



*The impact of the policy of curbing imports on economic growth
and inflation in Algeria.*

(an econometric study 2014-2022)

Abdelhafidi Aissa* ⁽¹⁾

Larbi Djedi ⁽²⁾

a.abdelhafidi@lagh-univ.dz

l.djedi@lagh-univ.dz

University of Laghouat, (Algeria)

University of Laghouat, (Algeria)

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Abstract :

Imports are considered one of the important economic sectors in any economy, through which the necessary needs are provided, whether production or consumption, but Algeria during the past years, with the beginning of the oil crisis, pursued an economic policy that contradicts the policy of economic freedom that it adopted in the early nineties, represented in reducing And curbing imports, all in the hope of reducing the deficit of the trade balance and the balance of payments.

This study came to address an important problem represented in knowing the effect of adopting a policy of curbing imports on economic growth and inflation in Algeria. Using the appropriate standard tools, we found that reducing imports by 1 billion US dollars leads to an increase in the prices of consumer and productive materials by 1.07% and a decrease in the amount of per capita output. the gross domestic product by 0.3%.

✓ **Key words :** imports, economic growth, inflation, econometric study.

* Corresponding author: Abdelhafidi Aissa

1. INTRODUCTION

The imports sector is considered one of the most important economic sectors in any economy. Imports play an important role represented in providing all the economic needs of any country, from consumer and industrial materials, and from intermediate materials in addition to the technology it needs, and we do not forget the important service products, as Any economy, no matter how powerful it is and how large its production and manufacturing volume is, and no matter how numerous its natural resources are, it remains unable to provide all its needs, whether for consumers, producers or government sectors. Therefore, the importance of imports emerges, as it is the sector that provides all these economic needs, which either the country's economy is completely unable to provide, or is unable to produce them in the appropriate quantity and quality.

Starting in 2014, Algeria pursued an economic policy represented in reducing imports, in an attempt to reduce its growing deficit in the balance of trade and payments, resulting from the decline in revenues due to the collapse of fuel prices in the same year. This policy was justified as the only way to maintain the balance of the trade balance and the balance of payments. Also, this policy was considered a powerful tool to encourage domestic production and replace imports, thus reducing dependence on the outside in order to meet the needs of the country. As it resorted to imposing import licenses, preventing the import of certain products and reducing the quantity imported for other products.

- **The problem:**

Through the foregoing, the following problem emerges: What is the impact of adopting a policy of curbing imports on economic growth and inflation in Algeria?

- **Hypotheses:**

- There is an inverse relationship between imports and inflation rates in Algeria, and thus the emptiness of imports leads to high inflation rates and a decrease in the purchasing power of citizens.

- There is a direct relationship between imports and the volume of production, and thus reducing imports leads to a decrease in per capita GDP.

- Reducing imports leads to an increase in the cost of domestic production and thus more waves of inflation on the national economy.

- **The importance of the study:**

The importance of this study lies in the fact that it is an econometric study that studies the effects resulting from the adoption of the policy of reducing imports on the national economy accurately, and thus gives a clear picture of the extent of the feasibility of this policy on the national economy and the extent of its negative and positive effects that this study will reach.

- **The method used in the study:**

In order to answer the highest problem and understand the subject, the descriptive approach and the analytical approach were adopted in studying the development of imports and highlighting its importance, as well as analyzing all aspects related to this subject, in addition to the standard approach to studying the extent of the impact of reducing imports on the national economy based on historical data and appropriate statistical programs for the study.

2. The relationship of imports to the strength of the economy

Imports fall within the country's foreign trade sector, where foreign trade is concerned with the study of international economic transactions, represented in the movements of goods, services, and capital between different countries ,as well as

trade policies launched by countries of the world to influence the movement of goods, services, and capital, (Mohamed B. L., 2023, p. 30) meaning that it is a sum of exchanges » Others also define foreign trade as a phrase of the total economic exchanges between different countries of goods, services and capital, as it shows the interdependence between producers and consumers at the international level and the exchange between them and the various countries of the world (Mohamed M. , 2009, p. 3).

