The structuring levers of the competitiveness of the Algerian economy Lessons from a benchmark with some comparable economies: Morocco, Tunisia, Turkey, South Korea, Malaysia

الآليات الهيكلية لتنافسية الاقتصاد الجزائري

دروس مقارنة مع عدد من الاقتصاديات: المغرب، تونس، تركيا، كوريا الجنوبية وماليزيا

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Abstract

This contribution aims to identify the levers, if they are implemented, that would allow Algeria's economy to be competitive and to begin to overcome its structural dependence on hydrocarbons. After highlighting the differences in the definition of competitiveness and choosing the structural dimension to evaluate the state of the Algerian economy, a benchmark approach was undertaken with a few comparable economies (Tunisia, Morocco, Turkey, South Korea, and Malaysia) to measure the distance in performance that separates the national economy from these economies, based on four structuring levers (a voluntarist policy, controlled international openness, targeted support for SMEs and an education system that is equal to the economic challenges). The results of the benchmark confirm that competitiveness in its structural dimension is the result of a policy that is built over the long term and that the underperformance recorded by Algeria requires urgent action and structural reforms.

Keywords
Algerian economy - structural competitiveness - structural levers - benchmark - Integration into international trade

ملخص:

يهدف هذا المقال إلى تحديد الآليات الهيكلية التي من شأنها تحسين القدرة التنافسية للاقتصاد الجزائري وتحريره من الاعتماد الهيكلي على المحروقات. بعد تسليط الضوء على الاختلافات حول تعريف التنافسية واعتمادنا لبعدها الهيكلي لتقييم حالة الاقتصاد الجزائري، تم إجراء مقارنة معيارية مع عدد من الاقتصاديات المماثلة (تونس، المغرب، تركيا، كوريا الجنوبية وماليزيا) من أجل قياس مسافة الأداء التي تفصل الاقتصاد الوطني عن هذه الاقتصاديات. المقارنة تمت استنادا إلى أربعة عوامل هيكلية (سياسة إرادية مخططة، انفتاح اقتصادي متحكم فيه، دعم موجه للشركات الصغيرة والمتوسطة ونظام تعليمي في مستوى التحديات الاقتصادية). تؤكد نتائج المقارنة المعيارية أن التنافسية في بُعدها الهيكلي هي نتيجة سياسة يتم بناؤها على المدى الطويل وأن الأداء الضعيف الذي سجلته الجزائر يتطلب منها التصرف بشكل عاجل والشروع في إصلاحات هيكلية.

الكلمات المفتاحية: *الاقتصاد الجزائري – التنافسية الهيكلية – الآليات الهيكلية – مقارنة معيارية – الاندماج في التجارة الدولية*

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1. INTRODUCTION AND PROBLEM

After a decade of the financial boom (2000-2012), the fall in oil prices from 2014 onwards has hit the Algerian economy, which is based on hydrocarbon rents, hard. The immediate consequences of this fall are a drastic drop in revenue and foreign currency reserves, the freezing of public projects and equipment, the reduction of imports, and the rise in inflation, to name but a few.

Despite the announcement of a two-phase development strategy for 2016-2019 and 2020-2030, aiming in the first phase for a return to budgetary equilibrium and in the second an economic diversification and energy transition, it must be noted that no progress has been made in the established scenarios. On the contrary, since 2019, the country's political instability has had a strong impact on the business climate. The health crisis of the COVID-19 pandemic, which followed, has further aggravated and revealed the extreme structural vulnerability and fragility of the nationali economy, a fragility that the political leaders seem powerless to face.

The public authorities are announcing an awareness of the need to rationalise budgetary choices and, above all, of the imperative of diversifying the economic offer in the current context of strong competitiveness. This announcement was made public with the publication in July 2016 of a new economic growth model, preceded by the CNES economic report (2015), which joined those drawn up by national scientists, professionals, and think tanks as well as international institutions (IMF, its 2016 and 2018 reports, World Bank 2021, among others).

Nevertheless, if some levers affecting the demand are activated (import ban of certain products), it must be noted that the same is not true for product supply. Indeed, once it is accepted that "the ultimate proof of a nation's industrial capacity is the competitiveness of its manufacturing enterprises on the international market" (Lall, 1990)[ii], little effort is being made to revitalise the existing productive fabric and to place it in a perspective of international competitiveness and attractiveness, for lack of a well-thought-out and effective policy of regional integration and global value chains. Moreover, it is in this perspective that Morocco and Tunisia, as well as other countries such as South Korea, Malaysia, and Turkey, have found their productive base and have succeeded in their integration into international trade.

This contribution aims to highlight the issue of competitiveness for the Algerian economy by emphasising its structural and institutional foundations. An institutional reading is necessary, firstly because of the structural nature of the crisis in the Algerian economy, and secondly because of the political determinism that weighs on any prospect of changing the development trajectory. The monitoring of the evolution of some indicators below confirms this institutionalist reading and indicates that the country suffers from a lack of a clear development policy and an effective long-term strategy.

Firstly, after highlighting the lack of consensus on the definition of the notion of competitiveness, we will assess the state of competitiveness of the Algerian economy, illustrating this with a set of structural indicators. Secondly, a benchmark with some countries will allow us to identify the key factors behind their success. These levers are justified by their structuring effects on the country's economic competitiveness. Finally, this benchmark will lead to several

recommendations that can be implemented immediately, as they condition the effective implementation of these levers. It is a question of making effective the commitment of the State with that of the private sector, in coordinated frameworks of win-win partnerships.

2. DEBATE ON THE NOTION OF COMPETITIVENESS

2.1. From the competitiveness of companies to the competitiveness of territories: two dimensions that are difficult to reconcile

In the literature, many definitions of competitiveness have been proposed, but without consensus in the economic sphere (Bellone & Chiappini, 2016). First, the term competitiveness comes from the business world. It is applied to an industrial process, a product, or a company. Then, its use was extended to mean the ability of a company, a sector of activity, or all the economic players in a country to maintain or increase its market share against foreign competition.

While competitiveness at the company level can be measured by indicators such as market share, price level, product quality, etc., the competitiveness of a territory is difficult to assess or quantify. Moreover, the transposition of the concept of competitiveness to territories, illustrated among others by the publication in 1990 of M. Porter's book The Competitive Advantage of Nations, has been challenged by some authors, notably by P. Krugman (1994)[iii], see also (Fontagné & Toubal, 2011). Indeed, Michael Porter has developed a so-called 'diamond model' in which he explains why nations tend to be more competitive in some industries than in others. This model suggests that national advantage is based on four interdependent factors:

- Specific conditions on factors of production: Some countries benefit from particularly favourable factors of production that benefit local companies on the international scene;
- Local demand: the level of demand, the requirements, and the specificities of local customers can become a source of competitive advantage internationally.
- Mutual stimulation: The existence of interdependent industrial clusters can contribute to the construction of competitive advantage. The example of Silicon Valley (in the technological field) in the USA is a flagrant example of the major role of a grouping of companies in the same sector in terms of international competitiveness. The notion of "cluster" or "competitiveness pole" fits well into this logic.
- Competition between firms: An intense level of competition in the domestic market can be a factor favourable to success at the international level: search for excellence, the competitive spirit...

Figure 1. Michael Porter's diamond model

***Source**: Porter 1990a, p. 127.*

The World Economic Forum WEF states in the 2009-2010 report: "We define competitiveness as the set of institutions, policies, and factors that determine the level of productivity of a country. The level of productivity, in turn, determines the sustainable level of prosperity that an economy can achieve. In line with this (Aiginger, 2006) proposes a "reconciliation" between these two extreme conceptions (price competitiveness and welfare competitiveness). Another contribution (Aiginger et al., 2013) suggests redefining the term competitiveness, from a perspective that aims at a new, more dynamic, socially inclusive, and environmentally sustainable growth path, to enhance its usefulness for the assessment of country performance and policy decisions. In their analysis of the performance of the EU-27 countries, in addition to the price competitiveness dimension, the authors have integrated the other structural dimensions (the economic structure and the countries' capacities in terms of innovation, education, systems, institutions, and environmental ambition).

