.03%, was higher than import by 0.01%. If we give a brief summary of the statistical indicators of the following years: in 2015, the volume of GDP decreased by 0.52 trillion dollars compared to the base year, but the population increased by 980,000 people. As

[1] Makrotrends - https://www.macrotrends.net/global-metrics/countries/deu/germany/gdp-gross-domestic-product

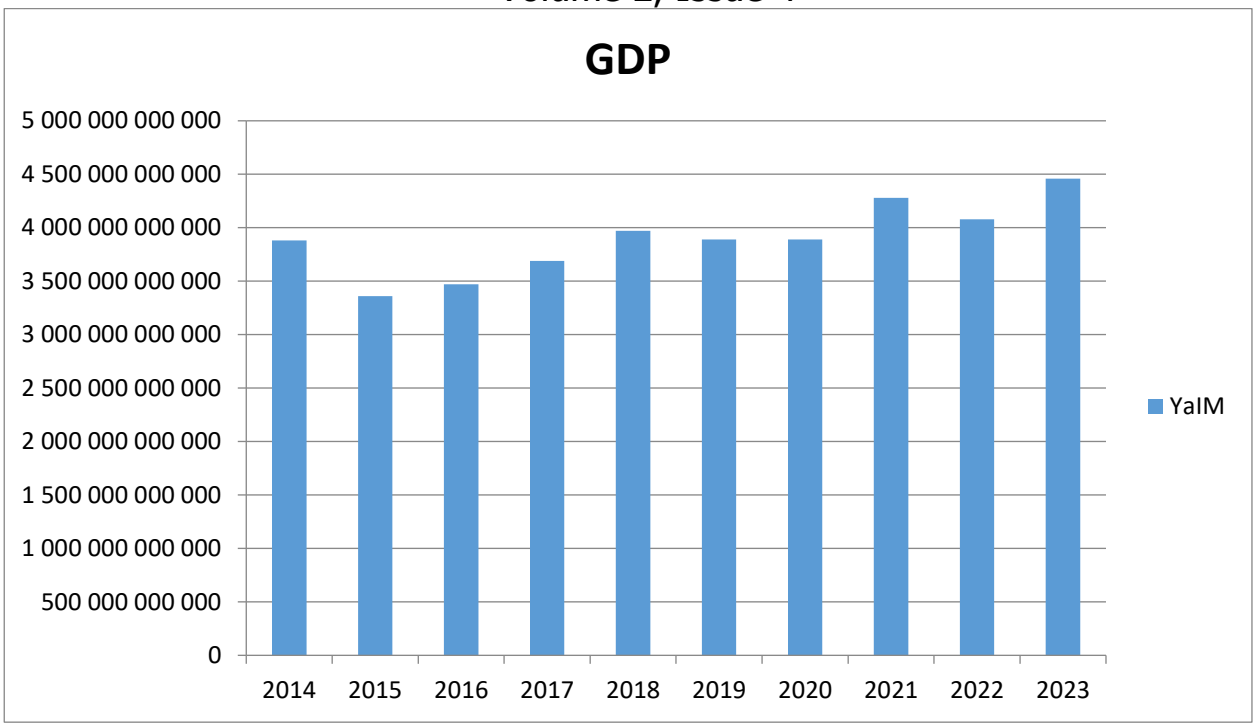
a result, GDP per capita decreased by 6853 dollars. We can see that the volumes of export and import, which have a direct impact on GDP, have decreased accordingly. In parallel, due to the decrease of these indicators, the share of export and import in the economy has not changed. From 2016 to 2019, we can see that the volume of the gross domestic product has increased every year. From this we can conclude that during the 4-year period from 2016 to 2019, we can see that the German economy moved only in the direction of economic growth, and the population also increased during these 4 years. But if we calculate the gross domestic product per capita, we can see that it has increased in the three-year period from 2016 to 2018, that is, the gross domestic product has developed more in relation to the population, but 2018 compared to 2019 while the population has increased more than the growth of the GDP, and as a result, the GDP per capita has decreased we can see. Similar to the change in GDP per capita, the levels of export and import have also changed, that is, only growth was observed in the first three years, but in the last year, i.e., from 2018 to 2019, a decrease in both export and import was observed.

