

The Algerian Economy: Between the Reality of Imports and the Prospects for Substitution - A Statistical Study on the Calculation of Foreign Trade Indicators Related to Imports in Algeria (1990-2023).

الاقتصاد الجزائري بين واقع الاستيراد وآفاق الإحلال-دراسة إحصائية لحساب مؤشرات التجارة الخارجية المتعلقة بالاستيراد في الجزائر للفترة 1990-2023.

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Abstract: This study analyzes the negative impact of Algeria's trade openness on its economy, focusing on import pressures from 1990 to 2023. The main research question is: How can an import substitution policy effectively reduce import pressures on the national economy? The methodology consists of three parts: reviewing previous studies on the link between import substitution, industrial diversification, and economic growth; outlining the theoretical framework of import substitution; and calculating foreign trade indicators related to imports. The findings show that Algeria faces significant trade exposure, with diverse and high-value imports negatively affecting GDP and causing a trade deficit. This highlights the need to boost local manufacturing, especially for widely consumed goods.

Keywords: Trade Balance, Economic Growth, Imports, Foreign Trade.

JEL Classification: F10, F14, F17.

ملخص: تهدف هذه الدراسة إلى تحليل التأثير السلبي للانفتاح التجاري الجزائري على اقتصادها، والضغط الذي تفرضه الواردات، وذلك للفترة بين 1990 و2023. وتتمثل إشكالية الدراسة في التساؤل التالي: كيف يمكن لسياسة التصنيع البديل للاستيراد أن تخفف من ضغط الواردات على الاقتصاد الوطني؟ واعتمدت الدراسة على منهجية تقوم على ثلاثة أجزاء: استعراض الدراسات السابقة التي تناولت العلاقة بين سياسة التصنيع البديل كخيار للتنوع الصناعي والنمو، ثم معالجة الإطار النظري لهذه السياسة، وأخيرًا احتساب مؤشرات التجارة الخارجية المرتبطة بالاستيراد. خلصت النتائج إلى أن الاقتصاد الجزائري يعاني من انكشاف تجاري، حيث تسهم الواردات بالتنوع والقيم المرتفعة، مما يؤثر سلبيًا على الناتج المحلي ويسهم في عجز الميزان التجاري، وهو ما يبرز ضرورة تعزيز التصنيع المحلي، خاصة للسلع واسعة الاستهلاك لتقليل التبعية وتحقيق التنمية. **كلمات مفتاحية:** الانفتاح التجاري، الواردات، التنمية الاقتصادية، إحلال الواردات، سياسة التصنيع.

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Introduction

Since the mid-1970s and early 1980s, several countries in Asia, Latin America, and Eastern Europe have adopted an industrialization policy based on import substitution to transition from the ranks of least developed countries to newly industrialized emerging economies. The first successful examples of this strategy include the Asian Tigers and Dragons, such as China, Malaysia, South Korea, and Singapore. In these modern economies, the manufacturing sector played a pivotal role in driving economic growth by fostering the production of consumer and capital goods. This strategic shift significantly contributed to reducing import dependence, diversifying exports, and expanding gross domestic product (GDP).

In contrast, the trajectory of African economies, such as Algeria, followed a different path. Algeria prioritized the development of a heavy industry sector as the primary driver of economic growth, focusing on the production of capital goods (machinery, industrial equipment) to support both industrial and agricultural sectors. This strategy aimed to achieve long-term import substitution of consumer goods, semi-finished products, and industrial inputs while fostering self-sufficiency and economic independence.

However, the national economy's heavy reliance on the extractive industry as the main source of development financing, coupled with the neglect of the manufacturing sector in generating value addition, undermined the effectiveness of the import substitution strategy for investment goods. By the early 1980s, the increasing import bill -covering food and non-food consumer goods, raw materials, intermediate goods, semi-finished products, and even industrial equipment- became a significant burden on the national economy. At the same time, the trade balance recorded a growing deficit, exacerbated by insufficient export revenues.

In this context, the question arises of redefining an import substitution strategy within a broader economic diversification model. The objective is to revitalize the manufacturing sector to diversify domestic production, reduce import dependency, enhance export competitiveness, and sustainably drive economic development.

Statement of the Research Problem: Building on the preceding analysis, our central inquiry is as follows: **How can import substitution industrialization policy effectively mitigate the import pressure on the national economy?**

Based on the main inquiry, we raised many sub-inquiries, which are:

- How does the raising import bill affect the pathway of economic development?

- What is the role that import substitution policy plays in easing the pressure of imports on the national economy?

Study hypotheses: The study is built on basic hypotheses, which are:

H1. Foreign trade's indicators, that are related to import, emphasize the negative effect of trade openness on the national economy.

H2. The trade openness negativity asserts the necessity of adopting an import substituting domestic manufacturing model.

Importance of the study: The importance of the study revolves around emphasizing on the negativity of imports on the economic development, where the import bill became a burden which weakens the overall economic policy and this is what asserts the negativity of the trade openness.

Study aim: This analysis underscores the need for a domestic import substitution strategy as both an industrial policy and a framework for economic diversification, aimed at reducing the import burden. This objective can be achieved by bolstering domestic production and developing an industrial sector that generates added value.

Temporal and spatial limits of the study: The study covers the data of the Algerian economy during the period of the trade openness and the return again to record the period 1990-2023.