Despite the vagueness and complexity of the concept of competitiveness, a trend is emerging from recent studies by integrating structural aspects, such as the importance of intellectual capital formation and the capacity of society to innovate (Carayannis & Grigoroudis, 2014), as in the concept of "competitive productivity (CP)", proposed by (Chen & Lin, 2020) based on a literature review of 293 articles and combining culture, productivity, and competitiveness (Delgado et al., 2012). The authors, after defining "foundational competitiveness" as "the expected level of output per working-age individual that is supported by the overall quality of a country as a place to do business", propose an analytical framework highlighting three general and interrelated drivers of this competitiveness: social infrastructure and political institutions, monetary and fiscal policy, and the microeconomic environment.

In the panoply of definitions, some combine competitiveness with export performance (Bussiere et al., 2014). The competitiveness of a country's enterprises thus refers to the attractiveness of the goods and services that these enterprises produce for foreign enterprises or consumers. In other words, it is the ability of a country to export. This definition is close to that of the OECD (1996), ivaccording to which competitiveness is "*the ability of firms, industries, regions,*

nations or supranational groupings to generate a relatively high level of income and employment on a sustainable basis while being and remaining exposed to international competition".

In sum, and despite their diversity, it is clear from these definitions that the purpose of competitiveness is to improve people's quality of life even while seeking to increase productivity levels.

2.2. The two dimensions of competitiveness: price and non-price

Competitiveness is understood here in its structural dimension (non-price/cost), whose key factors are qualitative and difficult to quantify (Durand & Giorno, 1987), for example, the image and quality of the product, the degree of its complexity, the way it is marketed, the qualifications of the workforce, the quality of technological innovation, the quality of the infrastructure, etc., but it implicitly includes the price/cost dimension (which depends, among other things, on the costs of production factors). This refers to the ability to win market shares due to a lower price level than competitors. If the first type of competitiveness is built in the long term, the second type is rather activated in the short term.

In the following, structural competitiveness is considered as "the ability to produce a quality offer that can be successful in domestic and foreign markets. It goes beyond the mere ability to offer competitive prices, including through the manipulation of the export exchange rate. It requires, among other things, a world-class business environment, good governance, productive human capital, standard infrastructure, a deep financial system, and the development of technological innovations. (Lo & Sy, 2020)".

Structural competitiveness can be assimilated to the "attractiveness" dimension in the sense of an aggregation of market, human and financial capital, infrastructure, political and economic governance, alongside price competitiveness and vulnerability, as shown in the definition of "sustainable competitiveness" by the Sustainable Competitiveness Observatory (SCIO) of the Foundation for International Development Studies and Research (FERDI) (Plane & Da Piedade, 2018). It is considered not only as a strategic choice for companies, but also as the outcome of an industrial policy, with social issues at stake, and where the social partners are invited to participate in its definition and implementation (Sauviat & Serfati, 2013). Consequently, the governance dimension, whether corporate or on a territorial scale, as a mode of coordination between stakeholders, becomes the essential determinant in the construction of the competitiveness of an economy (Paquet, 2006). The recourse to structural and institutional determinants is important to explain the differences in investment activity and competitiveness between developed and developing countries, particularly in Africa, as demonstrated by Chuku, Onye, and Ajah, in (Seck, 2017).

This conception of competitiveness, with its structural and dynamicv aspects are necessary to fully understand the challenges faced by companies, industries, and even countries moving forward (Ernst & Haar, 2019). This highlights the role that the state must play in designing and implementing policies that foster increasingly competitive environments to facilitate growth and improve the living standards of their citizens, notably through competitiveness clusters (which underpin competitiveness in its many dimensions and price and non-price measures) (Nallari &

Griffith, 2013). This leads us to carry out a benchmark between Algeria and some economies, based on qualitative indicators, after having highlighted some illustrations of the counter-performances recorded by the country in recent years.

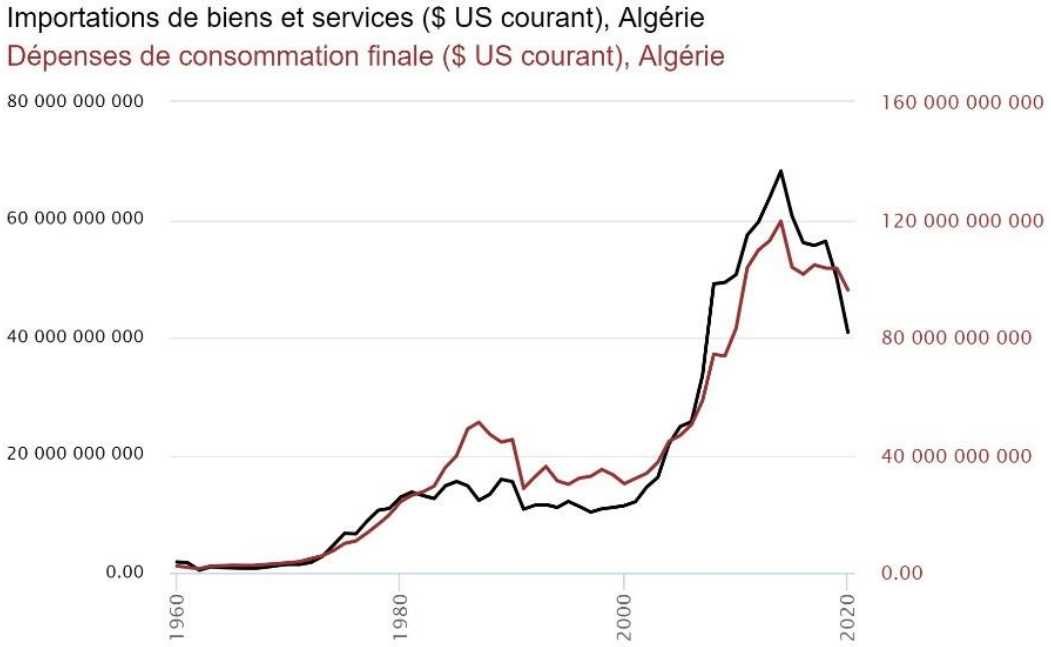
3. MAIN FINDINGS ON THE STATE OF COMPETITIVENESS OF THE ALGERIAN ECONOMY

3.1. Weak commitment and difficulties in positioning themselves internationally

Indeed, a few years before the oil crisis of 2014, the Algerian economy experienced an improvement in its macroeconomic aggregates (GDP, trade balance, inflation, debt reduction, etc.). But since the crisis, some indicators are beginning to show signs of weakness and underperformance. For example, the deficit in the balance of trade in goods and services is widening. This deficit is due to an increase in imports and, above all, to a deficiency in the industrial sector. The consequences are the fall in financial reserves (Revenue Regulation Fund) that the country accumulated during the decade 2000. The COVID-19 pandemic accentuates the crisis on the economic and social levels.

However, the most worrying observation is the difficulty of the Algerian offer to position itself successfully in its markets, both domestically and internationally in the two periods before and after the Covid-19 crisis. Hence a real problem of the competitiveness of this offer. This is illustrated in the domestic market, by the domestic demand for goods and services which is increasingly covered by imports, to the detriment of local production, which is growing less rapidly (see Graph 1 and see also the survey carried out by the ONS in 2016) and, in recent years (2016-2018), has seen a decline in the productive capacity of public enterprises affecting all sectors (except agri-food), particularly the hydrocarbon sector (see Report (ONS, 2019)[vi]).