If we look at the statistics of Germany in 2020, we can see that the gross domestic product has not changed as in the base year, but the population has decreased, and as a result, the volume of GDP per capita has increased. While the volume of import did not change, the volume of export decreased by 100,000 dollars.

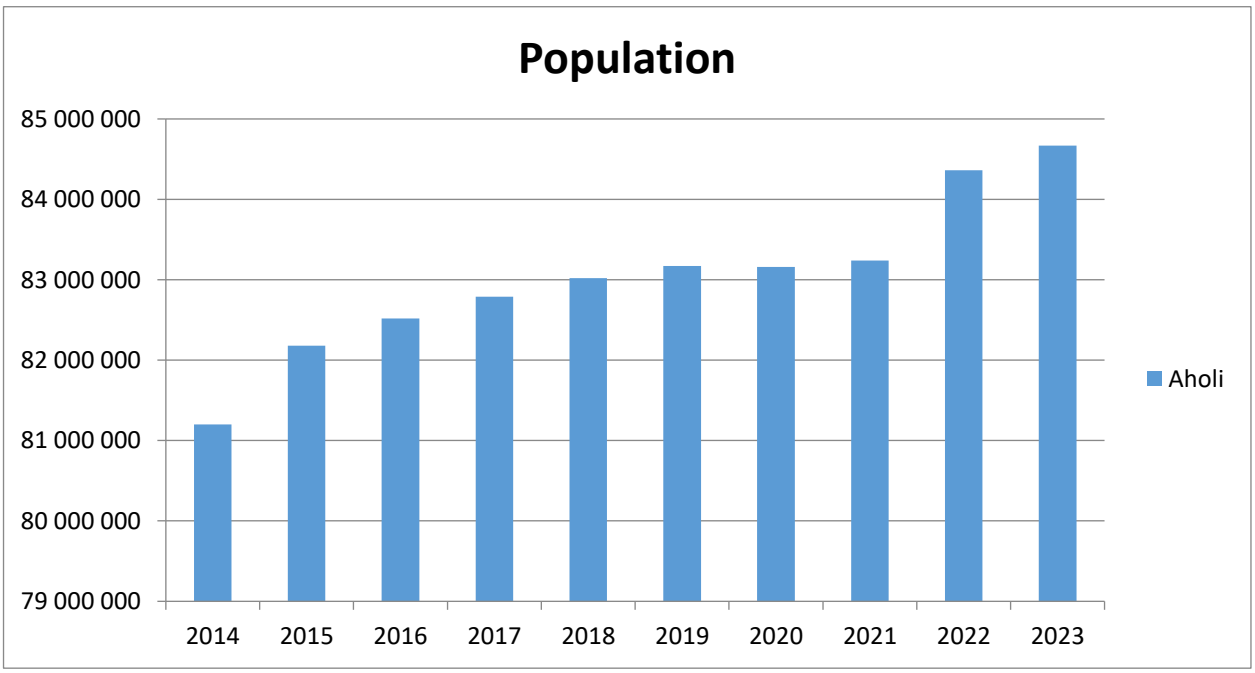
In 2021-2022, the volume of GDP decreased by 200 million dollars due to economic reasons, and the population increased by 1,120,000 people. As a result, the per capita output of the population experienced a significant decrease from $51,417 to $48,364. The export volume increased by 20 million dollars, and the import volume increased by 200 million dollars. If we analyze the last year of the analyzed 10-year period, i.e. 2023, we can observe that all economic indicators, except for the import volume, recorded the highest level in this year.

The diagram of changes of the gross domestic product over the years: (2-table)

Acumen: International Journal of Multidisciplinary Research
ISSN: 3060-4745 IF(Impact Factor)10.41 / 2024
Volume 2, Issue 4



We can see that the gross domestic product of the Federal Republic of Germany has changed as shown in the diagram, that is, it has decreased significantly in 2015 compared to 2014. In the period from 2015 to 2018, only growth was observed, but between 2018 and 2020, there was a decrease. As the main reason for this, we can cite Covid-19, which caused the decline of the world economy in 2019. By 2021, the GDP has increased somewhat, but we can see a decrease again in the next year. By 2023, we can observe that the volume of GDP has increased compared to the indicator in the base year. **Change of the population over the years:** (3-table)