Imports play an important role for the state in order to grow its economy, because the latter cannot produce all the goods and services it needs, and since foreign trade allows the application of the principle of relative cost of production (Kartikasari, 2017, p. 664) , where every country imports everything that costs it to produce or is unable to, and exports everything It can produce it at the lowest relative cost, and thus the large volume of import allows the provision of more relatively cheap commodities that the economy needs for production or consumption (Sayef Bakari, 2017, p. 80), thus maintaining price levels for both producers and consumers, which leads to maintaining the levels of economic growth of the state, and the following table shows the volume of import For the 7 largest economies in the world during the year 2021.

Table No. 01: Ranking of countries according to the volume of imports and economic strength during the year 2021.

	Imports (billion US dollars)	Ranking of the country according to economic power	Ranking of the country according to the volume of imports	percentage of world imports
USA	3400	1	1	12.61%
China	3000	2	2	11.13%
Japan	936	3	4	3.54 %
Germany	1776	4	3	6.6 %
India	758	5	8	2.81 %
Britain	899	6	6	3.33 %
France	928	7	5	3.44 %

Source: Prepared by the researcher based on the data of the World Bank

From Table No. 01, we find that the volume of imports is directly proportional to the strength of the economy, where we find that the United States of America is the largest country in terms of the volume of imports, followed by China with a value of \$3.4 trillion and \$3 trillion, respectively, followed by Germany with an import volume of \$1.773 trillion.

We see that Britain, France and India occupy advanced ranks in terms of the volume of imports, and therefore we find that the first four countries in terms of the criterion of economic strength (America, China, Japan and Germany) account for more than a third of global imports, and justify the volume of these huge imports for these countries, to the large The size of its markets, whether consumer or productive, which require large quantities of consumer, industrial and intermediate products, in addition to investment and technological goods and raw materials required by the sustainability of the economic growth of these countries, which the local economy may be unable to provide in the appropriate quantity and price, as the following table shows the type of goods imported for these countries countries during the year 2021.

Table No. 02: Type of goods imported to the world's largest economies during the year 2021.

	Imports of industrial products (capital and consumer)	Imports of food commodities	Raw material imports	fuel imports	other
USA	%77.13	%6.61	3.75 %	%7.62	4.89%
China	%55.7	%8.13	17.92 %	15.92 %	2.33 %
Japan	57.87 %	9.50 %	10.93 %	20.03 %	1.67 %
Germany	72.74 %	7.76 %	6.54 %	8.72 %	4.24 %
India	48%	5.05%	7.1%	29.87%	9.98%
Britain	64.16%	9.41%	6.43%	10.27%	9.73%
France	74.5%	9.8%	3.87%	10%	1.83%

Source: Prepared by the researcher based on the data of the World Bank

From Table No. 02, we find that most of the imports of the countries mentioned in the table were mainly industrial products, both consumer and industrial, which account for more than 70% for U.S.A of and Germany and France, with a rate of more than half for the rest of the mentioned countries, which indicates the size of the markets of these countries and their need for manufactured goods, while fuel imports came in second place, then food commodities imports, and then raw materials.

3. Imports in the Algerian economy

Since independence, Algeria has relied mainly on imports in order to meet its needs of goods and services, and this is due to weak production on the one hand and the growing population on the other. Therefore, in this element, we will discuss the most important aspects related to the import sector in the Algerian economy.