Graph 1. The coverage of domestic demand for goods and services by imports

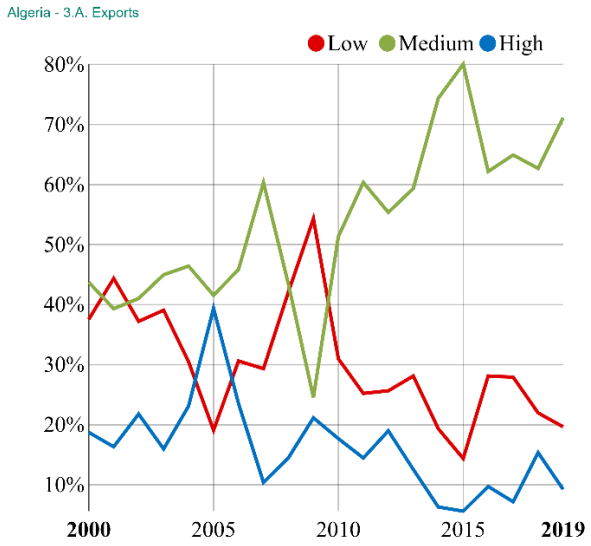


Source: World Perspective, University of Sherbrooke. Consulted on 07/11/2021

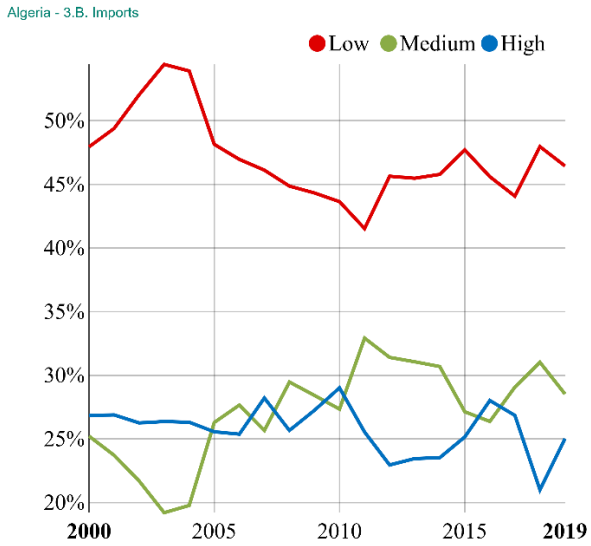
Qualitatively, this strong need for imports is paradoxical, even worrying, in the sense that there is a discrepancy between, on the one hand, the profile of national production, which is not very diversified and concentrated on hydrocarbon products and a few by-products (see below), and, on the other hand, the national needs for products which are less sophisticated and of low added value (fortunately decreasing), as shown by the structure of manufacturing trade (Graph 2). Indeed, graph 2 illustrates the choice made by Algeria to import low-end products. This can be explained, among other things, by the repositioning of China, in recent years, among Algeria's leading partners and by the profile of Algerianvii importers. As for exported manufactured products, those of the middle range have become increasingly preponderant in trade over the last twenty years. The growth of this range shows that the potential for exporting value-added products exists and should be encouraged (see graph in Annex 6 on Algeria's export potential). However, using this criterion, a benchmark with some economies shows the country's delay in the integration of international trade.

Graph 2. Algeria - Structure of manufacturing trade by a range of unit values (as % of total exports or imports of manufactured goods, change 2000-2019)

Exports



Imports



Source: Chelem database, Algeria profile

This paradox can only be explained by the absence of a controlled opening trade policy as well as the lack of control over trade due to the weak regulatory power of public institutions in the face of the pressure of national demand and the lobbying of importers. Moreover, the structure of manufacturing trade reveals the absence of an effective technology transfer policy: for example, despite the state's support, from independence to the present day, for the energy sector and the national company SONATRACH, the country continues to pay the import bill for about one to two billion dollars of petrol and diesel between 2019 and 2020. The company, as a pivotal firm, has not been able to contribute to the creation of a business ecosystem around hydrocarbon processing activities (petrochemicals among others).

Moreover, if investment in these activities is committed, it must be thought that, from an export perspective, these hydrocarbon products are of a low level of complexity. However, according to the Product Space approach, developed by Ricardo Hausmann at the Growth Labviii of the Harvard Center for International Development, countries are more successful in diversifying when they engage in production that requires similar know-how and builds on existing capabilities. The notion of a country's Product Space illustrates the relationship between its exports and the potential ways of diversifying its economy. In the case of Algeria, from 2004 to 2019 (i.e. for fifteen years), the country was only able to place on the international market two new products (sugar cane and float glass) produced by the private sector. Tunisia on the other hand, despite the crisis of the last few years, has been able to put 34 new products on the market (see table below).

Table 1. Number of products and values placed on the international market by selected countries between 2004 and 2019

Country	New products	USD per capita	USD (total value)
Tunisia	34	90 $	1.06 billion
Spain	18	58 $	2.73 billion
Libya	3	158 $	1.07 billion
Algeria	2	4 $	175 million

Source: Atlas of Economic Complexity: https://atlas.cid.harvard.edu/countries/66/export-basket

The choice to focus on trade in low-value-added goods reveals a double internal and external weakness that is manifested by Algeria's lack of commitment to international competitiveness. This is also reflected in the relative weakness of the world market share due to the Algerian offer. The latter has not been able to take full advantage of the growth of world trade in certain markets. Indeed, as shown in graph 3, the prospects for diversification of the external markets of four economies, drawn up by the International Trade Center (ITC) by crossing the share of partner countries in the country's exports with the annual growth of imports from these countries, Algeria's supply is insufficient in its trade with countries (USA, China, Netherlands, Turkey, France, Brazil, etc.) (represented in light grey), which experienced significant growth in their imports in 2020. Bilateral trade with these countries is unfavourable for Algeria and calls into question its bargaining power. The graph also shows a low diversification of partners (on the extreme right, the countries with which Algeria's trade is important: Italy, France, and Spain. (Black colour). In short, with these countries, Algerian exporters have not taken advantage of the context of growth in imports from these countries, nor their geographical proximity to Algeria.

Morocco and Turkey have been able to take advantage of their geographical proximity to their partners to increase the level of their offers, unlike Algeria and Tunisia (to a lesser degree). Even with distant countries, Morocco has been able to take advantage of the growth of their demand (Brazil, United States, Netherlands, Germany...) (see Figure 2 of graph 3).

Graph 3. Prospects for diversification of the external markets of Algeria, Tunisia, Morocco, and Turkey (the year 2020)

Source: ITC, Trademp.

In summary, Algeria's export dynamics over the past five years have been driven by minerals. Worryingly, mineral exports have fallen. As a result, Algeria's economic growth has been hampered by its concentration in a declining sector of world exports. The country needs to engage in a structural transformation process of reallocating economic activity from low to high-productivity sectors. Agriculture, textiles, electronics, and/or machinery manufacturing are among the sectors to be revitalised.

The problem of export diversification is amplified by the weakness of the price competitiveness of Algerian products in external markets. This weakness is due both to the low commitment of private companies (high-risk aversion and low export capacity, the ratio is one (01) exporter for about 40 importers[ix]) and to the environment in which they operate (high logistical costs of 30% to 35%[x], due to the lack of infrastructure; and high costs of imported raw materials...).

The paradoxical situation of price competitiveness in Algeria is reflected in the presence, on the one hand, of certain determinants that constitute a strong point for the national economy from an export perspective: the low level of production factor costs (labour and capital), added to the depreciation of the national currency and the real effective exchange rate, which, together and according to the OCD Sustainable Competitiveness Observatory, could have boosted exports. But

on the other hand, some factors negatively affect the country's price competitiveness. These include the low level of logistics infrastructure (Algeria ranks 117th out of 160 countries, according to the World Bank's Logistic Performance Index LPI 2018), which is the cause of high logistics costs. Unfortunately, the country has failed to take advantage of the natural resource windfalls to invest in viable infrastructure[xi].

In addition, to assess Algeria's competitive strength in exports, the use of the indicator of revealed comparative advantages (RCA) makes it possible to understand the differences in productivity (the strong and weak points) of the country, by considering both its exports and its imports, independently of the impact of the macroeconomic situation of the country on its trade balance. In the 2020 CHELEM database, as shown in the table in Annex 4, over the last twenty years (1999-2019), Algeria's RCAs have been concentrated in hydrocarbon products and, to a lesser degree, in chemical products. However, these benefits have been on a downward trend over this period[xii]. According to experts, after the crisis of 2014, barrel prices above the 100 dollars reached during the 2000 decade of the financial boom, would no longer be possible. In the coming years, these benefits will further decrease, in particular, due to the decrease in oil demand (see graph in Annex 7).

On the other hand, the figures on comparative disadvantages over the last twenty years concern all sectors of activity from services, through agriculture (cereals) to the mechanical and pharmaceutical industries (see also the table in Annex 4). They reveal that the country has not engaged in any national strategy of economic diversification. The consequence is the loss of contracts awarded to countries that have mastered their international openness, whether through the integration of global value chains (Tunisia) or through the attractiveness of FDI (Morocco), as we will see below.