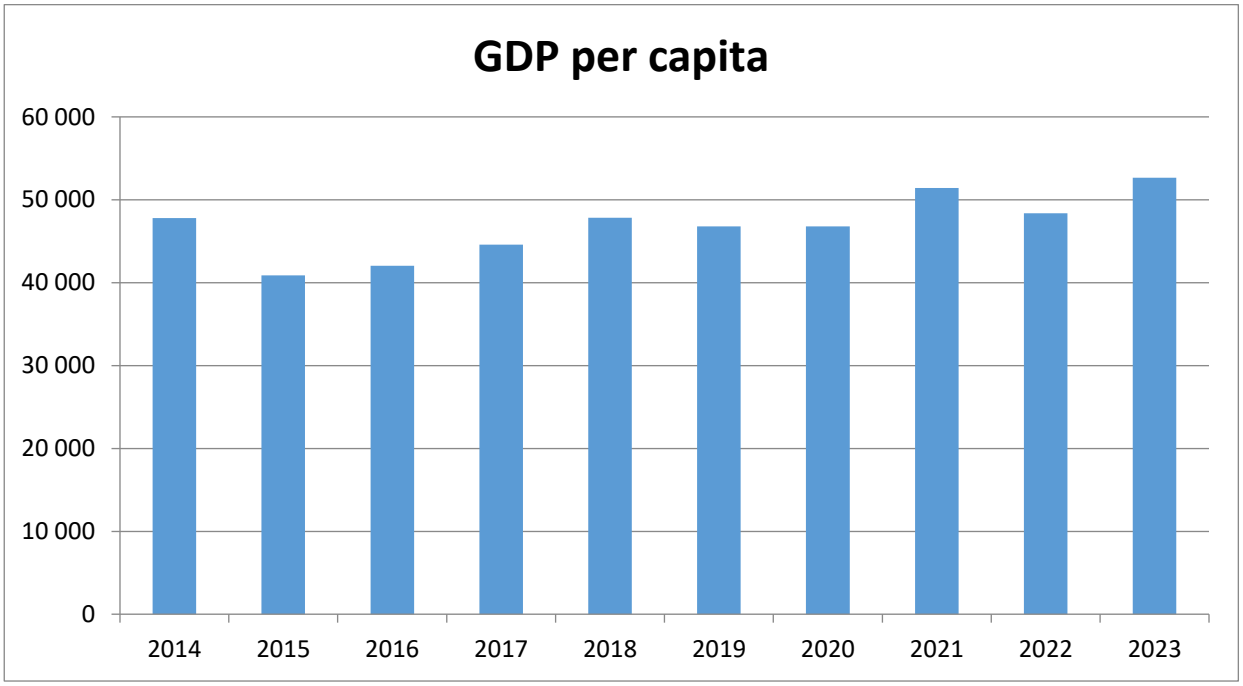


Acumen: International Journal of Multidisciplinary Research
ISSN: 3060-4745 IF(Impact Factor)10.41 / 2024
Volume 2, Issue 4

We can see that the population of the Federal Republic of Germany increased in the period from 2014 to 2019, but in the following year, a partial demographic crisis occurred in the country, that is, the population decreased. Despite this, from 2020 until now, the country's population is showing only a growth rate.