Study Methodology: We have presented in the first part the studies that discussed the relationship between the import substitution policy as a model for diversification and industrialization, and the economic growth. In addition, in the second part, we have dealt with the theoretical framework of the import substitution policy. However, we have devoted the third part to calculating the of foreign trade's indicators that are related to imports.

1. Literature review: Some studies have dealt with analyzing the structure of the foreign trade and its various effects on the national economy. For instance, we mention:

Karouf (2020), in his study *"Analyzing the Diversification Indicator of the Foreign Trade Structure in Algeria Using the Herfindahl-Hirschman Formula"* published in the *Economic and Financial Research Journal* (Vol. 7, No. 1), measures the diversification of Algeria's export and import structures. His analysis reveals significant shortcomings in the existing structural framework of Algeria's foreign trade and underscores the necessity of enhancing the industrial sector's role to improve trade performance.

Similarly, Bounoua and Mounir (2018) examine the impact of trade policy on Algeria's foreign trade in their article *"Standard Modeling of the Trade Policy Reflexions on the Volume and*

Direction of the Algerian Foreign Trade”, published in the *North African Economics Journal* (Vol. 14, No. 19). Their study investigates the contrasting phases of trade liberalization and protectionism, finding that, aside from a substantial financial disparity in the growth of import volumes between the two phases, there is little difference in the overall impact on the volume and direction of foreign trade.

In contrast to these studies, our research provides precise quantitative analysis of import indicators in Algeria, benchmarked against international trade standards. Moreover, we propose policy solutions aimed at reducing import pressure through the development of a robust national industrial base.

2. Economic literature theorizing the significance of the import substitution industrialization policy

Bela (Bela, 1965, pp. pp99-123) examines alternative development policies inspired by the experiences of newly industrialized countries, notably South Korea and Brazil. He argues that these countries initially pursued a strategy of internal self-industrialization—gradually developing a domestic industry through the import substitution of consumer goods financed by raw material exports. This early phase was not primarily aimed at advancing manufacturing capabilities but rather at stimulating domestic production to relaunch economic growth, eventually progressing to the production of inputs and capital goods that demand higher levels of skill, capital intensity, and technological development.

Alain and Crener (Alain & Crener, 1982, pp. pp232-235) explore the impact of restrictive trade measures, such as customs and non-customs tariffs, designed to limit import volumes. Their findings suggest that while trade openness enables less developed and diversified countries to converge towards the levels of developed economies -by promoting competitive manufactured products on the international stage- the imposition of tariffs can also serve as a tool for managing trade deficits.

Wulwick (Wulwick,, 1992, pp. PP 36-54) emphasizes the pivotal role of the industrial sector in driving economic growth. Drawing on Kaldor’s economic model, he demonstrates that international trade development can be a catalyst for economic growth if accompanied by targeted sectorial advancements, particularly in manufacturing. His work finds a strong correlation between the added value generated by the manufacturing sector and the overall growth of gross domestic product (GDP).

Syrquin and Chenery (Syrquin & Chenery, 1989, pp. PP 145-175) analyze the interplay between domestic and external demand. They highlight how rising local investment and consumption, along with increased use of intermediate products, stimulate industrialization. This process -characterized by robust forward and backward linkages between the agricultural and industrial sectors- enhances domestic sales of raw and intermediate products, strengthens comparative advantage, and fosters the evolution of foreign trade.

Poirine (boirine,, 1996, p. P170) proposes a model for evaluating domestic demand that emphasizes the creation of a national supply to meet growing consumption needs. By increasing the domestic offer through a reduction in the average propensity to import, this strategy has a favorable impact on GDP growth.

Collectively, these studies underscore the importance of a multifaceted approach to economic development that integrates import substitution, industrial policy, and trade liberalization. Bela (1965) and Poirine (1996) stress the critical role of building a domestic industrial base as a means to reduce import dependency and stimulate growth. In parallel, Alain and Crener (1982) and Wulwick (1992) highlight how strategic trade policies -balancing trade restrictions and openness- can enhance manufacturing competitiveness and drive overall economic performance. Meanwhile, Syrquin and Chenery (1989) provide evidence of the dynamic relationship between domestic demand and external market forces, suggesting that fostering robust internal demand is essential for sustaining industrial growth and advancing foreign trade. Together, these contributions argue for an integrated policy framework where targeted import substitution, strategic trade interventions, and domestic market development collectively contribute to a resilient and growth-oriented industrial economy.

3. The arising of import substitution industrialization policy: Self-centered development as a model

Import substitution manufacturing is regarded as a development policy that emphasizes the pivotal role of domestic industry in achieving sustainable economic growth. This approach addresses the diverse import basket resulting from deficiencies in the existing production system. Economic theories have long maintained that industrialization is a viable means to break the cycle of dependency by reducing reliance on imported manufactured goods through local production. This model finds its intellectual roots in Friedrich List's (1857) advocacy for protectionist trade policies, which laid the groundwork for a strategy aimed at fostering domestic capabilities. Building on this foundation, Raul Prebisch argued that the chronic export of raw materials and simultaneous importation of manufactured goods in developing countries stem from the inability

of local industries to compete with mature foreign producers an assertion that underscores the constraints of limited domestic markets (Deubel, 2008, p. P 486).