3.2. A worrying rank according to the competitiveness indicators which reflects the distance separating the Algerian economy from other economies

The difficulties encountered by Algerian companies in internationalising (in terms of number and volume of business) have resulted in inestimable market losses and explain the country's low levels of growth. The rankings drawn up by international organisations give some idea of the distances separating the national economy from its competitors. These rankings are made based on composite indices that combine several aspects of competitiveness. Although the methodologies for compiling these indices are different, and the measures are subject to criticism (Durand & Giorno, 1987), structural aspects are present in the majority of assessments. Among these indices, we highlight :

3.2.1. The Global Competitiveness Index

Established by the World Economic Forum, the Global Competitiveness Index - ranging from 7 (maximum competitiveness) to 1 (minimum competitiveness) - measures the economic competitiveness of the world's states. Since the 2018 ranking, the GCI combined macroeconomic and microeconomic aspects of competitiveness into a single index through 98 indicators divided into 12 categories: Institutions - Infrastructure - Macroeconomic stability - Healthy life expectancy and primary education - Higher education and training - Efficiency of goods markets - Efficiency of the

labour market - Development of financial markets - Ability to use existing technology - Size of the domestic market and exporting internationally - Production of new and different goods using the most sophisticated production processes - Innovation.

Out of 134 countries, Algeria occupied 86th place in 2018. Switzerland, the United States, Singapore, the Netherlands, and Germany are at the top of the ranking.

3.2.2. The World Economic Forum's Doing Business Index (2020 edition)

Used to assess the business climate and therefore the level of attractiveness of competing countries. Out of 190 countries, Algeria is ranked 157th. If the market aspect is still the country's asset, the quality of institutions, innovation, technological absorption capacity, and the other pillars of the index are still the country's weak points.

3.2.3. The Global Innovation Index GII (2021 edition)

Algeria is ranked 121st out of 132 countries. How can one imagine competitiveness in such a position? On the five dimensions (Human capital and research, Sophistication of the infrastructure market, Sophistication of the company, Results of knowledge and technology, and Creative results), only in the human capital component is the country in a median position. On the other dimensions, the country shows worrying underperformance.

3.2.4. The Structural Competitiveness Index SCI

(Lo M. & Sy A., 2020) have developed a Structural Competitiveness Index (SCI) adapted to developing countries. The SCI aims to provide a single synthetic measure of all the potential levers that can be used to achieve economic emergence. It is an aggregation of 13 dimensions. These are generally cited as contributing to the strengthening of a country's international competitiveness, in particular, the "Washington Consensus" themes found as components of the World Economic Forum's Global Competitiveness Index and the World Bank's Doing Business Index, Human Capital, Technology and Innovation, Promotion and Protection of the Environment, Infrastructure, Social Environment, and Public Sector Quality. The 13 dimensions of the Structural Competitiveness Index (SCI) are broken down into 33 sub-dimensions. The sub-dimensions have been further subdivided into 68 components, which in turn comprise 187 indicators. The data cover the period from 2000 to 2017 and are collected from 47 African countries and 17 developing countries of the world that serve as a reference. According to this index, Algeria is ranked 27th out of 37 African countries surveyed.

All of these structural indicators, and many others, point to the poor quality of the institutions that negatively affect Algeria's economic performance. The structural reforms to be undertaken are very important.

Table 2. Some competitiveness indicators and rankings of Algeria

Index	**Institution/Authors**	**Year/edition**	**Ranking/ranking of Algeria**
Global Competitiveness Index (GCI)	WEF World Economic Forum	2018	86th place, out of 134 countries
World Economic Forum Doing Business Index	WEF	2020	157th place, out of 190 countries
Global Innovation Index (GII)	WIPO (World Intellectual Property Organization)	2021	121th out of 132 countries
Structural Competitiveness Index SCI (specific to developing countries)	(Lo & Sy, 2020)	2020	27th rank out of 37 countries
Logistics Performance Index (LPI)	World Bank WB	2018	117th place out of 160 countries
The Global Talent Competitiveness Index 2021 (GTCI) (ability to produce and attract talent)	INSEAD	2021	98th place on 134

Sources: Based on the institutions' reports.

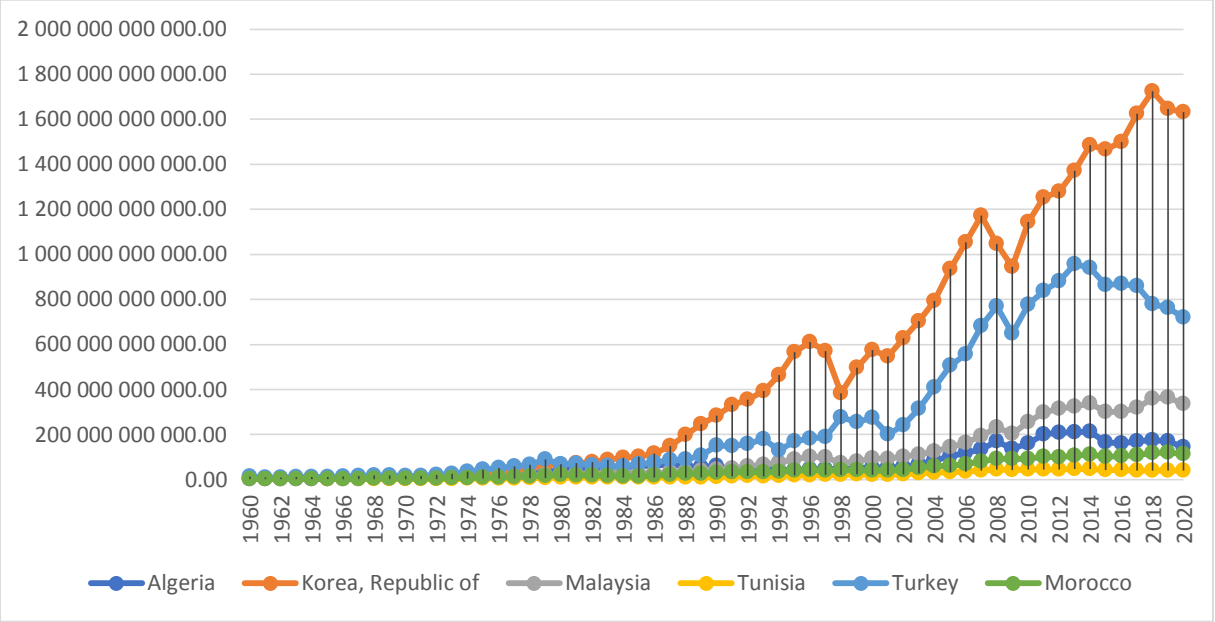
In short, if the various indicators converge towards the observation of the very low level of competitiveness of the Algerian economy, it is, therefore, necessary to return to the causes and conditions to place the country on a catch-up path. The main structural determinants of this competitiveness can be identified from a benchmark with economies that were initially at a level comparable to that of Algeria.

4. KEY FINDINGS OF THE BENCHMARK

Several countries[xiii], such as Malaysia, Turkey, South Korea, and neighbouring Tunisia and Morocco, starting in 1970 with GDP levels comparable to those of Algeria (Graph 4), have succeeded in setting in motion a growth dynamic that has enabled them to widen the gap with Algeria. Each of these countries offers a successful experience in one of the aspects of competitiveness, as we will see below.

The respective GDP trajectories of these countries are rich in information (graph 4). Moreover, the choice of benchmarking with these countries is since these economies were economically close during the years (1960-1980). Other aspects were also common, such as the level of education after their independence. However, from the 1980s onwards, their respective economies began to diverge. Indeed, a clear progression of the economies of Korea and Turkey, and to a lesser degree of Malaysia, took shape in the late 1970s and appeared more clearly in the aftermath of the oil crisis of 1986[xiv]. Algeria saw its GDP grow over those of its neighbours from the 2000s onwards, in a context where hydrocarbon prices experienced significant increases.