3-1 The evolution of imports in the Algerian economy

The imports sector in the Algerian economy went through several stages, and this is due to the different trade policies adopted by Algeria at the level of its foreign trade, which were represented in three main stages represented in the following (taleb, 2018, p. 237):

- **First:** The stage of control This stage extended from the year 1963 until the year 1969, during which Algeria relied on the principle of control over the foreign trade sector, which included several measures, mainly represented in the system of quotas and dominant groupings for purchasing, in which the Algerian government intended to impose a system of quotas and establish dominant groupings for purchasing. By relying on a set of executive fees, the government controlled foreign trade. The aim of this measure was to redirect imports. Curbing luxury imports and preserving hard currency; Protecting national production and improving the trade balance in light of few exchange reserves. Despite these protectionist measures, the position of the trade balance fluctuated between a surplus and a deficit. After the surplus recorded in 1963 and 1964. Algeria experienced its first deficit in its trade balance in 1965 with a value of 167 million DZD. According to statisticians, the reason for this deficit is due to the decline in the value of exports, which fell to 3145 million DZD, after its value in 1963 and 1964, respectively, was 3748 and 3588 million DZD. The largest deficit during this stage was recorded in 1969 with a value of 370 million DZD. Due to the tangible increase in the value of imports, especially of processing commodities and semi-finished products that were destined to meet the needs of the country. On the other hand, food exports declined starting in 1965 due to the nationalization of agricultural lands. On the other hand, fuel exports flourished during the same period.
- **Second:** The stage of state monopoly This stage extended from the year 1970 until the year 1989, when the first quadruple plan came, including the promotion of economic independence and making industrialization one of the most important factors contributing to economic development, as the Algerian authorities revealed their intentions towards the foreign trade sector, so that starting from July 1971. A set of procedures were approved, stipulating the monopoly of foreign trade by public institutions (each one according to the

product it specializes in), and the aim of this monopoly was to control trade flows and integrate them into the framework of central planning for economic and social growth, and as a result there were more than 80 % of imports under state control.

- **Third:** The stage of liberating foreign trade After the oil crisis of 1989, Algeria decided to adopt a market economy policy, which included the policy of liberalizing foreign trade, which it controlled absolutely. The instruction to import goods without any restrictions, so that all import operations were liberalized except for a group of vital goods, which were temporarily subject to specific standards,,In this context, imports of capital goods with a value of less than half a million dollars were exempted from the condition of obtaining financing for a period of no less than three years starting from January 1, 1995, and the customs tariff was reduced from 60% to 45% in 1997, and then the Import and export licenses and keeping them only for some limited commercial transactions.

After these main stages that the Algerian imports sector experienced, the energy markets witnessed a sharp drop in prices starting in 2014, which resulted in a large deficit in the trade balance, and therefore Algeria resorted, in order to reduce this deficit, to reduce imports, by imposing import quotas and imposing customs duties. imports, and preventing the import of some products partially or permanently, and the following table shows the value of total imports during the years 2014 to 2021.

Table No. 03: Algeria's imports during 2014-2021

Statement	2014	2016	2018	2020	2021
commodity imports	57.2	45.1	44.9	33.4	33.1
Commercial services imports	11.24	10.39	11.42	7.14	6.8
the total	68.26	56.09	56.32	40.6	40.02

Source: World Bank data

Unit: billion US dollars

We note from the table that the value of total imports experienced a significant decline over the past years from 68\$ billion in 2014 to 43\$ billion in 2021, as imports of goods decreased from 57.2\$ billion in 2014 to 33.1\$ billion in 2021, i.e. a decrease of 24.1\$ billion. Dollars, or 42%, and this is the result of the policy of curbing imports adopted by Algeria with the aim of preserving the hard currency, as a result of the sharp decline in Algeria's revenues during 2014-2020.

3.2 Importance of imports in the Algerian economy:

The policy of curbing imports adopted recently led to a significant shortage in commodity supply and thus a significant increase in price levels, as in addition to the disappearance of many products from the shelves of shops and stores, which numbered more than 2,600 products that were banned from import (kaimouch, 2021), customs duties were imposed at rates ranging from 100% Up to 200% of the value of products that are known to be locally produced, and a value of 30% to 50% if the product does not cover its demand for local production (hathaga, 2020).

Consumables experienced inflationary waves resulting from the policy of curbing imports on the one hand, and on the other hand, to the problems of supply chains and global closures resulting from Covid 19 and the decline in the exchange rate of the Algerian dinar. These inflationary waves, in addition to the inability of domestic production to keep pace with consumer demand, led to unprecedented increases in prices. Consumer goods, and the following table shows the consumer price index during the end of 2022 compared to the price levels for the year 2015.