In response, many Third World countries have adopted an inward-looking development model focused on expanding the internal market. This strategy seeks to mitigate economic fragility and instability caused by overreliance on a single resource -typically raw materials- resulting in an undiversified economic structure. Import substitution policies, therefore, aim to promote domestic manufacturing by nurturing and protecting emerging “arising industries” that produce goods internally. Ultimately, this approach is designed to liberate the economy from excessive dependence on international trade by gradually substituting imported goods with locally produced alternatives, thereby boosting national production to adequately meet domestic demand and stimulate the development of integrated regional markets (Brussell,, 2012).

4. Import substitution industrialization policy concept

Import substitution manufacturing is conceptualized as an industrial model designed to bolster the domestic production of goods that are traditionally imported, primarily through the imposition of import restrictions (El-Shorbag,, 1999, p. 8). This approach functions as a development policy that safeguards emerging domestic industries via a range of protective measures including tariffs, import and exchange quotas, price controls, preferential licensing for capital goods imports, and subsidized loans. As an economic theory, import substitution industrialization (ISI) is widely adopted by developing and emerging market countries seeking to reduce their reliance on developed economies, thereby promoting economic development through diversification of locally produced goods and services (Jackson & Jabbie, 2020, p. 2)

Furthermore, import substitution manufacturing is often portrayed as a commercial strategy that integrates with an open economy framework to diversify industrial capacity. By implementing customs barriers to protect domestic production and substituting imported ready-made goods with locally manufactured alternatives in the short run, this policy contributes to the growth and maturation of nascent industries. In doing so, it curtails domestic demand for foreign products, expands the scope of local production, and increases market share.

Moreover, ISI serves as a model for economic diversification by limiting the range of imports, thereby mitigating the transmission of international price inflation into the domestic market. It facilitates both horizontal diversification -through the introduction of new products within the same sector- and vertical diversification, which involves adding additional processing stages to imported inputs. This dual diversification strategy strengthens both forward and backward

linkages among sectors, ultimately leading to an increase in locally generated added value (Hvidt, 2013, pp. pp4-7).

5. Positive and negative effects of import substitution industrialization policy, and its most significant obstacles

5.1. Positive characteristics: The import substitution policy plays a significant role in realizing many economic targets, the most significant of which are:

- **Reinforcing Interconnectedness:** Strengthening the linkages between sectors and productive branches, where the import substitution industrialization strategy fosters integration among these sectors for example, through the development of subcontracting activities.
- **Enhancing Value Added:** Increasing value added and bolstering both forward and backward linkages so that the outputs of one sector serve as productive inputs for another (Al-Khatib Mamdouh,, 2014, pp. 6-8). These production linkages generate investment opportunities that facilitate the emergence of new industries. Furthermore, Hirshman (1958) argued in his work on unbalanced growth that such linkages serve as a benchmark for revitalizing the leading industries driving economic development (El-Shorbag,, 1999).
- **Establishing a New Industrial Base:** Developing a new, integrated local industrial base -as exemplified by the Asian Tigers-, which focuses on producing import substitutes and fostering industries that integrate with this base (Krugman & Obstfeld, 2000, p. 256).
- **Meeting Domestic Market Needs:** Addressing the requirements of the domestic market -in both the goods and labor sectors- by creating job opportunities.
- **Mitigating Import Pressure:** Recognizing that a diversified and increasing import basket exerts substantial pressure on the economy, leading to a leakage of a portion of the national income abroad (El-Safty,, 1977, p. 244)
- **Generating Foreign Currency:** Successfully substituting imported consumer goods with locally manufactured equivalents results in savings in foreign currency (Abu zeid Saber,, 1986, p. 24)
- **Eliminating the Pass-Through Effect:** Mitigating the pass-through effect or imported inflation -where high prices from producing countries are transmitted through imported goods- helps stabilize domestic prices (Ahmed Adbulah,, 2015, pp. 73-75).

5.2. Negative characteristics: Import substitution policy have had negative effects, which are represented in:

- The need to recruit more investments for rising the production and the reluctance of the domestic private investment in industrialization.
- It negatively affects the innovation and technology which stops flowing when a state prevents foreign imports, isolates markets and decreases the opportunities of imitating foreign products.
- Creating monopolies within the local market, which results in an unfair distribution of income.
- Absence of foreign competition, which hindered the domestic growth, and accordingly restraining the search for opportunities to evolve products locally.
- Unwillingness of the consumer, which is interested in the foreign goods to purchase domestic products, particularly if he finds himself paying the same amount for goods that are below the required quality. (Sten & Rusanna, 2022, pp. PP115-125).

5.3. Obstacles to import substitution industrialization strategy: Import substitution industrialization confronts the following obstacles:

- Shortage of resources and competencies, particularly the possibility of accessing to the required technology and equipment.
- Industry evolution has declined due to the absence of the required investment to rise the production, and accordingly the domestic demand rises and not the offer.
- Absence of the technological prop for the domestic industry. Therefore, the import substituting industrialization isolates markets, which result in slowing down the innovation.
- Shortage of the energy supply and the absence of the domestic infrastructure, which hinder the local companies from improving quality and quantity.
- The absence of competition that creates the necessity of evolving the activity. (Faleeh, 1993, p. 11_12).