Graph 4. Evolution of GDP of the benchmark countries: GDP 1960-2020 (unit: current US$)



Source: Based on World Bank data

NB: In comparison studies, there is a tendency to choose values measured in PPP purchasing power parity, but the measure chosen here is the value of GDP (in current dollars). It is used only to illustrate the early divergence of Korea and Turkey from other countries, and to justify the comparisons that follow.

The investigation of the explanations for these performances makes it possible to identify the necessary conditions to build the competitiveness of the Algerian economy in general and that of its companies in particular. These levers[xv] have been selected for their structuring effect on competitiveness in the medium and long term.

— The need for a proactive policy, supported by a clear economic positioning, a targeted choice of key sectors, a political will maintained over the long term, and the mobilisation of resources consistent with the ambitions set;
— A controlled international opening, making it possible to take advantage of international exchanges while giving local companies time to catch up;
— Targeted support for companies, allowing selective and structured support for companies in targeted sectors;
— A quality education system, both in terms of education (from primary to higher education) and vocational training, is a prerequisite for the success of these policies and the upgrading of the industry.

Compared to these countries, Algeria has embarked on similar orientations and applies some of the guiding principles outlined above. As it will be deducted from the benchmarking below, the main differences concern not the design, but the actual implementation of policies, which often proves to be insufficient, due to the lack of a development strategy, resources, consistency over time, and, above all, a sufficiently strong political will.

4.1. A proactive policy is effectively implemented

The economies of South Korea and Malaysia were characterised early on by a strong political will, strategic planning, and the choice of a clear positioning, accompanied by the mobilisation of resources consistent with the stated ambitions. The choices were targeted according to the defined priorities, to avoid the pitfall of scattering and diluting the means implemented. The stability and predictability of the policy, displayed through proactive plans with dedicated resources, have made it possible to send a strong signal to the key players, both national industry and international investors.

4.1.1. The Korean experience

Three phases can be distinguished in the economic development between 1953 and 1980: 1) a phase of import substitution, between 1953 and 1961; 2) an extroverted development based on the expansion of exports (1961-1973); and finally, the establishment of heavy industries (1973-1980).

After choosing a policy of import substitution, South Korea will mark an ambitious positioning of industrial development and the implementation of a knowledge economy. Indeed, with no natural resources on its territory, Korea has built its entire economic success on the export of manufactured goods. In the 1960s, it concentrated on low-value-added sectors, such as textiles. It produced very low-end products to export a lot at low prices. In the mid-1960s, it benefited from significant Japanese and American aid (Marshall Plan). From the 1970s onwards, it opted for a policy of massive indebtedness but turned to electronic products, then to automobiles, precision mechanics, and biotechnologies. It no longer played on price to sell its products but on their quality. The voluntarist policy undertaken can therefore be summarised as follows:

— A development plan for the chemical industry and heavy industry was initiated in the 1970s ("*Heavy Chemical Industry Drive*"), which was based in particular on the choice of key sectors to be targeted (steel, petrochemicals, electronics, automobile, shipbuilding, machine building), supported by the mobilisation of preferential financing. The weight of industry in GDP thus rose from 21% in 1965 to 38% in 2016, then fell to 32.8% in 2020[xvi], due to the covid-19 crisis. For the past thirty years (1986-2016), this percentage has stabilised at around 39% of GDP. The first two industrial sectors, which were food/beverage and textiles (nearly 50% of manufacturing GDP in 1970), have become since the year 2000 electrical and electronic products, chemical products, automobile manufacturing, and shipbuilding (first place in the world). This shows the success of this experiment in changing choices in strategic sectors;

— Coherent support of this move upmarket[xvii], there was an early emphasis on innovation, through the *R&D Promotion Act*, as well as on education. As of 2013, Korea ranks 1st in the world in R&D expenditure as a percentage of GDP (4.1% in 2018, of which 78.2% is carried out by the private sector)[xviii], followed by Japan (3.4% of GDP), and stands out for the importance given to its higher education. Whatever the criterion used in this regard: several researchers, patent applications, or expenditure on R&D and higher education, the country is cited in the top ranks. It should be noted in passing that the field of research is essential of private origin. This is particularly the case in the 15 countries that spend the most on research

and development (see data from the UNESCO Institute for Statistics (UIS)[xix].

4.1.2. The Malaysian experience

Malaysia is also characterised by a strong political will, translated into economic planning and a long-term vision, readjusted at regular intervals. A key axis is that of infrastructure, allowing Malaysia to take advantage of its privileged geographical position to develop its trade. By aiming from the outset to be a major regional hub and by scaling its policy accordingly, Malaysia has been able to achieve results of a more significant scale. Malaysia is 24th in port infrastructure and 20th in airport infrastructure according to the World Economic Forum WEF. As in the case of Korea, Malaysian development has relied heavily on the industry since the 1960s with the creation in 1965 of the Malaysian Industrial Development Authority, an agency responsible for promoting foreign and local investment and coordinating industrial development. The industry[xx] has grown from 19% of GDP in 1960 to a peak of 48% of GDP in 2004, then falling to 35.9% in 2020. The sector is supported by an efficient service sector, notably financial, according to Globaltrade.net[xxi].

Algeria pursued a similar policy during the 1970s with the policy of 'industrialising industries', which was abandoned in the early 1980s, but without any alternative solution. The phase of deindustrialisation lengthened, with public impotence giving way to the emergence of an importers' lobby and the beginning of an uncontrolled opening up to the present day. In recent years, political voluntarism - translated as a priority axis of the presidential program - aimed at improving the country's infrastructure base with 40% of investment resources between 2010-2014 devoted to infrastructure, i.e. $30 Billion for the modernisation of the road network and the increase in port capacities; $28 Billion for the modernisation and extension of the rail network and urban transport as well as for the modernisation of airport infrastructures; $5 Billion for land use planning and the development of industrial zones; $2.5 Billion for the development of knowledge and ICT. However, it must be noted that these investments are only "unfortunate white elephants"[xxii] and are below the expectations of local and foreign companies. They are far from being in line with the prospects of attractiveness and opening up of the country to international trade. This explains Algeria's low level of competitiveness compared to that of its neighbours and African countries. The 2018 ranking of the World Bank's LPI[xxiii] logistics performance index places Algeria in 107th place out of 167 economies. Regarding the quality of port infrastructure, taking the example of container ports, it is Tanger Med in Morocco that tops the list for the 3rd year in a row, with 4.8 million containers handled in 2019. It is followed by Port Said in Egypt, Durban in South Africa, and Alexandria in Egypt[xxiv]. The three other ports are, in order, Lomé (Togo), Mombasa (Kenya), and Lagos (Nigeria). Algerian ports are not even "rankable"! In the latest ranking according to the quality of infrastructures[xxv], Algeria occupies 88th place out of 109 economies. In terms of containerisation, according to the Port Container Flow, the capacity of Moroccan ports is 10 times higher than that of Algerian ports (UNCTAD[xxvi] data). The Moroccan investments in this field (as an example the first logistic platform Tanger Med) can be explained by their strategy of attracting FDI which has proved to be efficient (see next point: mastering the international opening).

As for the quality of airport infrastructure, the same observation is made for the Algerian case: Malaysia: 20th place ahead of South Korea (21th place). Turkey is in 29th place; Egypt: 52th place;

Morocco 55th place; Tunisia 97th place, Algeria 117th place. By the way, South Africa is in 10th place, ahead of Germany and France on this criterion. Another ranking, according to the Network Readiness Index 2021, which looks at the quality of telecoms networks, places Algeria in 10th place out of 32 African countries and 100th place out of 130 countries worldwide[xxvii]. Finally, the logistics cost in Algeria, the main indicator of price competitiveness, remains among the highest in the world. It represents between 30 and 35% of the cost of the product, compared to the logistic cost of products at the world level (15%). Hence Algeria's ranking is among the last in this field.

4.2. A controlled international opening

All the countries analysed, including our neighbours, have generally benefited from international trade, thanks to a controlled international opening.