GDP per capita of the country's population change

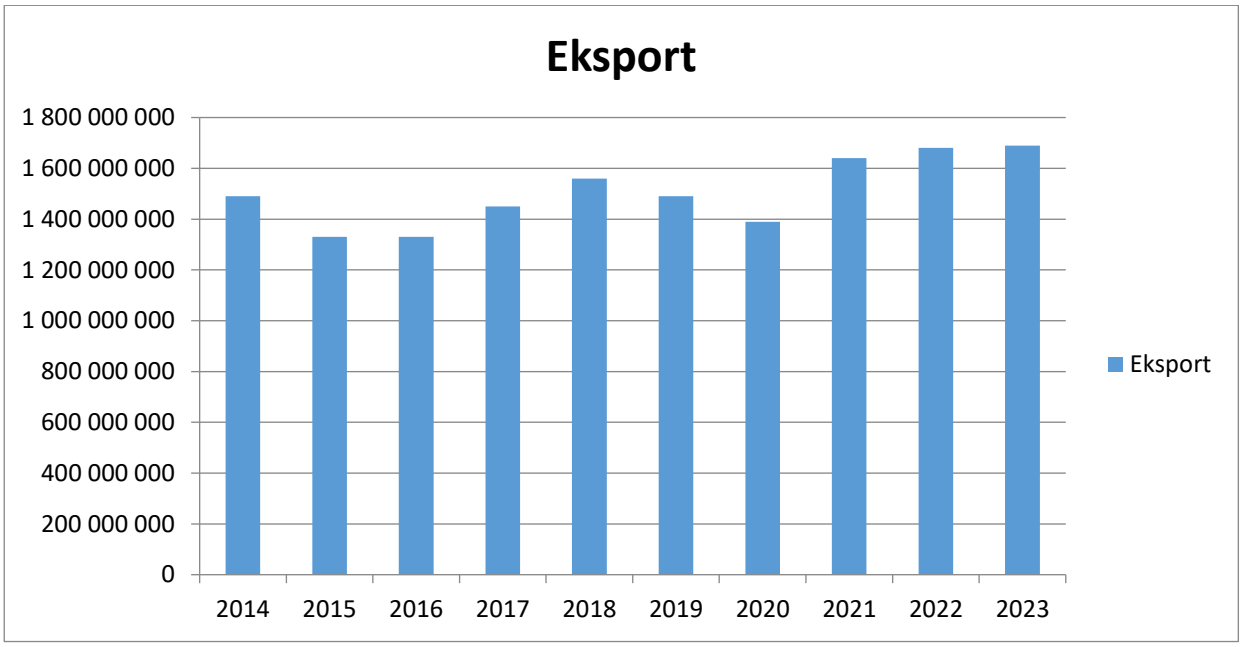
: (4-table)

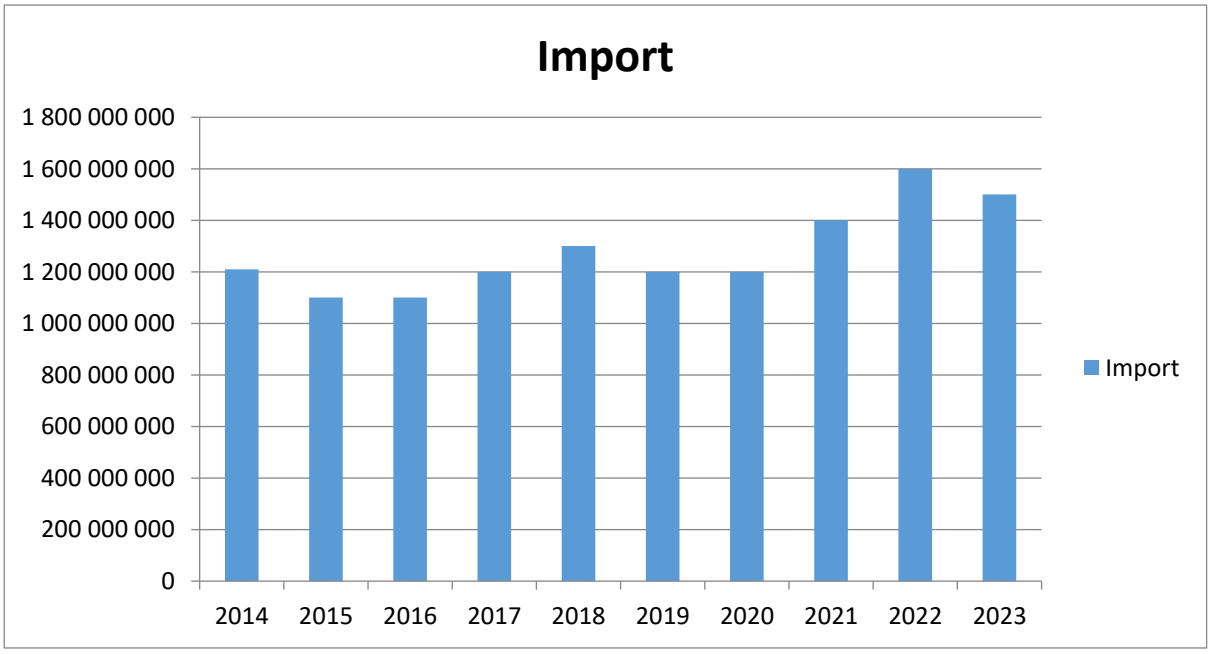


The volume of output per capita decreased sharply in the first year of the period under analysis, but only increased during the next 3 years. From 2018 to the end of the analyzed period, this indicator has been playing, that is, it has decreased in the period of 2018-2020, increased in the period of 2020-2021, and then decreased in the last year. grew again.