Table No. 04: The development of the consumer price index for the year 2022

Statement	Consumer Price Index (2015 = 100)
Household electrical appliances	199
Foodstuffs and commodities	188
Household utensils	200
Cars and vehicles	250

Source: prepared by the researcher based on the data of the World Bank.

From the table, we find that the price levels of most consumer items witnessed significant increases by 99% on household electrical products, and by 88% on food commodities, and this generally led to a decrease in the purchasing power of citizens by more than 50% during the end of 2022 compared to previous years. Imports, in turn, created another phenomenon represented in speculation in the prices of widely consumed materials, and this is to take advantage of the relative scarcity of these materials and achieve profits as a result of repeated price hikes, which led the authorities to adopt deterrent laws to combat this phenomenon.

3.3 Importance of imports in local manufacturing.

Industry is considered one of the most important economic sectors as it provides basic necessities for consumption or production, but manufacturing in turn invades production inputs, and these inputs are either provided by local production or imported from abroad, as we find that the manufacturing sector of any country needs imports of raw materials to intermediate commodities and industrial machinery. The following table shows the percentage of imported commodities out of the total commodities involved in the production and manufacture of local commodities in Algeria.

Table No. 05: Percentage of imported commodities out of the total commodities involved in local production and industry.

type of industry or production	The ratio of imported intermediates
household electrical industry	100%
mechanical industry	100%
Pharmaceutical and pharmaceutical industry	100%
Plastic industry and its derivatives	100%
Hardware industry	100%
Furniture Industry	100%
textile industries	100%
Cleaning and cosmetics industry	100%
Table oil production	100%
Vegetable production	60%
White meat production	80%

Source: prepared by the researcher based on a survey.

From the table, we find that industrial production in Algeria in many products and sectors depends entirely on imports, and this is because the national economy is completely unable to provide these inputs required by these industries, and the replacement of these inputs locally is not possible during the short and medium term in light of the obstacles. And the problems faced by the manufacturing sector in Algeria, and therefore any restriction in importing these inputs or imposing customs duties on them, will result in a decline in production and an increase in its cost and thus an increase in the price of the final product, which is already known to some industries, and this is what exacerbates the problem of inflation of consumer goods from On the one hand, and from curbing non-hydrocarbon exports on the other hand, as a result of the high domestic production costs compared to abroad.

3.4 Problems of the import sector in the Algerian economy.

The import sector in Algeria permeates several problems, but the most prominent of these problems is the phenomenon of inflating import bills and imaginary import, which are considered one of the biggest problems of the import

sector in Algeria, which resulted in great damage to the national economy and bleeding of hard currency, as this phenomenon arose mainly due to the characteristic of duplication. The exchange rate of hard currency in the Algerian economy and the absence of official channels for transferring currency abroad, as the difference in the exchange rate of hard currency between the official rate and the parallel rate of 50%, It can create a mechanism for quick wealth and profit more than any trade or industry can create, as any method through which money can be taken out of the official market and resold in the parallel market enables large profits to be made, and therefore the best way to do so is to establish a fake institution for import or Inflating import bills, in addition to the fact that institutions and individuals wishing to transfer money abroad usually resort to fictitious imports, due to the absence of official channels for transferring and exchanging foreign currency in Algeria.

The Minister of Finance, Ayman bin Abdul Rahman, confirmed in 2021 that the phenomenon of inflating import bills has devoured at least 35% of the value of the import bill, and therefore approximately \$90 billion at least are amounts of inflated import bills and fake imports during the year 2014-2021.

The phenomenon of imaginary import and inflated import bills caused a dilemma for Algerian politicians that led to the enactment of laws represented in restricting and curbing imports, but the solution to this phenomenon is something that can be achieved away from all these protectionist measures, and its solution lies in the elimination of the parallel exchange market, and the establishment of official channels for the transfer of Hard currency to and from outside the country, in this case, it will not be feasible to inflate import bills because there is no parallel exchange rate that can be used to achieve profits and gains, in addition to that it will be more expensive to withdraw money through fictitious imports than through official channels, and therefore it will stop The phenomenon of imaginary import and inflating import bills on its own without curbing the import sector.