4.2.1. The South Korean experience: massive export support policy

South Korea has developed its foreign trade through a massive export support policy :

- Fiscal measures: tax exemptions on export earnings, exemptions from customs duties on imports of raw materials for products intended for export, export processing zones, etc.
- Complemented by support for the financing of exporting companies: the creation of export financing institutions (Korean import-export bank, Korean export insurance fund, etc.), preferential exchange operations, etc.
- Korean exports, which in 1960 represented only 2.6% of its GDP, rose to more than 43% of GDP over the period 2000-2016 (World[xxviii] According to Bank data, after a peak of 54% in 2012, the rate fell to 36.9% in 2020 following the COVID-19 health crisis which hit many economies).

4.2.2. The Malaysian experience: selective protection of local production

Malaysia, on the other hand, has developed its exports while providing selective protection to its local production against imports of competing products. By focusing on intermediate goods, the country ensures its integration into global value chains:

- Incentive policy for exports (tax exemptions) and simplified administrative procedures for exports;
- Targeted attractiveness policy for foreign direct investment, to strengthen export capacities: the imposition of a production quota for export to foreign investors holding 100% of the shares in a project;
- Tariffs protecting local production (tariffs in the order of 30% to 50%, when the imported product is locally produced);
- As an illustration of its successful export development, Malaysia's exports, representing 50% of GDP in 1960, rose to a peak of 121% in 1999, and then declined to 61.47% of GDP in 2020 according to the World Bank data.
- Malaysia's main import products are intermediate goods (73%), including 36% of electronic components for re-export. 67% of its exports are intermediate goods.

4.2.3. The Turkish experience: Opening up with targeted protection of national production

Turkey has benefited from the opening up of trade with the European Union (Customs Union with the EU in 1996), which has allowed for an early upgrading in terms of standards. Nevertheless, this trade opening has been accompanied by targeted protection of local production (Law 474 on customs tariffs, which allows tariffs to be raised to protect local industries) and regulations acting as real economic tools (non-tariff barriers) to protect local industries.

4.2.4. The Moroccan experience: An example of a controlled opening

Morocco's open trade policy has not prevented the country from achieving a balance between its domestic needs and its imports while protecting national production. Two levers should be retained: multilateral and regional integration and a policy of attracting FDI. These indicators show a perfect control of trade openness.

In the case of Algeria, incentives and facilitation have been implemented to improve the competitiveness of the Algerian company and to promote products in foreign markets. These measures are essentially fiscal (in the form of direct tax and turnover exemptions, in addition to customs and port facilities) and state support (in the form of a special export promotion fund and a national fund for agricultural regulation and development, FNRDA). However, these levers have not had a significant effect and are considered insufficient to encourage exports since the number of exporters remains low (1000 exporters[xxix] in 2021 compared to tens of thousands of importers, around[xxx] 43 000). Moreover, the aversion to exporting among Algerian companies is explained not by the absence of potential exporters, but by other institutional factors linked to the business[xxxi] climate, the discouraging financial system, and the quality of infrastructures (see above the maritime profile). Hence the a need for an integrated vision in the implementation of effective levers to boost exports.

In Tunisia, the number of fully exporting companies was 2915 in 2016 (2442 in the industrial sector and 473 in services). For its export incentives, Tunisia has put in place an Investment Incentive Code and has distinguished between a fully exporting regime and a partially exporting regime. The tax exemptions and reductions are important[xxxii].

4.3. Targeted business support and a favourable business climate

The countries studied here are characterised by the concentration of efforts on sectors considered strategic, as well as by a logic of support for businesses and the development of an enabling environment.

4.3.1. The Korean experience: "national champions" policy

The development of industry in South Korea has been driven by the desire to see the emergence of major "national champions", through strong State intervention in the emergence of large conglomerates (the "Chaebols") and easier access to finance for these groups (Samsung, LG, Hyundai, Lotte Group...). The ten largest chaebols represent 80% of South Korea's GDP. Samsung alone counts for 20% of the country's economy.

The country has also accompanied its growth model with the establishment of a favourable business climate, notably by developing transparency in the administration and the use of information technology to limit corruption and improve the efficiency of the administration's operations in the service of businesses. The country is ranked 5th out of 190 in the Doing Business (2020) report. The recent indictments of the country's former president and the heir to the Samsung company reveal the quality of the country's institutions.

4.3.2. The Malaysian experience: the development of ICTs and their use

Malaysia has created a mechanism to strengthen and attract ICT companies, through the creation in 1995 of the Multimedia Super Corridor (a zone dedicated to ICTs to attract the regional headquarters and R&D laboratories of the largest multinationals in the sector with tax incentives and the provision of equipment and facilities). These measures have been accompanied by a legal framework designed to encourage the development of ICT uses (e-government, e-payment, e-learning, etc.) as well as an ambitious economic transformation program, based in particular on the Digital Transformation Programme, which provides for future investments of nearly 8 billion euros in ICTs, notably through public/private partnerships. It is thus planned to increase the share of the digital sector in GDP from 10% today to 17% of GDP in 2020.

4.3.3. The Turkish experience: big champions policy, but with massive support for SMEs

Turkey encourages the development of strategic sectors through targeted aid (large-scale investment schemes and strategic investment schemes to reduce export dependency). This investment aid is massive: for example, it reached 41 billion Turkish pounds for the first half of 2013 alone (i.e. around 22 billion dollars), 39% of which concerned industry. Aware of the predominance, alongside the large diversified conglomerates, the country has developed a large-scale support policy aimed at improving the competitiveness of SMEs. This policy, initiated in 1980, then rationalised in 1990 with the creation of a dedicated body (KOSGEB), was reinforced in the 2000s (reorganisation of this body in 2003)[xxxiii], with a set of measures aimed at increasing the productivity of Turkish SMEs and improving their competitiveness at the international level. The main axes of this policy are 1) the improvement of the quality of the products, the technological means, and the innovation capacities of the SMEs, through technological support; 2) the introduction of modern management techniques, via a program of managerial assistance; 3) support for financing (facilitated access to credit via agreements with public banks, exemptions for investment in equipment and tools...); 4) targeted support for exporters and investors abroad (market studies, search for investment sites, marketing...).

The role of national champions in the economic transformation and creation of wealth for their countries is elucidated in the context of Turkey, in Algeria, we have seen the beginnings of the emergence of a group of companies, private in general (Cevital, Condor, Rouiba, etc.) (see list in appendix n° 9), which have benefited from the support of the governing sphere for their development, support which manifests itself through, in particular, an ambitious policy of local content, the implementation an appropriate tax system, support for access to the national and regional market (regional preference), particularly in the case of public procurement, capacity building, access to technology and support for obtaining the financing necessary for their growth

through the establishment of guarantee funds, dedicated lines of credit, sovereign funds, etc. However, the political crisis of 2019, following the "Hirak" movement, has called into question the sustainability of this type of relationship between national champions and public authorities.

Moreover, Turkish voluntarism in favour of SMEs, which has proved its worth over the last twenty years, contrasts in Algeria with an economic policy that is taking a step backwards in the promotion and development of SMEs (texts of the two laws of Orientation and development of SMEs[xxxiv]). Thus, even though SMEs represent almost the entire economic fabric (the latest census, carried out by the ONS in 2011), the institutional place of SMEs is being called into question with the disappearance of the ministry dedicated to SMEs, which has been replaced by a general directorate, GDSME, within the Ministry of Industry and Mines. This organisational and functional change negatively affects the support that SMEs need. Moreover, the multiple actions (not to say programs) of upgrading in favour of public and private companies, which have cost billions for the country, have not had the expected[xxxv] effects. Moreover, the absence of a strategy, particularly for subcontracting, to guarantee the coordination, or even the cohabitation of the existing SME fabric combined with the lack of commitment of companies in this process, negatively influences the competitiveness of companies. As a result, products "made in Algeria", despite some sporadic export attempts, are more threatened in their domestic market before they even try to make their way internationally.

In this perspective, the SMEs, in Tunisia and Morocco, are more committed to the international, by taking a position in global value chains, on segments with high added value. The targeted choice for the development of a manufacturing industrial fabric of SMEs (with the mechanical and electrical industry in the lead) has enabled Tunisia to achieve some ten billion dollars in exports in 2019, i.e. 76% of its total exports), Morocco has some fifteen billion dollars (i.e. approximately 70% of its exports, including more than 9% of products with high technological value, followed by the agriculture sector which achieves 4.5 billion dollars in exports), unlike Algeria (1 billion dollars for the same period)[xxxvi]. The explanation lies in the structure of the industrial fabric of these countries, which reflects the choices made in terms of economic (industrial in particular) and trade policies in terms of managed and controlled openness and regional integration with the protection of their national production. In 2019, in Morocco, these exports in manufactured products reached 70.84% of exported goods.