Acumen: International Journal of Multidisciplinary Research
ISSN: 3060-4745 IF(Impact Factor)10.41 / 2024
Volume 2, Issue 4

Change of export and import in the country over the years: (5-6-tables)





If we analyze the changes in the export and import volumes shown in the table over the years, we can get almost similar results. That is, in the period of 2014-2016, both indicators showed a decreasing rate and then increased during the 2-year period. In 2018-2020, as observed in other countries of the world, the foreign trade turnover in this country also decreased. After that, there was an increase until the present period.

Acumen: International Journal of Multidisciplinary Research
ISSN: 3060-4745 IF(Impact Factor)10.41 / 2024
Volume 2, Issue 4

Statistic analysis: (7-table)

GDP		*Population*		*GDP per capita*		*Ekspor t*		*Import*	
Mean	3,9E+12	Mean	83031000	Mean	4691	Mean	1,51E+09	Mean	1,28E+09
Standard Error	1,06E+11	Standard Error	314965,4	Standard Error	1,1167,541	Standard Error	426940002	Standard Error	531758095
Median	3,89E+12	Median	83090000	Median	47280	Median	1,49E+09	Median	1,21E+09
Mode	3,89E+12	Mode	#Н/Д	Mode	#Н/Д	Mode	1,49E+09	Mode	1,2E+09
Standard Deviation	3,36E+11	Standard Deviation	9960108,1	Standard Deviation	3692,088	Standard Deviation	1,35E+08	Standard Deviation	1,68E+08
Sample Variance	1,13E+23	Sample Variance	9,92E+11	Sample Variance	13631514	Sample Variance	1,82E+16	Sample Variance	2,83E+16
Kurtosis	-0,20882	Kurtosis	-0,57837	Kurtosis	-0,31197	Kurtosis	-1,37639	Kurtosis	-0,20187
Skewness	0,00158	Skewness	-0,01941	Skewness	0,16305	Skewness	0,107513	Skewness	0,909840
Range	1,1E+12	Range	34700000	Range	11790	Range	3,6E+08	Range	5E+08
Minimum	3,36E+12	Minimum	81200000	Minimum	40885	Minimum	1,33E+09	Minimum	1,1E+09
Maximum	4,46E+12	Maximum	84670000	Maximum	52675	Maximum	1,69E+09	Maximum	1,6E+09

Acumen: International Journal of Multidisciplinary Research
ISSN: 3060-4745 IF(Impact Factor)10.41 / 2024
Volume 2, Issue 4

	3,9E		8,3E		4691		1,51		1,28
Sum	+13	Sum	+08	Sum	11	Sum	E+10	Sum	E+10
Count	10	Count	10	Count	10	Count	10	Count	10
Confidence Level(95,0%)	2,4E+11	Confidence Level(95,0%)	7125 01,3	Confidence Level(95,0%)	2641 ,161	Confidence Level(95,0%)	9658 0542	Confidence Level(95,0%)	1,2E+08

Correlation analysis: (8-table)

	GDP	*Population*	*GDP per capita*	*Eksport*	*Import*
GDP	1				
Population	0,663757	1			
GDP per capita	0,992803	0,56964	1		
Eksport	0,91382	0,682136	0,895468	1	
Import	0,830193	0,784075	0,787405	0,943835	1

If we pay attention to the table given as a result of the correlation analysis, the following factors have influenced the size of the country's GDP. These are: population, export volume, import volume and other indicators. Of these, the effect of the population on the volume of the gross domestic product is equal to 0.663757. This means that the increase in the population affects the growth of the gross domestic product by a coefficient of 0.663757, i.e., the increase or decrease of the percentage of the GDP change corresponding to the population is approximately 66.3%. changes depending on the trend. The remaining part changes due to certain other influencing factors. If we consider the influencing coefficients of the export volume, the export volume affects the volume of GDP with a coefficient of 0.91382, and the volume of gross domestic product per capita with a coefficient of 0.895468. The meaning of this is that we can conclude that the change in the volume of exports has a greater impact on the volume of the gross domestic product than on the volume of GDP per capita.