6. Import substitution strategy phases

Adopting an import substitution industrialization strategy in the early stages aims to develop the economy. Therefore, arising industries and markets must be protected and oriented the internal offer of national production. So, the concentration is poured on evolving the consumer goods industry like: food and beverage industries, textile and clothing industries. And at a later phase after realizing a given threshold of evolution, the economy will be able to guarantee the real integration into the global economy after the good control over the technological level of the product. The economy is able to export products (like: Southeast Asia) through evolving towards more capitalist industries (the case of Latin America), which means reaching the industrialization phase which is directed to export or industrialization that is pushed by export, as it was adopted during the early phases of economic evolution of some Asian countries (Hong Kong, South Korea, Taiwan, Singapore) after the second world war. And this is done through accelerating the economy industrialization and achieving the growth of the gross domestic product by upgrading the products exports with competitive advantage (the experience of South Korea) (DAHOU, 2015_2016, pp. 49-50).

7. Algeria's experience in adopting the import substituting industrialization strategy and evaluating it:

7.1. First phase to restrict the manufacturing industries model: DEBERNIS (1967-1989) *"Industries industrialisantes"*

Algeria has adopted an import substitution industrialization strategy through the *De Bernis* model of manufacturing industries which relies upon developing the industry that is inspired by the Soviet Union experience and the French economist François Perrault's growth poles thesis which is concerned the unbalanced growth targeted at creating "Great industrial growth poles" (Debernis, 1971, p. p 547). Therefore, evolving the heavy industry results in evolving the light one and then the rest of the sectors, particularly agriculture, and then drives the industrial development and substitutes the economy's needs of capital goods: machinery, equipment and supplies as productive profits that boosts the economy growth through setting food, textile, leather and other light industries (Arab & Faradji, 2018, pp. PP6-10). However, depending on the revenue of exporting the oil income in financing the economic development has affected the development path negatively. And certainly, because of the successive oil crises from 1986 to 2014, the Algerian economy witnessed repeated shocks as a consequence of decreasing the oil prices. Where it has been proven the failure of using foreign investment (oil exports revenue) and

extractive industries in financing the domestic investment (manufacturing industries) (HANI, 1992, pp. 77-79).

7.2. Second phase: the switch phase to a market economy and commercial liberalization: 1990-2014.

Economic diversification has declined due to the failure of import substitution industrialization. Since 1989, imports have dominated the economy, marking a turning point in Algeria's transition from socialist economic management to a market-driven model and trade liberalization. This shift was accompanied by a contraction in the industrial sector and the state's withdrawal from a large number of economic institutions, enabling the import sector to regain a dominant position.

The manufacturing industry, which accounted for 18% of GDP in 1982, fell to 6% in 2004 and further to 5% by 2014, with this share remaining unchanged to the present day (Ahmed, 2001, pp. pp185-205). Despite Algeria's substantial foreign currency revenues and the implementation of economic programs such as the plan for enhancing economic recovery, no significant structural transformation has occurred. Instead, import expenditures have surged, absorbing financial resources and reaching unprecedented levels. Since the 2014 crisis, large sums of hard currency have been transferred abroad, while the policy of (Charef,, 2016, pp. 7-9).

7.3. Third phase :.Adopting the model of economic diversification and calling for rationalizing and substituting the imports:

The immoderate dependence of the national economy of hydrocarbons which reaches 40% of the gross domestic product, 97% of the value of exports revenues, and 40% of its revenues finance the public treasury reflects the fragility of the economy. And its dependence on the income to realize a degree of economic growth, and did not realize an economic development. And since 2014 in the midst of the heavy import bill particularly food commodities, the necessity of the economic diversification and diversification of the industrial sector that contributes to creating and diversifying wealth has been raised. Algeria has been listed among the adopted economic diversification model (2014-2030) evolving the industry according to what guarantees the rate of the economy growth to upper percentages between 2% and 5%. The necessity of adopting an import substitution policy through valuing the role of light manufacturing industry, and enhancing producing the widely used consumer goods for the sake of fulfilling the basic needs like: food commodities and production inputs. (Bouzidi, 2008, pp. PP4-6).

8. Foreign trade indicators related to imports:

8.1. Average inclination to import:

It is an indicator of dependence on imports or an indicator of penetrating the imports and it measures the size of domestic demand that imports fulfill. So, if the percentage is less than 20%, the economy is closed towards the global economy and it imports little, and if the percentage is 20% or more, the economy is opened and relies upon the outside world to secure the different goods. And the indicator shows the preferable degree of spending the achieved raises in the national income than importing foreign goods, and it expresses it by the following relationship:

$$\text{Average inclination to import} = \frac{\text{total imports}}{\text{gross domestic product}} \times 100$$

8.2. Score ratio of the trade balance to the gross domestic product:

It Measures the contribution of the net of the foreign trade sector from the gross domestic product, where the negative value reflects the negative effect of the imports on the growth of the gross domestic product, and the relationship between the trade balance as a percentage of the gross domestic product permits measuring the relative performance of the economy and the relative growth of real gross domestic product and is expressed by the following relationship:

Score ratio of the trade balance to the gross domestic product =

$$\frac{\text{Total exports} - \text{total imports}}{\text{Gross domestic product}} \times 100$$

8.3. Trade exposure index:

The trade openness ratio reflects the foreign trade value to gross domestic product and measures the significance of the foreign trade in the overall economy of the country. So, whenever the percentage exceeds 40%, the economy is considered discovered, and this indicates a raising linking degree between the gross domestic product growth rates and changes in the foreign trade and raising the degree of the economic situation vulnerability to external changes. And the trade exposure index is expressed by the following relationship:

$$\text{International trade ratio (trade exposure)} = \frac{\text{imports} + \text{exports}}{\text{gross domestic product}} \times 100$$