4.4. Education to match economic ambitions

The economic development of all the countries analysed, particularly South Korea, has been supported by an educational effort consistent with the desired economic positioning. The various countries have thus been able to have a relatively highly qualified workforce, sometimes by investing massively in the education system, making training a priority.

4.4.1. The South Korean experience

Indeed, South Korea, characterised in 1945 by a low literacy rate (22%), implemented massive education campaigns in the 1950s. The literacy rate reached almost 88% by 1970. This helped to sustain the country's economic development thanks to the availability of an educated workforce. Efforts in education were initially focused on primary education but then extended to all levels. In

the first edition of the OECD's PISA ranking, South Korean students ranked first in science, second in mathematics, and third in reading. This success is built on public policies but above all on the thousands of private cram schools where children spend hours after 'official' classes[xxxvii]. In 2018, South Korea ranked first in research and development expenditure (4.528% of GDP). The results of the education provided are regularly praised in the PISA surveys measuring students' skills. For example, the latest survey, in Mathematics, places South Korea in 5th position out of 65 economies surveyed.

4.4.2. The Malaysian and Turkish experiences

Malaysia and Turkey have also based their development on improving the educational level of their population. They have continued to make education a pillar of their economic development. The literacy rates of Malaysia and Turkey were 69.5% and 65.7% respectively in 1980 and have increased to 95% and 96.7% in 2019 (WB[xxxviii] data).

Comparing Algeria with these countries, the literacy rate is 89% according to the UNDP 2018 report. In September 2021, the Minister of National Education announced that the illiteracy rate had fallen to 7.94%. Expenditure on national education, in addition to subsidies to public schools at primary, secondary, and tertiary levels (as a % of GDP), has increased slightly over the past ten years (4.35% of GDP in 2008, 6% in 2019), although GDP has experienced phases of growth.

These figures cannot hide the fact that the country is lagging in the rankings on qualitative indicators (achievement, student skills in particular, equity, and efficiency of school systems in general). Indeed, the survey of the Programme for International Student Assessment (PISA) [xxxix]reveals Algeria's penultimate ranking (2016[xl] report). As for the ranking of Algerian universities, it is still very low. At the Maghreb level, Algeria is ahead of Morocco in the top ranking of African universities. Knowing that the field of comparison on this aspect is very vast, other structuring indicators at the interface of competitiveness and the knowledge economy once again confirm Algeria's poor performance. This is the case, for example, of the Global Knowledge Index, relating to the knowledge economy and technological innovation, which places Algeria in 121th place among the 131 economies. Finally, the important role of the education system as well as university and professional training in improving the competitiveness of companies in its two aspects, cost, and non-cost, should be noted. A major project awaits the public authorities in this area and many recommendations have already been formulated in this respect[xli].

MAJOR ORIENTATIONS FOR THE IMPROVEMENT OF ALGERIA'S ECONOMIC COMPETITIVENESS

The few elements of benchmarking highlighted above highlight the structural levers with which these countries have built their performance over time. The key factors of success are a proactive and effectively implemented policy that has materialised in concrete measures: controlled international openness; targeted support for businesses and a favourable business climate, supported by a level of education in line with economic ambitions.

It should be noted that competitiveness is built over time; it cannot come from a few "miracle" economic measures. It is built first and foremost at the local level - a company that does not manage

to be competitive in the local market cannot be competitive in the export market - and presupposes a profound change in the way of thinking.

From the above, it is clear that the effective implementation of measures to improve our competitiveness requires the development of a partnership approach between the State and the private sector (public-private partnership). This approach is the only way to improve the competitiveness of companies, i.e. a sustainable and profitable strengthening of their market share, in the national and international markets. This implies a double commitment:

— A commitment by the State to create a clear and shared Algerian socio-economic development model:

- Building the country's development model on a commitment to industrialisation (a 9% share of industry in GDP by 2030, according to the New Growth Model Report, is considered insufficient compared to Morocco, which has committed to an industrial acceleration plan for 2014-2020, with a 23% share of GDP by 2020);
- Make full use of the economic levers available to the State to support this policy (factor costs, taxation, training), by capitalising on investments in infrastructure, to improve the price competitiveness of our companies;
- Use administrative and regulatory levers to improve market conditions and the business climate. The role of the state is important in creating business ecosystems to foster the development of the existing SME fabric.

— Private sector involvement in enterprise upgrading and long-term development:

- Participate in the design of economic policies (especially in the negotiation of free trade agreements);
- Participate in building the ecosystems capable of fostering the creation and development of businesses (be the main partner in the management of a business and industrial parks, in the creation of incubators, and the formation of clusters and other forms of business groupings);
- Improving social dialogue ;
- Upgrading organisations, to improve business performance and the development potential of organisations;
- Enhance the value of the Algerian offer, to develop outlets in the domestic and international markets;
- To improve, in partnership with the State, the provision of initial and continuing training, with an emphasis on intangible capital, to gain in productivity in the long term;
- Promote innovation in the broadest sense, to enable the industry to move upmarket.

5. CONCLUSION: THE URGENT NEED FOR ACTION

This paper aimed to highlight the issue of competitiveness for the Algerian economy by emphasising its structural and institutional foundations. Knowing that its definition is the subject of debate and controversy, we have positioned ourselves on the side of the reflections that consider competitiveness from an outward-looking perspective and where companies are engaged in the international arena. The lessons drawn from benchmarking with a few comparable economies

(Morocco, Tunisia, Turkey, South Korea, and Malaysia), allow us to account for the consistency of the reforms undertaken by these countries as well as the constancy of their strategic choices by asserting themselves over time through their successful integration into international trade. Following benchmarking, four levers were identified as having a structuring effect on competitiveness: 1) The level of political will; 2) The degree of control of international openness; 3) The targeting and selective support of companies; 4) The quality of the education and vocational training systems and their contribution to the success of these policies and the upmarket development of the industry

This comparative study shows that Algeria has embarked on similar orientations and has applied some of the guiding principles outlined above. However, the main differences lie not in the design, but in the actual implementation of the policies, which suffer from inconsistency, sectoral compartmentalisation and lack of coordination, the hypertrophy of informal activity, and the lobbying of importers, to name but a few.

The lack of commitment, which is also lacking in the private sector, of the Algerian public authorities to put an end to these obstacles, which are harmful to the emergence and development of a competitive and internationally committed productive activity, risks lengthening the distance that separates the country from its neighbours as well as from other comparable economies. The urgency of a process of structural transformation is imposed and strategic bets must be made to leap over fields with a potential for future diversification (chemical products, plastics...). The urgency of the transformation is dictated by the Growth Lab's 2029 growth projections, which forecast growth of 2.6% per year (the most plausible, in our opinion, among the various projections) over the next decade.