4. standard study:

In this applied part of the study, we will estimate the impact of curbing imports on the rate of inflation and economic growth in Algeria, where we will study the relationship between imports (measured by the import price index) on each of the per capita GDP (measured by the per capita price index of GDP), And the consumer price index, which represents inflation, and the year 2014 was considered the base year for calculating the previous indicators (2014 = 100). Historical data was used for the variables during the period 2014-2022. This period was chosen because it is the period of adopting the policy of curbing imports in Algeria. Data from the World Bank and the National Institute of Statistics (ONS) were also used to calculate the indicators, and the data are shown in the following table.

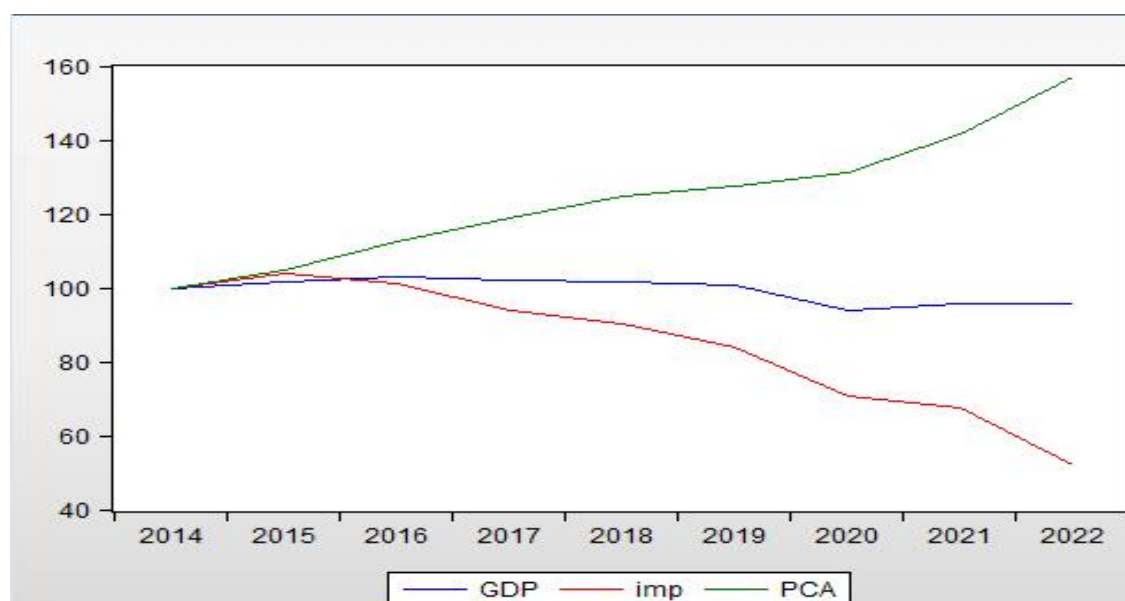
Table No. 06: Price Index for Study Variables (2014=100)

	2014	2015	2016	2017	2018	2019	2020	2021	2022
IMP	100	103.9	100.99	93.82	93.82	84.02	84.02	67.69	52.12
PCA	100	104.98	112.33	119.06	119.06	127.41	127.41	141.52	156.96
GDP	100	101.64	102.82	102.14	102.14	100.57	100.57	95.48	95.77

Source: Prepared by the researchers based on data from the World Bank and ONS.

The previous table shows that imports in general during 2022 witnessed a decline of about 48% compared to 2014 (ONS, 2023). As for the general levels of prices, there was an overall increase (according to official statistics) in 2022, by about 57% compared to 2014. As for the per capita GDP, it witnessed a decline of about 5% during the year 2022 compared to 2014 (Bank, 2023). The previous table can be translated into the following figure:

Figure No. 01: Price Index for Study Variables (2014=100)



Source: Prepared by the researchers based on data from the World Bank and ONS.