8.4. Foreign trade coverage ratio: It measures the ability of exports revenue to pay the import bill, the extent of the state's control over its imports, and the purchasing power of its exports and it is calculated by the relationship:

Foreign trade coverage ratio = $\frac{\text{total exports}}{\text{total imports}} \times 100$ (Foreign Trade Bulletin of the Arab Region,, 2019, pp. P, xii-xiii)

8.5. Diversity of the import structural construction: The immoderate growth average of the imports with a raising in their quantity and value characterizes their great diversity. In addition, through this indicator, we can determine all components of the import structure and when the price of any commodity raises we can determine and reduce it. So, if the biggest part of the imports represents the food commodities which are oriented to cover the domestic consumption or intermediate goods which are oriented to cover the productive consumption, the industry branch that represents prospects for import substitution policy can be diagnosed and scrutinized.

And in order to calculate the imports diversification degree, we follow the Herfindahl-Hirshman-Index and its formula, as following:

$$H = \frac{\sqrt{\sum_{i=1}^{i=N} \left(\frac{x_i}{X}\right)^2} - \sqrt{\frac{1}{N}}}{1 - \sqrt{\frac{1}{N}}}$$

Where (**N**) is the number of activities, (**x_i**) is the value of the variable in activity (**i**), and (**x**) is the total value of the variable in all activities. The parameter value ranges between zero to one, which means (**1**) ≥ **H** ≥ (**0**). So, if **H=0** there is complete diversity, **H=1** diversity is nonexistent, and the the result is concentrated in one activity. The high values of the parameter (**1** ≥ **H** ≥ **0.5**) reflect the economy weakness in distributing the activities in an equal manner (United Nations, 2008).

9. Calculating the foreign trade indicators that are related to imports for the period 1990-2023:

Before calculating the foreign trade indicators that are related to imports, we will analyze the structural construction of imports:

9.1. Analyzing the structural construction of imports for the period 1990-2023

Table N°1: Structural construction of the Algerian imports in percentages for the period 1990-2023.

Years	Energy products	foodstuffs	Raw materials	Semi finished materials	Agricultural equipment	Industrial equipment	Non-food consumer goods
1990	1.48	22.1	6.99	18.64	0.81	38.13	11.83
1991	3.33	25.23	5.34	24.23	1.99	30.50	9.37
1992	1.43	24.87	7.28	22.96	0.61	29.09	13.72
1993	1.42	24.77	6.77	23.60	0.63	29.21	13.60
1994	0.60	30.07	6.61	22.88	0.35	25.93	13.56
1995	1.09	25.58	7.33	22.04	0.38	27.29	16.27
1996	1.21	28.59	5.47	19.65	0.45	33.22	11.41
1997	1.52	29.29	5.74	18.00	0.24	32.61	12.60
1998	1.34	26.94	5.74	18.31	0.46	33.18	14.03
1999	1.68	25.17	5.12	16.88	0.79	35.13	15.23
2000	1.41	26.33	4.67	18.04	0.93	33.45	15.19
2001	1.40	23.95	4.81	18.83	1.56	34.56	14.75
2002	1.21	22.82	4.68	19.45	1.23	36.83	13.78
2003	1.06	19.79	5.09	21.11	0.95	36.61	15.61
2004	0.94	19.65	4.28	19.90	0.94	38.99	15.28
2005	1.04	17.62	3.69	20.08	0.79	41.52	15.26
2006	1.14	17.71	3.93	22.99	0.45	39.75	14.03
2007	1.17	17.93	4.80	25.71	0.53	30.86	18.96
2008	1.50	19.79	3.53	25.37	0.44	33.16	16.20
2009	1.40	14.92	3.05	25.87	0.59	38.53	15.64
2010	2.36	14.97	3.48	12.95	0.84	38.97	14.42
2011	2.46	20.85	3.77	22.62	0.82	33.97	15.51
2012	9.84	17.91	3.70	21.10	0.70	34.8	12.1
2013	7.91	17.47	3.34	20.46	0.92	36.20	13.6
2014	4.9	18.8	3.3	21.9	1.1	32.4	17.6
2015	4.6	18	3	23.3	1.3	33	16.8
2016	3.4	17.5	3.3	24.3	1.1	32.7	17.7
2017	4.32	18.32	3.32	23.85	1.33	30.38	18.48
2018	2.20	18.56	4.11	23.72	1.22	29.08	21.12
2019	3.42	19.23	4.80	24.56	1.09	31.48	15.40

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2020	2.66	23.54	6.69	23.17	0.60	26.63	15.31
2021	1.45	23.68	8.94	19.20	0.71	25.99	21.55
2022	1.51	23.53	6.79	17.70	0.69	25.69	24.09
2023	1.44	23.16	9.06	22.67	0.67	23.06	19.95

Source: Prepared by the researchers based on the national bureau of statistics bulletin.

"Statistical abstract 1960-2023 - foreign trade chapter".

It is evident that imported consumer goods account for over 60% of total imports on average, while investment goods represent 40%. The relative share of imported food and non-food goods stands at approximately 35%, whereas production inputs cover an average of 25%. This distribution highlights the structural weakness of the domestic production system in meeting the economy's demand for consumer and intermediate goods, underscoring the fragility of the industrial sector and its limited capacity for value creation. This reinforces the urgency of revitalizing the manufacturing sector as a means of import substitution.