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Appendices

Annexe	**Source**
Annex 1. List of products exported by Algeria by degree of complexity	Source: The Atlas of Economic Complexity (Harvard.edu)
Annex 2. Graph 5. Algeria - Trade specialisation in primary products, manufactures, and services (contributions to the balance, in thousandths of the sum of exports and imports, 1967-2019)	Source: CEPII, "Country profiles", visual data, June 2021. http://visualdata.cepii.fr/CountryProfiles/en/
Annex 3. Table: Algeria - Distribution of manufacturing exports and imports by sector and by a range of unit values Averages 2007-2009 and 2017-2019 (as % of flows per channel) disadvantages Contribution to the trade balance in 2009 and 2019 (in thousandths of the sum of exports and imports), changes over the last two decades (in thousandths points)	Source: CEPII, "Country profiles", visual data, June 2021. http://visualdata.cepii.fr/CountryProfiles/en/
Annex 4. Table: Algeria - Trade specialisation by categories: Top 10 comparative advantages and	Source: CEPII, "Country profiles", visual data, June 2021. http://visualdata.cepii.fr/CountryProfiles/en/
Annex 5. Graph of Algeria's revealed comparative advantage	UNCTAD. Link: https://unctadstat.unctad.org/fr/RadarAcr.html
Annex 6. Analysis of Algeria's export	ITC

potential (Algeria's products with potential)	https://exportpotential.intracen.org/en/products/analyze?exporter=12&fromMarker=i&toMarker=w&market=w&whatMarker=k
Annex 7. Graph: World primary energy consumption in 2019 and 2040	BP Statistical Review of World Energy, 2020.
Annex 8. Graph: Research and development expenditure as % of GDP and Researchers per million inhabitants	UNESCO Institute for Statistics (UIS): http://uis.unesco.org/apps/visualisations/research-and-development-spending/#!lang=en

Notes

i Vulnerability, as the latest IMF report 16/127 (May 2016) reminds us.

ii S. Lall (1990), "Promoting Industrial Competitiveness", OECD, Paris, p 28.

iii Krugman P. (1994). Competitiveness: A Dangerous Obsession. Foreign Affairs, No. 73, No. 2, pp. 28-44.

iv Hatzichronoglou, T. (1996), "Globalisation and Competitiveness: Relevant Indicators", OECD Science, Technology and Industry Working Papers, 1996/05, OECD

v This implicitly takes into account the other dimensions of price competitiveness (labour costs, export prices) as well as the financial determinant, which is the exchange rate where currency depreciation can lead to an improvement in price competitiveness, all else being equal.

vi Statistical Collections No. 213/2019, Series E: Economic Statistics No. 100, INDUSTRIAL ACTIVITY 2009 - 2018

vii For the time being, no data is available to analyse this aspect.

viii https://growthlab.cid.harvard.edu/about#complexity

ix That is about 1000 exporters compared to 43000 importers.

x Contrary to the standards which are 10 to 15%. Note that these costs are also unfavourable to imports.

xi The construction of the East-West motorway has had a favourable impact on the mobility of goods in the country. But the cost of its construction has been contested.

xii the increases observed at the beginning of 2022, exceeding 100 dollars per barrel from February 28, are due to the crisis of the war in Ukraine.

xiii Many benchmarking studies have been carried out between Algeria and these countries. In what follows, we rely on a study established by the General Confederation of Moroccan Enterprises (2014), entitled "Study on the levers of competitiveness of Moroccan companies" whose results are also valid, in our opinion, to the Algerian case.

xiv We can even go back to the mid-1970s for South Korea. See ***Dominique Barjot****, "Le développement économique de la Corée du Sud depuis 1950", Les Cahiers de Framespa [En ligne], 8 | 2011, online 02 December 2011, accessed 19 August 2017. URL: http://framespa.revues.org/899 ; DOI: 10.4000/framespa.899*

xv Further, accompanying measures are needed.

xvi Source: IMF - World Economic Outlook Database - latest available data. The decline in 2020 is explained by the consequences of the covid-19 pandemic which has impacted the sector.

xvii The reader can consult: http://www.diplomatie.gouv.fr/fr/politique-etrangere-de-la-france/diplomatie-scientifique/veille-scientifique-et-technologique/coree-du-sud/article/seoul-triple-ses-depenses-de-r-d-a-5-milliards-d-euros

xviii The figures change from year to year. But Korea has maintained this position for some years. But, in terms of value, it is the USA that keeps the first place with an investment of 476 billion dollars in 2018 (a figure that is still

rising). Data was provided by the UNESCO Institute for Statistics (UIS). Link: http://uis.unesco.org/apps/visualisations/research-and-development-spending/#!lang=en

xix Data available at: http://uis.unesco.org/apps/visualisations/research-and-development-spending/#!lang=en

xx Malaysia is ranked among the world's leading producers of palm oil, tropical timber, cocoa, and rubber. The industry employs 28% of the population (export of semiconductor devices, electrical goods and appliances, and software). The tertiary sector employs the majority of Malaysians (more than 60%) and accounts for almost half of the GDP, thanks in particular to the tourism sector. Source: http://www.diplomatie.gouv.fr/fr/dossiers-pays/malaisie/presentation-de-la-malaisie/

xxi http://www.globaltrade.net/international-trade-import-exports/f/business/pdf/Malaysia/Banking-and-Finance-Financial-and-Business-Services-sectors.html accessed on 15 August 2017.

xxii Unfortunately, a real waste of public money characterises these public programs. Media revelations on corruption cases and their confirmation by the various rankings made by international institutions and NGOs.

xxiii The Logistics Performance Index (LPI) compares 160 countries on 6 dimensions, namely the ability to track and trace shipments; competence and quality of logistics services; efficiency of the customs clearance process; ease of obtaining competitive prices on shipments; the frequency with which shipments reach their destination on time; and quality of trade and transport infrastructure. The international LPI is obtained by multiplying the scores for each of the 6 components by the correlation coefficients derived from the PCA. The index is initially distributed over a range of 1 to 5. The values increase with the level of quality. The Performance Score ranges from 0 to 100. The higher the score, the better the situation. For more details see the English definition of the indicator. World Bank, 2015.

xxiv https://www.agenceecofin.com/transport/1709-80278-le-top-7-africain-des-ports-a-conteneurs-lloyd-s-list-infographie

xxv https://fr.statista.com/statistiques/665238/qualite-qualite-infrastructure-pays-monde/

xxvi See their respective UNCTAD maritime profiles.

xxvii https://networkreadinessindex.org/countries/

xxviii https://donnees.banquemondiale.org/indicateur/NE.EXP.GNFS.ZS?locations=KR&view=chart

xxix There are about 700 listed by the Algerian Chamber of Commerce and Industry. According to the latest statement by the Minister of Commerce, there are 1000 effective exporters out of 4000 listed in the trade register. Read the newspaper l'expression of 27 November 2021. Link: https://www.lexpression.dz/economie/3-4-mds-de-dollars-a-fin-septembre-2021-350278

xxx In 2021, the number of importers in Algeria is 42,933 but only 15,658 have renewed their trade registers 2021.

xxxi Although it has improved, it is still ahead of our competitors.

xxxii For the benefits, the reader is invited to consult: http://www.tunisieindustrie.nat.tn/fr/doc.asp?mcat=12&mrub=92&msrub=210#TE

xxxiii See OECD (2004), Small and Medium-sized Enterprises in Turkey: Issues and Policies. See also OECD (2005), OECD SME and Entrepreneurship Outlook (pp. 401-404).

xxxiv Law No. 01-18 of 12 December 2001 on the orientation law on the promotion of small and medium-sized enterprises (SMEs) and Law No. 17-02 of 10 January 2017 on the orientation law on the development of small and medium-sized enterprises (SMEs).

xxxv We regret the absence of official figures on these operations. According to the ANDPME, 953 upgrading files, only 190 have been the subject of decisions to grant aid to start the upgrading phases. Comparing this figure to the total

number of SMEs in the country (more than one million) confirms the failure of such a policy.

xxxvi Data: World Perspectives, Sherbrooke University. Link:

https://perspective.usherbrooke.ca/bilan/servlet/BMImportExportPays?codePays=MAR

xxxvii However, this unbalanced system is beginning to show its limits. The 'hagwons' are now offering a little more fulfilment, and in the latest Pisa tests in 2018, South Korea has dropped a few places. Barack Obama, in 2009, said he was impressed by the scores of South Korean students in the OECD's Pisa ranking. Read in Les Echos, "5 areas where Korea excels". Link: https://www.lesechos.fr/weekend/business-story/5-domaines-ou-la-coree-excelle-1258362

xxxviii. These WB figures come from the UNESCO Institute for Statistics (see http://uis.unesco.org/fr/country/dz), but they contrast with those given (14.46%) by another site, countryeconomy.com. See link: https://fr.countryeconomy.com/government/expenditure/Algeria

xxxix The Program for International Student Assessment (PISA), conducted by the OECD, is a triennial international survey that aims to assess education systems worldwide by testing the skills and knowledge of 15-year-old students. Other regional comparisons, such as those carried out by FEMISE on the Mediterranean region, are not as comforting.

xl Algeria did not participate in the 2018 survey published in December 2019 by the OECD.

xli For example, the 2013 Nabni Report on 50 Years of Independence: lessons and Vision for Algeria 2020