4.2 The impact of curbing imports on inflation levels in Algeria.

To find out the extent to which the policy of curbing imports in Algeria affects inflation levels, a simple linear regression model estimated by the method of least squares was used, and this is due to the lack of the study period (2014-2022), which is equivalent to only 9 observations, as the simple linear regression model is considered the appropriate model for estimation. In such cases, it is only necessary to ensure that its hypotheses and validity are verified from a standard point of view. The result of the assessment was as follows :

$$PCA = 205.98 - 0.9632 * IMPO + ei$$

From the result of the estimate, we found that the coefficient of determination is equal to 0.9185, which indicates the explanatory power of the model, meaning that the change in imports explains the change in inflation levels by 91.85%. The interpreter (imports) has a statistical significance in its interpretation of the variable follow (inflation). The model as a whole has a statistical significance, which is indicated by the probability value of the Fisher test, which is less than 0.05, as well as

the residuals follow the normal distribution, which is indicated by the probability value of the Jarque-Bera test, which is equal to 0.52 which is greater than 0.05,

Also, the residuals are white noise, which is shown by the Correlogram, where all values fall within the confidence range. The LM test also showed that there is no autocorrelation of errors, which is indicated by the probability value of the test, which is equal to 0.70, which is greater than 0.05. The ARCH test also showed that The variance is constant, where the probability value of the test is 0.23, which is greater than 0.05. The model is free from instability of variance. (See Appendix No. 01)

The previous tests showed that the estimated model is statistically sound and explanatorily strong and therefore can be relied upon in interpreting the results, as the imports variable coefficient showed that there is an inverse relationship between the imports sector and inflation levels in Algeria, and the value of this coefficient was -0.9632, which means that if Imports have been reduced by 1% compared to the base year (2014). Inflation levels will increase by 0.96% compared to the base year (2014). Therefore, any reduction in the value of imports by 1\$ billion during 2023 will add an amount of 1.07% to the inflation rate in the same year.

While the value of the constant, which amounted to approximately 206, showed that imports maintain the purchasing power of citizens by a very large percentage, as zeroing imports will result in a massive inflationary wave within one year estimated at 106% according to official statistics, which is actually matched by a large doubling of the general levels of prices. This result is considered logical with the reality of the Algerian economy, which is considered incapable in many areas to meet the domestic demand, which is met by imports only.

4.3 The impact of curbing imports on economic growth in Algeria.

To find out to what extent the policy of curbing imports in Algeria affects economic growth (represented by the growth of per capita GDP, the same previous

steps were followed, where the linear regression model was estimated, and the result of the estimate was as follows:

$$\text{GDP} = 85.65 + 0.1608 * \text{IMPO} + \text{ei}$$

From the result of the estimate, we find that the coefficient of determination is equal to 0.7285, which means that the change in imports explains the change in per capita GDP by 72.85%. The estimated model showed the morale of the parameters, which was shown by the probability values of the Student test, which are less than 0.05. The explanatory variable (imports) has a statistical significance in its interpretation of the variable I follow (the growth of per capita GDP), and the model as a whole has a statistical significance, which is indicated by the probability value of the Fisher test, which is less than 0.05, as well as the residuals follow the normal distribution, which is indicated by the probability value For the Jarque-Bera test, which is equal to 0.61 and is greater than 0.05, Also, the residuals are white noise, which is shown by the Correlogram figure, where all values fall within the confidence range, and the LM test showed that there is no autocorrelation of errors, which is indicated by the probability value of the test, which is equal to 0.79, which is greater than 0.05, and the ARCH test showed that The variance is constant, where the probability value of the test 0.69 is greater than 0.05. Hence, the model is free from instability of variance. (See Appendix No. 02)

Previous tests showed that the estimated model is statistically sound and explanatory, and therefore can be relied upon in interpreting the results, as the imports variable coefficient showed that there is a direct relationship between the imports sector and GDP per capita levels, which is in line with economic theory. The value of this coefficient was 0.1608, which means that if imports are reduced by 1% compared to the base year (2014), per capita levels of GDP will decrease by 0.16% compared to the base year (2014), and therefore a reduction in imports by 1\$ billion during the year 2023 will reduce per capita of GDP by 0.3%. While the constant limit

between zero imports will lead to a decrease in per capita GDP by approximately 15% in just one year, which means economic contraction in very large proportions.