Regression analysis: (9-table)

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0,999969
R Square	0,999938
Adjusted R Square	0,999888
Standard Error	3,55E+09
Observations	10

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	4	1,02E+24	2,54E+23	20136,24	1,06E-10
Residual	5	6,31E+19	1,26E+19		
Total	9	1,02E+24			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95,0%*	*Upper 95,0%*
Intercept	-4,1E+12	1,6E+11	-25,5253	1,72E-06	-4,5E+12	-3,7E+12	-4,5E+12	-3,7E+12

Population	49333,17	2015,214	24,48037	2,12E-06	44152,9	54513,44	44152,9	54513,44
GDP per capita	82881813	79074,4	104,8152	1,5E-09	80849145	84914481	80849145	84914481
Eksport	1,157653	41,72504	0,027745	0,978939	-106,1153	108,4153	-106,1153	108,4153
Import	-3,76431	28,49308	-0,13211	0,900047	-77,0081	69,47949	-77,0081	69,47949

RESIDUAL OUTPUT

Observation	*Predicted GDP*	*Residuals*
1	3,88E+12	8,14E+08
2	3,36E+12	3,96E+09
3	3,47E+12	6,27E+08
4	3,69E+12	-1,3E+09
5	3,97E+12	-1,7E+09
6	3,89E+12	-2,5E+09

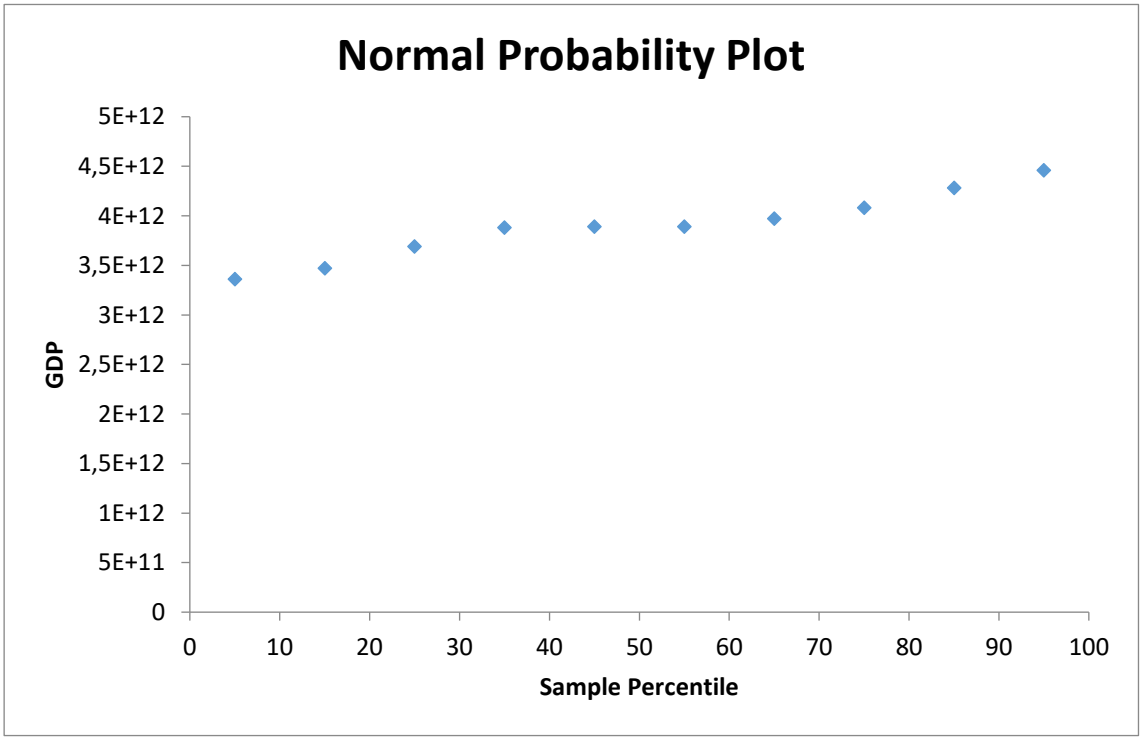
PROBABILITY OUTPUT

Percentile	*GDP*
5	3,36E+12
15	3,47E+12
25	3,69E+12
35	3,88E+12
45	3,89E+12
55	3,89E+12