9.2. Calculating the indicators of the commercial openness for the period 1990-2023

Table N°2: Calculating the indicators of the Algerian commercial openness that are related to imports.

Statement	Average inclination to import	Herfindahl-Hirschman index for import diversification	Score ratio of the trade balance to the gross domestic product	Trade exposure rate	Coverage rate
1990	25.06%	0,19319	- 1.71%	48.34%	93.17%
1991	23.50%	0,14636	5.69%	50.30%	124.24%
1992	23.33%	0,15249	2.08%	48.73%	108.92%
1993	23.10%	0,15611	-1.44%	44.72%	93.76%
1994	28.47%	0,16806	-5.49%	51.43%	80.71%
1995	31%	0,15363	-4.17%	57.73 %	86.15 %
1996	23.21%	0,19116	7.20%	53.63 %	131 %
1997	21.39%	0,18637	8.72%	51.50 %	140.77 %
1998	23.18%	0,17892	-0.13 %	46.23 %	99.42
1999	22.80%	0,18227	5.37%	50.93 %	123.59 %
2000	20.80%	0,17879	21.28%	62.86 %	102.38 %
2001	22.01%	0,17462	14.67%	58.70%	166.63 %

2002	25.63%	0,19139	9.78%	61.13%	138.52 %
2003	23.90%	0,18797	14.37%	62.12%	160.19 %
2004	25.65%	0,20512	14.40%	65.69%	156.16 %
2005	24.10%	0,22552	23.13%	71.27%	196.08 %
2006	21.92%	0,21778	26.89%	70.72%	222.68%
2007	24.90%	0,16654	22.19%	71.93%	189.25%
2008	28.71%	50,1819	19.26%	76.68%	167.08 %
2009	36%	40,2172	-0.58 %	71.32%	98.38%
2010	31.42%	0,13550	7.02%	69.86%	122.34%
2011	28.68%	0,17366	10.10%	67.47%	135.21%
2012	28.51%	0,15229	8.37%	65.40%	129.37 %
2013	30.40%	0,17275	2.80%	63.61%	109.24%
2014	31.90%	0,15132	-1.43 %	62.41%	95.68%
2015	36.79%	0,15832	-13.12 %	59.91%	64.05%
2016	35.05%	0,16386	-14.18 %	55.92%	59.24 %
2017	32.70%	0,14648	-10.38 %	54.98%	68.21%
2018	32.13%	0,15018	-6.67 %	57.58%	79.22%
2019	29.10%	0,15274	-6.38 %	51.80%	78.06%
2020	28%	0,12675	-10.38 %	45.32%	62.71 %
2021	26.51%	0,13811	0.22%	53.24 %	100.83%
2022	20.39%	0,14303	10.42%	51.20%	151.07%
2023	20.06%	0,12297	3.56%	43.68%	117.72%

Source: Prepared by the researchers based on data: Annual reports of the Bank of Algeria.

Through the first chart: values of the commercial openness indicators of the Algerian economy, we notice that:

- a) The average inclination to import has registered values greater than 20% throughout the study period that means from 1990 until 2022. This reflects the commercial openness' strength of the national economy, and reflects the crucial role of imports in covering the domestic demand. It is for sure that the values point at the defect of the productive system that is supposed to ensure a national offer which is able to substitute

imported ones. Nevertheless in 2023, the average propensity to import reduced slightly to 20.06%, which points out to the relative stability in import dependence.

b) The commercial exposure rate registered values greater than 50% which made the economy vulnerable to the international markets' effects, like: imported inflation of final products and intermediate commodities that inflate the price of the final product locally. Nevertheless in 2023, the rate of the trade exposure registered 43.68%, which points out at a decreased impact from international markets compared to previous years.

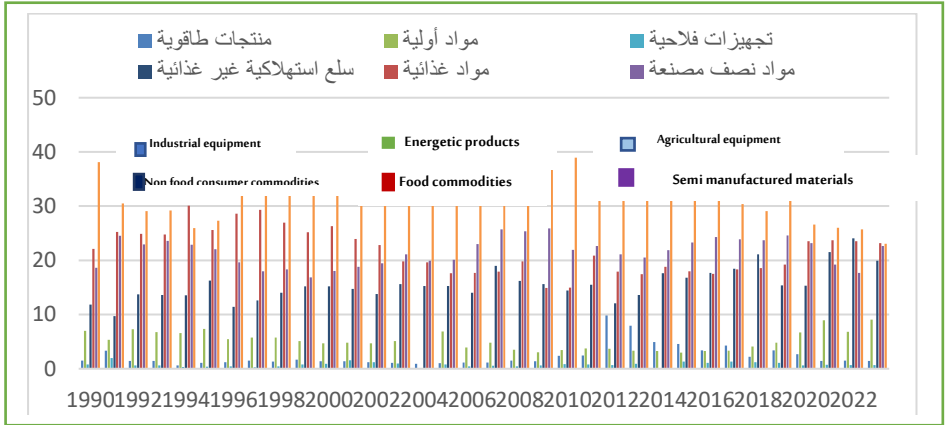
c) The trade balance has been attributed to the gross domestic product with negative values with every trade balance deficit when export revenues decline, and the import bill increases which follows the fluctuations of international markets like: oil exports. Nevertheless, the ratio of the trade balance to gross domestic product demonstrated a positive value in 2022, estimated at (10.42%). However, this does not hide the constant commercial deficit in the midst of increasing the import bill. As well as the ratio of the trade balance to gross domestic product decreased to 3.56%, in 2023. This reflects the constant challenges which the trade balance confront in the midst of the raise of the imports costs and the reduction in export revenues.

d) The coverage rate registered values less than 100%, with export revenues falling short of covering the imports bill. And if this indicates anything, it indicates the great pressure that imports exert on the national economy.

e) Values of the Herfindahl-Hirschman index for import diversification tend to zero, which reflects the diversity strength of the structural construction of the imports of investment goods and production inputs (semi manufactured materials and raw materials) and also food products.