5 .Conclusion.

Imports are considered a very important sector in the Algerian economy, as most of the consumer and industrial products are provided through it, which the local production is unable to provide at the appropriate price and quality or is completely unable to provide them. After the collapse of fuel prices starting in 2014, The trade balance knew a large deficit in addition to the deficit in the balance of payments, and given the weakness of the productive sector and the large structural imbalances that the Algerian economy suffers from, it was not possible to address this deficit by diversifying exports and raising their value, so the policy of reducing and curbing imports was resorted to at a rate that allows it By addressing these imbalances, which led to curbing imports over the previous years by an amount of 50% without studying the impact of this policy on the national economy and the Algerian citizen.

The study concluded that by reducing imports by 1% compared to the base year (2014), inflation levels will increase by 0.96% and per capita GDP will decrease by 0.16%, meaning that a reduction in imports by 1\$ billion will add an amount to the inflation rate in the same year. 1.07%, will reduce per capita GDP by 0.3%, hence the study hypotheses are acceptable.

- Recommendations:

Based on the results reached in this study, we make the following recommendations:

- The need to establish official channels for foreign currency exchange and transfer abroad, in order to eliminate the phenomenon of imaginary import and inflate import bills.

- The need for digitization to facilitate import procedures.
- Cancellation of customs duties and import licenses on capital and intermediate goods involved in production.
- Reducing customs duties and canceling import licenses for consumer goods, especially for goods not covered by local production.

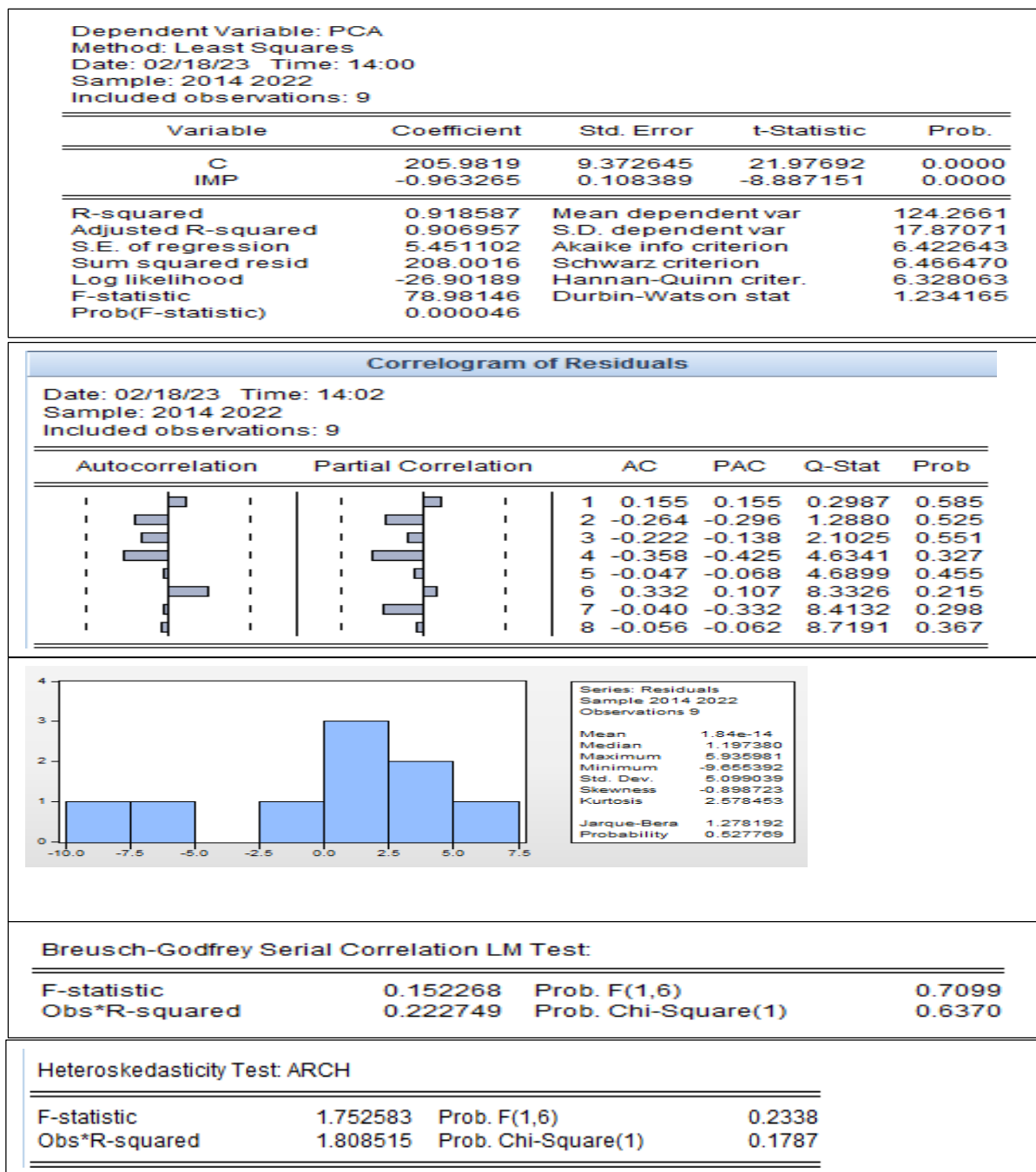
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7. Appendages