Acumen: International Journal of Multidisciplinary Research
ISSN: 3060-4745 IF(Impact Factor)10.41 / 2024
Volume 2, Issue 4

7	3,89E+12	-2,4E+09	65	3,97E+12
8	4,28E+12	-4,8E+08	75	4,08E+12
9	4,08E+12	-2E+09	85	4,28E+12
10	4,45E+12	5,03E+09	95	4,46E+12

According to the above regression analysis, multivariate R: 0.999969. This indicator indicates the overall good fit of the model. A coefficient of 0.999969 means that the model explains 99.9% of the relationships between economic indicators. R squared: 0.999938. This indicator means that the model can explain 99.9% of the variation. That is, this model can explain 99.9% of the growth of the industrial sector. Adjusted R-squared: 0.999888. This indicator is also high and confirms that the parameters in the model are selected correctly. It explains 99.8% of the variation. Standard error: 3.55E+09. This indicator indicates the accuracy of the analysis. The lower it is, the more accurate the model is. **Graphic of regression analysis:** (10-table)



Acumen: International Journal of Multidisciplinary Research
ISSN: 3060-4745 IF(Impact Factor)10.41 / 2024
Volume 2, Issue 4

Conclusion and offers:

The German economy has been showing stable and consistent growth. For many years, it has continued its economic development relying on industry and exports. Germany's economy is characterized by its high efficiency and technology-based economy. As a large industrial country, this means that it has a strong influence on the global scale. The German economy is one of the strongest in the world. It leads the way in manufacturing and technology through the process of industrialization. Germany has an export-oriented economic model, with machinery, the automotive industry, and the chemical industry playing an important role. The stability of this economy is based on strong infrastructure, skilled workforce and innovative research. Germany plays an important role in the implementation of the largest economic agreements and regional cooperation in Europe. This, in turn, has a positive effect on the country's global economic impact.

Germany is a very attractive market for investors and new business owners. It is the largest economy in Europe and the fourth largest global economy. Germany remains a strong magnet for doing business, despite a slight slowdown in outward investment following the global recession and subsequent Eurozone crisis. Its large, diversified economy is supported by a developed, reliable infrastructure, a highly skilled workforce, a positive social climate, a stable legal environment, and a long history of world-class research and development. However, successfully doing business in Germany requires familiarity with its complex bureaucratic procedures, tax structures and legal environment. Germany is one of the largest and most stable trading economies in the world, offering a secure, highly developed political and economic framework. Its strong legal protection allows investors to quickly secure their rights and protect industrial and intellectual property.

In addition, Germany is expected to maintain its strong influence in the Eurozone and remain an anchor of regional stability. Germany is one of the ten most innovative countries in the world, paying great attention to the use of science for economic benefit. The country is adept at effectively translating research into practical application. From software to pharmaceuticals, this practical emphasis has been a vehicle for job growth and a way to integrate German scientific research to benefit society as a whole.

The German government demonstrates a strong commitment to applied research by funding research institutes, supporting the creation of start-up companies, and licensing intellectual property to help researchers build careers outside of academia. In December 2019, the German government created a commission and funded the Innovation Agency.

References:

1. Germaniya davlatining tavsifi. Aslanova Nasiba Muxammadovna. Maqola.

2. https://taschkent.diplo.de/uz-uz/themen/willkommen

3. https://isrs.uz/oz/maqolalar/prezidenta-respubliki-uzbekistan-savkata-mirzieeva-v-federativnuu-respubliku-germania-sostoalos-intervu

4. https://history-maps.com/uz/story/History-of-Germany

5. https://uz.wikipedia.org/wiki/Germaniya