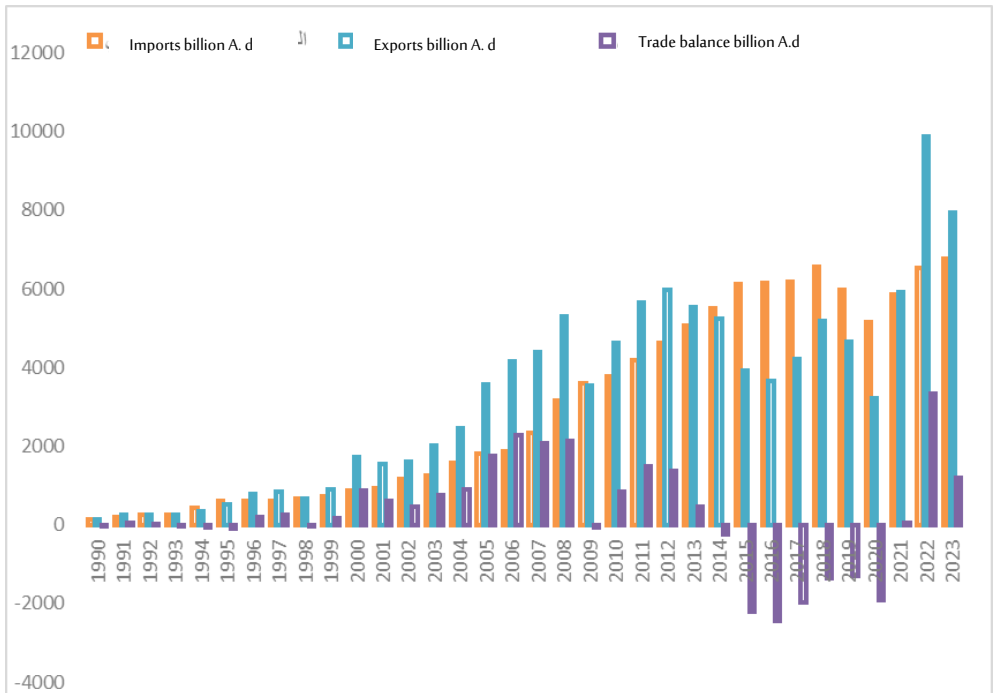
These product categories have registered growing rates during the period studied as demonstrated in the following figure:

Figure N° 01: The structural construction of the Algerian imports 1990-2023.



Source: Prepared by the researchers relying on the annual reports of the Bank of Algeria.

Figure N° 02: Development of the Algeria's foreign trade structure 1990-2023.



Source: Prepared by the researchers relying on the national agency's reports.

The structure of foreign trade has been marked by a significant decline in export values from 1990 to 2021, coupled with a sharp rise in imports and a persistent trade balance deficit. However, the trend reversed in 2022 and 2023, with imports decreasing, exports improving, and the trade

balance showing a notable recovery. It is important to note that trade balance deficits are closely linked to the economy's limited capacity to finance imports.

This situation underscores the necessity of adopting an industrial policy aimed at developing domestic manufacturing, particularly in strategic sectors with strong future potential, such as food industries and production inputs. Strengthening these sectors would support import substitution and promote greater product diversification, reducing reliance on low-value-added industries like hydrocarbons and services. This shift is particularly crucial given the ongoing decline in industrial and agricultural contributions to GDP, as illustrated in Table (3).

Table N° 03: The structural construction by percentage of economic activities with values of the Herfindahl Hirschman index of the raw domestic product diversification in the raw local product 1990-2023:

Years	Fuel	Agriculture	Industry	Construction and public works	Services	Total %	Herfindahl-Hirschman index for raw domestic product diversification
1990	35.59	13.36	14.15	13.07	23.83	100	0.07424
1991	39.06	13.60	13.23	11.29	22.82	100	0.10160
1992	36.08	13.96	13.84	12.12	24.00	100	0.07938
1993	33.15	13.04	13.02	13.41	27.38	100	0.07145
1994	35.03	11.42	12.68	13.29	27.58	100	0.08587
1995	39.03	11.27	11.12	12.22	26.36	100	0.11399
1996	44.73	10.09	9.46	10.89	24.83	100	0.17031
1997	30.2	8.7	8.0	10	43.1	100	0.18375
1998	22.5	11.5	9.1	10.6	46.3	100	0.17685
1999	27.4	11.1	8.6	9.5	43.4	100	0.16685
2000	39.4	8.4	7.2	8.2	36.8	100	0.19657
2001	34.1	10.0	7.4	8	40.5	100	0.18347
2002	32.8	9.3	7.3	9.2	41.4	100	0.16852
2003	35.6	9.7	6.6	8.5	39.6	100	0.18840
2004	37.9	9.2	6.1	8.3	38.5	100	0.19820
2005	44.3	7.7	5.6	7.5	34.9	100	0.23175
2006	45.6	7.5	5.2	7.9	33.8	100	0.23958
2007	43.5	7.5	5.1	8.8	34.9	100	0.22545
2008	45.3	6.4	4.7	8.7	34.9	100	0.24736
2009	31.5	9.3	5.3	11.1	42.8	100	0.17685
2010	34.9	8.5	5.1	10.5	41	100	0.19820