7.1 Appendix No. 01



7.2 Appendix No. 02

Dependent Variable: GDP

Method: Least Squares

Date: 02/18/23 Time: 14:10

Sample: 2014 2022

Included observations: 9

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	85.65225	3.209501	26.68709	0.0000
IMP	0.160861	0.037116	4.334037	0.0034

R-squared0.728513

Adjusted R-squared0.689729

S.E. of regression1.866636

Sum squared resid24.39031

Log likelihood-17.25677

F-statistic18.78388

Prob(F-statistic)0.003421

Mean dependent var99.29844

S.D. dependent var3.351111

Akaike info criterion4.279283

Schwarz criterion4.323111

Hannan-Quinn criter.4.184703

Durbin-Watson stat1.551510

Correlogram of Residuals

Date: 02/18/23 Time: 14:11

Sample: 2014 2022

Included observations: 9

Autocorrelation	Partial Correlation	AC	PAC	Q-Stat	Prob
		1 0.100	0.100	0.1246	0.724
		2 -0.434	-0.449	2.7929	0.247
		3 -0.223	-0.145	3.6103	0.307
		4 -0.225	-0.489	4.6101	0.330
		5 0.055	-0.139	4.6841	0.456
		6 0.327	-0.099	8.2065	0.223
		7 0.024	-0.241	8.2345	0.312
		8 -0.124	-0.175	9.7543	0.283

5

4

3

2

1

0

-4

-3

-2

-1

0

1

2

Series: Residuals

Sample 2014 2022

Observations 9

Mean1.58e-15

Median0.931212

Maximum1.738422

Minimum-3.217194

Std. Dev.1.746078

Skewness-0.661151

Kurtosis2.085412

Jarque-Bera0.969357

Probability0.615895

Breusch-Godfrey Serial Correlation LM Test:

F-statistic0.937153

Obs*R-squared2.453886

Prob. F(2,5)0.4512

Prob. Chi-Square(2)0.2932

Heteroskedasticity Test: ARCH

F-statistic0.173714

Obs*R-squared0.225102

Prob. F(1,6)0.6913

Prob. Chi-Square(1)0.6352