2011	35.9	8.1	4.6	9.1	42.3	100	0.22069
2012	34.2	8.8	4.5	9.2	43.3	100	0.20467
2013	29.8	9.9	4.6	9.8	45.9	100	0.21432
2014	27.1	10.6	5	10.8	46.5	100	0.20467
2015	18.8	11.6	5.4	11.5	52.7	100	0.24736
2016	17.4	12.3	5.6	11.9	52.8	100	0.24581
2017	19.5	11.8	5.6	11.8	51.3	100	0.23176
2018	23.1	12.3	5.6	11.9	47.1	100	0.19332
2019	20.3	12.8	5.9	12.7	48.3	100	0.19658
2020	14.5	14.3	6.5	13.5	51.2	100	0.22228
2021	23.1	12.6	5.8	12.1	46.4	100	0.18347
2022	19.6	10.4	10.3	12	47.7	100	0.09866
2023	16.1	12.9	7.8	12.9	50.3	100	0.09846

Source: Prepared by the researchers relying on the annual reports of the Bank of Algeria for economic and monetary development.

Despite the declining relative contribution of the hydrocarbon sector to GDP, which has fallen to around 20%, the agricultural and labor-intensive sectors continue to play only a marginal role. This reflects a persistent weakness in value creation within the national economy, as the industrial sector's contribution to GDP remains below 6%. Instead, services account for the largest share of output, highlighting the inconsistency of economic diversification. This is further confirmed by the calculation of the Herfindahl-Hirschman Index, which reached a value of 0.25, indicating a moderate level of output concentration. The observed diversification primarily stems from sectors such as construction, public works, and services, while the expected expansion of manufacturing and agriculture remains an unmet objective. Consequently, Algeria continues to rely heavily on imports to meet domestic demand due to the structural weakness of national supply.

The calculated indicators, which deviate significantly from international benchmarks, underscore the pressure of imports on the Algerian economy and highlight the structural deficiencies of foreign trade. This situation is largely attributable to the inability to ensure an adequate supply of domestically manufactured goods to meet national demand. As a result, there is an urgent need to implement an effective import substitution strategy by fostering local production and developing a strong industrial base to enhance the competitiveness of the national economy.

Conclusion

This study aimed to examine the impact of import dependence on the Algerian economy, particularly given that import expenditures represent a significant outflow of national income in

hard currency. Through the calculation of import-related indicators, the findings highlight Algeria's excessive reliance on foreign goods, which has undermined the intended benefits of trade liberalization. Despite policy shifts, the national economy remains heavily dependent on imports to meet domestic demand for manufactured goods. This persistent reliance underscores the structural weakness of the manufacturing sector in ensuring an adequate domestic supply.

In response, we propose the adoption of an import substitution industrialization (ISI) model as a strategic approach to gradually reduce import dependency and foster domestic production. To test our hypothesis, we analyzed foreign trade indicators related to imports, which confirm the adverse effects of trade liberalization on the national economy. These findings reinforce the urgent need to implement a robust import substitution strategy to mitigate external vulnerabilities.

Key Findings:

- The structure of Algerian imports continues to expand and diversify due to the persistent weakness of the industrial production system.
- Import-related foreign trade indicators show a downward trend, reflecting the significant pressure exerted by imports on the economy.
- Trade openness has had a detrimental impact on Algeria's economy, as evidenced by the chronic trade balance deficit and the erosion of export revenues, to which rising import costs have significantly contributed.
- Dependence on imports to meet domestic demand has weakened national supply capacity, negatively affecting the performance of domestic enterprises—particularly small and medium-sized businesses—while discouraging investment.
- The import substitution industrialization model presents a viable strategy for reducing import-induced economic pressures, particularly within the foreign trade structure.
- Import substitution policies can enhance domestic production capacity, especially for consumer goods, ensuring a sufficient local supply.

Policy Recommendations :

- Strengthening the role of import substitution policies in reducing reliance on foreign goods and enhancing national production capabilities.
- Supporting the development of small and medium-sized enterprises (SMEs) in basic industrial sectors, such as food processing and consumer goods manufacturing, to replace imported products with locally produced alternatives.
- Prioritizing the agricultural sector to facilitate food industry import substitution and improve national food security.

- Identifying high-volume imported consumer goods that heavily burden the trade balance and implementing targeted industrial policies to replace them with domestically produced alternatives in the short term.

Import substitution industrialization represents a self-sustaining model for internal economic development, rooted in strengthening domestic industrial capacity, optimizing resource allocation, and leveraging local expertise. By transitioning from excessive import dependence and the negative effects of unregulated trade liberalization towards a more strategic and selective openness—focused on importing only essential capital goods while expanding export diversification—Algeria can foster sustainable economic growth. Import substitution, particularly through the advancement of domestic manufacturing and technology-driven industries, can serve as a catalyst for integrating foreign trade into a long-term national development strategy.

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